CHAPTER 1

Progress During 1977—The Third Year of Recovery

AS THE NEW ADMINISTRATION took office at the beginning of 1977, the economy was turning up strongly from a period of very slow real growth during the latter part of 1976. With the unemployment rate hovering near 8 percent and with inflation still a serious problem, however, the Nation was far from the goals of "maximum employment, production, and purchasing power" established in the Employment Act of 1946. Progress toward these goals was essential to the achievement of rising living standards and greater equality of income and of opportunity. Strong and steady growth in the U.S. economy was also needed to help sustain the pace of economic expansion among the nations of the Western world. An economic stimulus program was therefore designed by the new Administration to keep the economy on a path of recovery at a pace sufficient to reduce the unemployment of labor and capital resources significantly.

In the course of the year, continuing progress was made in closing the substantial gap between actual and potential real output that existed at the beginning of 1977. Real gross national product (GNP) expanded in each quarter at a pace above its long-term potential growth, and the gain in 1977 as a whole amounted to 4.9 percent. By the fourth quarter, real GNP was 5.7 percent higher than it had been a year earlier.

This increase in real output made possible a 4.1-million increase in employment between the end of 1976 and the end of 1977. A temporary slackening in the rate of expansion around midyear limited the midyear reduction in unemployment, but unemployment fell significantly early in the year and again in the later months. The unemployment rate fell to 7.0 percent for 1977 as a whole and reached 6.4 percent at year-end.

The expansion in total output was large enough to permit a substantial improvement in living standards. Real per capita disposable income rose by 4.9 percent during the year. At the same time, the increase in industrial production of 5.6 percent lifted capacity utilization in manufacturing from 81 percent at the end of 1976 to 83 percent at the end of 1977. This increase played an important role in the 9.5-percent advance of corporate profits for the year as a whole.

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DEVELOPMENTS DURING THE YEAR

The pace of economic expansion was exceptionally strong during the early part of 1977. As the year opened, businesses were increasing their production schedules in an effort to rebuild stocks depleted by the unexpectedly sharp rise of consumer spending in the latter months of 1976. The rate of nonfarm inventory investment rose from near zero in the fourth quarter of 1976 to 1 percent of real GNP by the second quarter of 1977, accounting for almost 30 percent of the expansion in real output during the first half of the year. The rise in consumer spending that began in late 1976 continued in the opening months of 1977. With final sales and inventory accumulation both moving up briskly, real GNP in the first quarter increased at an annual rate of 7½ percent (Table 1).

The pace of advance in economic activity early in the year was so rapid that an abnormally cold winter had only a mild transitory effect on overall economic performance. January temperatures were as much as 20 percent below normal in some parts of the country, causing shortages of natural gas and numerous plant shutdowns. Plant closings typically lasted only one to a few days, however, and most of the loss in output was made up before the end of the first quarter.

Construction activity was significantly depressed by the winter weather but rebounded in the second quarter. Government spending also rose sharply. The strength of these two sectors offset a developing weakness in consumer spending, and growth of real GNP in the second quarter remained at a relatively rapid 6-percent annual rate.

During these 2 quarters of large gains in real output substantial progress was made in reducing unemployment. From December to April total civilian employment rose by almost 1½ million, and the unemployment rate fell by 0.7 percentage point. Job gains were widespread among manufacturing,

TABLE 1.—*Growth of real GNP and final sales in 1977*

[Percent change, seasonally adjusted annual rate]

Component	1977 I	1977 II	1977 III	1977 IV[1]	1977 Year[1]	1976 IV to 1977 IV[1]
GNP	7.5	6.2	5.1	4.2	4.9	5.7
Final sales:						
Total[2]	3.8	5.1	4.4	6.8	4.7	5.0
Domestic[3]	4.9	5.5	3.6	7.3	5.2	5.3
Private domestic[4]	6.7	4.2	2.9	8.2	5.9	5.5
Change in inventory accumulation (billions of 1972 dollars)	11.5	3.5	2.5	−8.0	3.1	9.5

[1] Preliminary.
[2] GNP other than inventory accumulation.
[3] GNP other than inventory accumulation and net exports.
[4] Personal consumption expenditures, business fixed investment, and residential construction.

Note.—Percent changes based on data in 1972 dollars.

Source: Department of Commerce, Bureau of Economic Analysis.

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construction, retail trade, services, and other industries. The length of the workweek in manufacturing also increased.

The rapid pace of expansion in the first half could not have been expected to continue since it was based, in part, on a rebuilding of stocks and a restoration of inventory investment to a more normal relationship with GNP. The slowdown in the rate of expansion during the middle of the year was more widespread and prolonged, however, than could be accounted for solely by patterns of inventory accumulation.

The rise of consumer spending slowed abruptly in the second quarter when the personal saving rate rose substantially. During the first 2 years of the recovery, consumers' purchases of goods and services had risen much faster than their after-tax incomes, so that by early 1977 the fraction of disposable income devoted to saving had fallen to the lowest level in 25 years. Restoration of a more normal allocation of consumer incomes between consumption and saving was inevitable, and the major part of the adjustment took place in the second quarter.

As retail sales faltered, manufacturers adjusted their production schedules promptly to avoid an undesired buildup of inventories—as they had in 1976, when consumer spending also slowed temporarily. As a consequence, demands for labor moderated, and the unemployment rate stopped declining. Total hours worked in nonfarm establishments, which had been rising strongly in the first 4 months of the year, topped out and remained essentially unchanged from May through September; the rise of industrial output during this period slowed to about half the pace recorded in the first 5 months of the year.

The caution exhibited by businesses in their inventory policies was even more evident in their willingness to make longer-term investment commitments. Plans for business capital outlays normally gain increasing strength as rates of capacity utilization and profits rise during the course of an economic recovery. For a time in late 1976 and early 1977 it appeared that the usual cyclical processes were occurring: the real value of contracts and orders for plant and equipment was improving vigorously. Around the middle of the year, however, the rise of this indicator of business fixed investment slowed, and production of business equipment, though continuing to advance, increased at a more moderate pace than earlier in the year.

The hesitancy of business capital spending (which is examined later in this chapter) was singularly disappointing. These outlays, in real terms, have yet to recover their peak levels reached in late 1973 and early 1974. Industrial capacity has therefore been expanding at a very sluggish pace—and at a time when the labor force is increasing rapidly. Over the long run, continuing growth of real output and a stronger rise of productivity will depend heavily on restoring a more vigorous rate of expansion in business outlays for new plant and equipment.

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Developments in the foreign sector also restrained the rate of economic expansion. Imports of oil rose substantially early in the year, partly as a consequence of the effects of the cold winter on fuel consumption; and other imports increased more than would have been anticipated on the basis of historical relationships between growth of real output and these imports. U.S. exports meanwhile increased scarcely at all in real terms because of the very slow rate of economic expansion among most of our major trading partners.

The midyear slowdown of economic expansion would have been more serious had it not been for the effects of the Administration's stimulus programs. These programs began to increase government spending and disposable personal incomes by midyear, and their stimulative effects continued to build over the remainder of 1977. Fiscal policy was thus instrumental in the quickening tempo of activity late in 1977.

Signs of an emergence from the pause of 1977 first became evident late in the fall, when new retail sales figures indicated that consumers had begun to increase their purchases of goods in the third quarter. A combination of factors led to a further strengthening of consumer spending during the fourth quarter. Growth in personal income was sustained by rising output and employment in other sectors and was further bolstered by the Federal pay raise in October and by the growing effects of the stimulus programs. With consumer prices increasing at a relatively moderate rate during this period, gains in nominal income were translated into greater purchasing power and rising consumer spending. In the fourth quarter, consumer outlays for durable and nondurable goods, adjusted for inflation, rose at an annual rate of over 10 percent.

This surge of consumer buying—coupled as it was with some improvement in the pace of fixed investment—was not fully anticipated by businesses, whose production schedules were still geared to the slower pace of retail sales that had prevailed earlier. The rate of inventory accumulation therefore declined steeply in the fourth quarter, holding down overall GNP growth to an annual rate of 4.2 percent. It is clear, however, that activity was strengthening as the year came to a close. Employment in the final 2 months rose rapidly, and the unemployment rate fell to 6.4 percent in December.

Failure to make any significant progress on the inflation front in 1977 was a disappointment. (A more detailed analysis of this difficult problem is presented in Chapter 4.) Consumer prices of goods and services other than food and energy, a measure of the underlying rate of inflation, increased by 6.4 percent in the 12 months ending in December 1977, about the same rate as in 1976.

An underlying inflation rate of 6 to 6½ percent has persisted since mid-1975 and is deeply embedded in the wage-cost-price structure. In the nonfarm business sector, compensation per hour—which includes both wages and fringes—in the fourth quarter of 1977 was about 8½ percent

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more than a year earlier. This increase in labor cost exceeded productivity gains by about 6 percent and therefore put strong upward pressures on prices. These price increases, in turn, wiped out most of the rise in workers' nominal earnings.

Changes in food and fuel prices during 1977 caused substantial variation in the overall rate of price change from the underlying rate of inflation. In the first half, both food and energy prices were rising rapidly, reflecting the cold winter and the increasing prices of imported foods (particularly coffee, tea, and cocoa). Overall consumer prices increased during this period at an annual rate of 9 percent. As food supplies improved, the rise of consumer prices slowed materially to an annual rate of around 4½ percent in the second half of 1977.

THE ROLES OF THE MAJOR SECTORS OF DEMAND

The sources of economic expansion shifted somewhat during 1977. During the first 2 years of the current economic recovery, household spending for personal consumption and new housing were the principal dynamic elements. In turn, the increase in final demand stemming from these sources prompted a pronounced swing from decumulation to rebuilding of inventories during the first year of the upturn. As the rise of consumer spending moderated last year, growth in business fixed investment and particularly accelerated government spending assumed more important roles in determining the pace of expansion.

PERSONAL CONSUMPTION

The saving rate during 1977 rose considerably, marking a reversal of the pattern of the preceding 3 years. This reversal and the pronounced midyear weakness of consumer spending were due to a number of causes. Some of them have their roots in the forces that had disturbed the economy generally, and the household sector in particular, earlier in the 1970s. High inflation rates eroded the real value of household wealth held in savings at depository institutions and in other nominally denominated forms. Employment growth in the early 1970s was also less steady than during most of the 1960s. These two developments may well have prompted somewhat more cautious consumer behavior and caused higher saving rates. The saving rate reached an exceptionally high level in 1973—the cyclical peak year, which was marked by accelerating inflation and a sharp and largely unanticipated rise in farm income. In the following year of recession, households held the real value of consumption of nondurables and services level while the real value of both durable purchases and saving declined in the face of falling real incomes.

By late 1975 the economy was moving up again, the pace of inflation had abated somewhat from double-digit rates, and household income had been bolstered by tax cuts. As confidence was renewed, consumers were

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apparently attempting to regain previously planned consumption levels and to rebuild their stocks of durable goods. Although spending for durable goods rose somewhat erratically during 1976, the overall gain was strong, and the saving rate dropped sharply further from its recession level, reaching a 25-year low in the first quarter of 1977. By then, real per capita consumption was almost 8 percent higher than its cyclical peak in the third quarter of 1973. Once consumption levels had been brought more closely into balance with individuals' plans and anticipated earnings, it became natural for households to resume a historically more normal balance between current consumption and saving for future needs.

A number of nonrecurring factors contributed to the final phase of decline in the saving rate in the first quarter of last year: deferred automobile purchases because of the strike at the Ford Motor Company late in 1976, unusually large estate and gift tax payments, and exceptionally large home heating expenses. The extent of the decline during 1976 and in the first quarter of 1977 was underestimated, however, in preliminary data. More complete data becoming available later in the year made it more apparent that the slowing in consumption growth, which began in the spring, was an inevitable result of the restoration of more customary spending and saving patterns.

The saving rate rose abruptly in the second quarter and more gradually in the following quarters. Surveys of consumers' attitudes showed only a small reduction in consumer confidence in this period. The pattern of consumer expenditures last year also implies sustained confidence. Households continued to invest in durable goods and houses, committing future income to repayments of consumer and mortgage credit. Automobile sales increased to an 11.7-million unit annual rate in the second quarter, just 6 percent short of the rate at the all-time quarterly peak in 1973. New private home sales through the middle quarters of the year were virtually unchanged from the very strong 800,000 annual rate of late 1976 and early 1977, and sales of existing houses also rose substantially during the year. The strength of home purchases and increases in mortgage credit undoubtedly contributed to increased outlays for household durables.

The slower rise in the saving rate in the fourth quarter was coupled with resumption of strong growth in disposable income. These forces led to a vigorous increase in consumption.

HOUSING

The pace of single-family homebuilding was at a record level last year, although the rate of increase of aggregate residential construction expenditures slowed to 15 percent from 22 percent in 1976. Housing starts for the year came to almost 2 million units. Single-family starts totaled a record 1½ million—150,000 more than in any previous year—and the rate was higher at year-end. The demographic determinants of housing demand are

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increasingly favoring a high rate of single-family home construction as the post-World War II baby boom population is reaching the childbearing age. Furthermore the demand for single-family homes, which are predominantly owner-occupied, appears to reflect the belief that homeownership is valuable as an investment. The rate of increase of new home prices, exclusive of changes due to quality or size differences, is currently about 11 percent annually, or about 5 percentage points greater than the average increase of other prices. Although part of this price pattern is a temporary response of the prices of new construction materials to strong demand, land prices have also been rising substantially.

In California particularly, and to a lesser extent elsewhere in the country, there was an element of speculation in the housing markets in the early part of the year. An increasing number of homes were being bought by individuals who could not indefinitely carry the mortgages, but who anticipated a speculative profit from a near-term resale. In some areas of Southern California the inflation in new home prices reached a 25-percent annual rate. At first, lenders' willingness to grant mortgages in such cases fueled the speculative surge of construction that was evident early in 1977. The Federal Home Loan Bank of San Francisco, however, took effective steps to dampen the expansion of mortgage credit, and lenders were encouraged to require a commitment from home purchasers to occupy the homes they bought. By midyear both price increases for new homes and new housing starts had slowed in the West.

New starts of multifamily units last year came to 535,000, up 43 percent from 1976 but still well below the 1972 peak of 1 million units. The lower level of unsubsidized multiunit building in recent years results, in part, from the overbuilding that occurred in some regions of the country from 1971 to 1973. Since 1976, multifamily construction has turned up in most of the country as vacancy rates have declined. The Northeast was an exception as outmigration and the prevalence of rent controls have curbed expansion.

INVENTORIES

Inventory accumulation contributed substantially to growth of real GNP in the first quarter of 1977. The rate of accumulation in nonfarm inventories, in 1972 dollars, rose from near zero in the last quarter of 1976 to about $10 billion. Thereafter the rate of nonfarm inventory accumulation rose only moderately further in the second and third quarters and then declined sharply at year-end.

Businesses continued in 1977 to follow the very cautious inventory policies that have typified this expansion. Book values of inventories of nondurable goods rose slightly more rapidly than sales in the second quarter as consumption of nondurable goods slackened. In the summer months, new orders and the growth of production slowed sharply, preventing substantial undesired accumulation of stocks during a period of sluggish sales. The book value

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of business stocks therefore rose only two-thirds as much in the third quarter as in the second. Part of this slowdown, however, was due to a reduced rate of increase in prices, particularly for farm products and foods.

NET EXPORTS

The foreign sector has acted as a drag on the speed of expansion in the U.S. economy throughout the past 2 years. In constant dollar terms, U.S. imports in the GNP accounts rose 9 percent last year while exports rose less than 2½ percent. The rise in U.S. real income was, of course, an important factor. Automobile imports rose especially rapidly, reflecting near-record total car sales in the United States. The slow pace of recovery in other countries led foreign producers to compete more aggressively in external markets given their weak demand at home. This also contributed to the strength of U.S. imports and to the weakness of U.S. exports. Hesitant investment abroad lowered demand for capital goods, particularly affecting U.S. export volume, which is heavily dependent on sales of capital goods.

In nominal terms the deterioration of net exports last year was even more dramatic than it was in real terms because of the very high growth of imported oil, whose price has moved up more since the 1972 base date than the average price of other imports or exports. The combination of cold winter weather, petroleum inventory building during much of the year, flat domestic energy output, and rising demand generated a 20-percent increase in oil imports. The cost to the United States for imported oil rose about $10 billion from 1976 to 1977. This increase accounted for approximately 60 percent of the deterioration in the nominal net export position, which swung $9 billion into deficit last year. In addition, price increases in late 1976 and early 1977 raised the cost of commodity imports, particularly coffee, tea, and cocoa.

BUSINESS FIXED INVESTMENT

Business investment in plant and equipment played an important role in the 1977 pattern of expansion. It moved up strongly in the first quarter, rebounding from the effects of strikes at automotive and equipment firms in the fourth quarter of 1976. In the third quarter, the pace slackened, contributing to the midyear pause, but it quickened again in the final quarter of the year. Abstracting from erratic quarter-to-quarter movements, business fixed investment rose, in real terms, by close to 8 percent during the year as a whole—about the same as in 1976.

This component of demand did not begin to recover from the 1974 recession until the final quarter of 1975—one-half year after the upturn in total output. Although investment continued to grow more rapidly than total output during 1977, it had regained by the end of the year only about three-fourths of the ground lost during the recession. This is a weaker performance than in the typical postwar cyclical upswing. The shortfall is discussed in a separate section later in this chapter.

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GOVERNMENT SPENDING

Spending by both the Federal and State and local governments was a particularly important source of economic expansion in mid-1977 when the contribution of other sectors to continued growth of output was moderating. The real value of Federal Government purchases had been essentially unchanged during 1976, and in the fourth quarter of that year was only 1 percent above its level at the cyclical trough 7 quarters earlier. In contrast, the real value of Federal purchases rose by 7.2 percent in 1977; the most significant increases occurred in the second and third quarters.

Both the defense and nondefense components of Federal purchases accelerated sharply. The upswing in real defense purchases marked the end of the decline that began in 1969. While defense procurement rose strongly, however, the number of military personnel remained about constant.

The increase of nondefense Federal purchases at midyear was significantly affected by Commodity Credit Corporation (CCC) transactions. Steep declines of farm crop prices led to a large increase from a year earlier in CCC purchases for crops under loan agreements. CCC purchases added about $4½ billion, at an annual rate, to the value of Federal purchases by the third quarter; the pace leveled off in the fourth quarter. These acquisitions represent a transfer from private inventory accumulation to government purchases and do not contribute directly to expanded output. Other Federal nondefense purchases from the private sector, however, also rose in real terms during 1977.

State and local government purchases grew at an annual rate of only 1.4 percent, in real terms, from the recession trough through the end of 1976; but these purchases increased by 3.2 percent during 1977. Earlier in the current cyclical upswing, States and localities were recovering from substantial operating account deficits that had accumulated during the previous downturn. Fiscal positions improved as the recovery proceeded, reflecting increased revenues generated by rising incomes and adjustments in both tax rates and spending patterns. These lagged adjustments moved budgets into substantial surplus by mid-1976.

Beginning in 1977, real purchases by State and local governments rose more notably as a result of their stronger fiscal positions. Their fiscal situations were further improved during the year by significant increases in Federal grants as part of the Administration's stimulus package. This package included an expansion of public service jobs from about 310,000 in the spring to 615,000 positions at the end of the year. About 80 percent of these jobs were with State and local government units. At the same time there were indications that State and local capital formation, which dropped off sharply in 1975 and 1976, was reviving. Construction of educational facilities continued to decline, as children born in the late stages of the baby boom reached adulthood and left school, but housing and redevelopment building, and sewer and water supply construction rose vigorously during

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the second half of last year. Many of these projects were assisted by an increase in Federal grants for local public works.

EMPLOYMENT AND UNEMPLOYMENT

Growth in economic activity over the 4 quarters of 1977 was sufficient to generate over 4 million new jobs. Employment increased rapidly in the first half of the year as a result of the strong growth in total output; but as the pace of expansion moderated in the third quarter, employment growth slackened. The midyear slowdown was also evident in total hours of work at nonagricultural establishments in the private goods-producing business sector, which declined during the third quarter when manufacturing production and employment flattened out temporarily. Strong expansion of employment resumed again late in the year.

Gains in employment in the first half of the year lowered the unemployment rate from 7.9 percent in the last quarter of 1976 to 7.1 percent in the second quarter of 1977. Only moderate further progress was made until the fourth quarter, when unemployment began declining again, reaching a 3-year low of 6.4 percent in December.

A major disappointment with respect to our economic performance in 1977 was the unemployment situation of black Americans. Total black employment increased by 4.8 percent from the fourth quarter of 1976 to the fourth quarter of 1977, exceeding the 4.4-percent increase in white employment, but the black unemployment rate remained unchanged at 13.4 percent as the labor force grew rapidly. The unemployment rate for black teenagers rose, however, from 36.6 percent to 38.3 percent. Although labor force growth explains the failure of these unemployment rates to fall, it does not dispel the problem of high unemployment among minorities. Furthermore, the problem for teenagers in particular is unlikely to be corrected merely by expansion of the total economy. Effective structural measures are needed as the recovery continues. This problem is discussed more extensively in Chapter 4.

The distribution of employment gains among sectors was in many respects typical for periods of fairly balanced cyclical recovery. During the year employment in manufacturing establishments grew 4.0 percent, an increase of 762,000 jobs. Contract construction employment grew at a rapid 10.0-percent pace, providing an increase of 359,000 jobs as expansion in that sector remained strong throughout the year. The 3.6-percent rise in employment in the private service-producing industries was slightly slower than the growth in manufacturing, but secular growth in this sector provided an increase of 2 million jobs.

Employment in the government sector grew 2.6 percent during 1977, considerably less rapidly than in the private sector. Federal employment has accounted for a dwindling share of total employment in the past decade and

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was virtually unchanged during the year. State and local employment, on the other hand, has been the fastest growing major sector of the economy for the past two decades. From 1953 to 1973 the average annual rate of growth was 4.8 percent. This growth rate declined to 3.3 percent from 1973 to 1976, when the expansion of State and local expenditures was relatively slow. State and local employment grew by 3.1 percent, or 392,000 jobs, in 1977; much of the increase was in the second half of the year. Over 200,000 of the additional jobs on State and local payrolls were financed under the expansion of Comprehensive Employment and Training Act (CETA) jobs that was part of the Administration's stimulus package.

An unusual aspect of employment growth in the past year was a sudden spurt in the number of self-employed workers. After growing at a fairly steady 1.1 percent per year from 1967 to 1976, the number of self-employed workers in the nonagricultural sector increased by 5.6 percent in 1977, accounting for over 10 percent of the net employment growth for the year.

Improvement in the employment situation is also apparent in indicators other than the overall unemployment rate. As jobs became more available, the number of workers who had been unemployed for 27 weeks or more fell from 1.3 million, or 1.4 percent of the civilian labor force, in the final quarter of 1976 to 920,000, or 0.9 percent of the labor force at the end of 1977. The average duration of unemployment fell gradually from 15.5 to 13.9 weeks. Similarly, improvement in labor market conditions resulted in a decline in the fraction of the labor force that were unemployed because they lost their jobs—rather than being unemployed because they were entering or reentering the labor force or had left their jobs voluntarily. The unemployment rate attributable to job loss fell from 3.8 percent at the end of 1976 to 3.0 percent in the fourth quarter of 1977.

The labor force grew very rapidly during 1977, rising by 3.1 percent or 3 million persons between the fourth quarter of 1976 and the fourth quarter of 1977. The number of adult men in the labor force increased 1.9 percent, closely in line with the long-term trend. Unemployment for this group fell from 6.0 percent to 4.8 percent. Employment developments for adult women were sharply different. As their number in the labor force increased by 4.5 percent, the unemployment rate of adult women fell by only 0.7 percentage point to 6.8 percent in the fourth quarter. The teenage labor force grew by 4.6 percent; the unemployment rate of teenagers fell during 1977, but remained a distressingly high 16.7 percent in the fourth quarter.

The role of high labor force participation in rapid labor force growth and slower decline in aggregate unemployment is shown by the rising ratio of employment to the total civilian noninstitutional population of working age—up 1.7 percentage points during 1977 to 58 percent in December. This is a post-World War II record. At the cyclical peak in the fourth quarter of 1973, this ratio was 57.3 percent, when unemployment was 4.8 percent. In 1968, when the unemployment rate was 3.6 percent, the employment to population ratio was considerably lower than in either 1977 or 1973. Hence,

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given the income and career aspirations of broad segments of the population, the economy is confronted with a challenge not only to create jobs but to match workers to employment opportunities.

PRICES AND WAGES IN 1977

The pace of inflation last year was essentially unchanged from 1976, excluding the effects of a few especially volatile factors. The rise in the consumer price index accelerated to 9 percent in the first half of the year, from a 4.8-percent rate during 1976, in response to short supplies of food and strong demands for energy caused by the harsh winter weather. In the second half, however, these forces were absent. Indeed, as the new spring crops came in, wholesale prices of food and farm products declined sharply. As the benefits were passed on to consumers, the rise in consumer prices slowed to an annual rate of 4½ percent in the second half.

Farm supplies are subject to disturbances from weather and these show up in volatile price movements because of relatively inelastic demand for food products. Other prices may also be subjected to shocks that have little to do with the overall balance of supply and demand in the economy. Energy prices are a current example of this phenomenon. For this reason, it is important to look at the movements of price indexes after these special factors have been removed—that is, to look at the "underlying rate" of inflation. This underlying rate, measured by the consumer price index exclusive of food and energy prices, has remained relatively steady in the range of 6 to 6½ percent during almost the entire 3 years of expansion.

The stability of the underlying inflation rate reflects, on the one hand, the continued high levels of unemployment and excess capacity, which have forestalled the acceleration of inflation that has often occurred in the course of extended cyclical expansion. On the other hand, inflationary expectations and institutional characteristics of modern economies have kept the inflation rate from declining. These characteristics are discussed more extensively in Chapter 4.

WAGES, PRODUCTIVITY, AND UNIT LABOR COSTS

During the first year of the recovery, productivity rose faster than its long-run trend, as it typically does in such periods. Since businesses tend to calculate costs on the basis of secular trends in productivity and set their prices accordingly, the rise in prices exceeded that of unit labor costs, and profits per unit of output improved markedly. Since then, the growth of productivity has slowed, and the movements of prices and unit labor costs have been more nearly parallel.

On a year-over-year basis, the rate of change in hourly compensation was essentially the same last year as in 1976. Compensation per hour in the private nonfarm sector showed an 8.5 percent increase, about 0.2 percent less

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than in 1976. The rate of growth of private nonfarm productivity, however, slowed substantially to 2 percent. The rise in labor cost per unit of output therefore increased to about 6½ percent.

Hourly compensation increased about 1 percentage point faster than the index of average hourly earnings during the year. The latter measure shows the change in wages exclusive of the effects of shifts of employment among industries and changes in manufacturing overtime; it is often used as a measure of the basic rate of wage increases, though it is only an approximation. About one-half of the difference in 1977 between hourly compensation and average hourly earnings was accounted for by the shift of employment toward high-wage industries. The remaining difference was primarily due to the increase of fringe benefits, included in compensation but not counted in the earnings index. Fringe benefits per hour have risen more rapidly than wages but rose at about the same rate last year as in 1976.

Data on collective bargaining agreements show about 1 percent greater effective wage-rate adjustments than the data for all nonfarm hourly earnings, but also show a rate of increase that was approximately stable between 1976 and 1977. (Effective wage-rate adjustments include wage changes resulting from current settlements, prior settlements, and cost-of-living clauses.) In the 12 months ending in September of last year, the latest span for which data are available, the average effective wage increase for workers included in major agreements covering 1,000 or more employees was 8.3 percent, compared with 8.1 percent in all of 1976.

New collective bargaining agreements concluded last year generally provided for wage increases greater than the 1977 rate of increase of average hourly earnings. Those that were concluded in the first 9 months of last year and included cost-of-living adjustment clauses provided an average annual basic wage increase of 5.0 percent, plus the augmentation from the escalators. If inflation continues at a 6-percent rate, the total annual wage increase would be about 8 percent. Wage increases in contracts without escalator clauses averaged 6.9 percent annually over the life of the contract. These data, however, omit increases in fringe benefits. The data on combined changes in wages and fringe benefits, which are limited to agreements covering 5,000 or more workers, suggest that total labor compensation under collective bargaining agreements probably continued to rise more rapidly than compensation for all nonfarm employees. First-year negotiated adjustments of wages and benefits averaged 9.6 percent last year.

The productivity increase of 2 percent in the private nonfarm economy in 1977, on a year-over-year basis, is approximately in line with the long-run trend. This rate is down from 4 percent in 1976 and during the first stage of recovery in 1975. The growth of productivity is typically greatest in the early quarters of expansion, when overhead labor becomes more fully utilized and the cyclically sensitive and high-productivity industries recover faster than the rest of the economy. The progressive decline in recent produc-

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tivity growth was therefore consistent with the usual cyclical pattern. An analysis of long-term trends in productivity growth is presented in Chapter 4.

FOOD PRICES IN 1977

Movements of food prices exerted a major effect on the overall rate of price change during the past year. Between the fourth quarter of 1976 and the fourth quarter of 1977 the consumer price index for food increased 7.7 percent.

The severe freeze in July 1975 that reduced the 1976–77 Brazilian coffee crop by 60 percent was reflected in U.S. food prices in early 1977. Reduced supplies from Brazil, normally the world's largest coffee producer, caused world supplies to decline 17 percent and average retail coffee prices in the United States to increase 54 percent during the first 6 months of last year.

During the middle of last January temperatures in Florida were below freezing for several days, reducing the fruit crop and heavily damaging the vegetable crop. Prices of these commodities escalated rapidly until supplies became available from other areas. Fruit and vegetable prices increased at an annual rate of 24 percent in the first quarter but declined in the third quarter (Table 2).

Abundant supplies of all other food products helped to restrain price changes over the year. Food grain prices declined throughout the year as U.S. farmers harvested a third consecutive large crop. The lower food grain prices were reflected in the modest 4-percent increase from the fourth quarter of 1976 to the fourth quarter of 1977 in the cereal and bakery component of the consumer price index.

Declining feed grain prices prompted significantly increased cattle feeding in the latter months of the year. Total beef and veal production nonetheless declined 4 percent in 1977. The decline would have been larger if the drought conditions in the West and Southwest had not encouraged more rapid slaughtering. Last year marked the third consecutive year of a cyclical reduction in the U.S. cattle herd that has been the deepest in history.

TABLE 2.—*Changes in retail food prices, 1976–77*

[Percent change, seasonally adjusted annual rate]

Consumer price component	1976 IV	1977 I	1977 II	1977 III	1977 IV	1976 IV to 1977 IV
All food	0.4	10.0	13.8	4.2	2.9	7.7
Food away from home	3.4	9.2	12.1	7.4	3.8	8.0
Food at home	−.4	10.4	14.4	3.2	2.7	7.5
Meats	−16.7	6.6	11.9	−6.4	6.4	4.4
Cereals and bakery products	−6.2	−1.3	6.9	8.1	3.3	4.1
Fruits and vegetables	22.3	23.7	3.8	−12.8	19.0	7.5
Beverages (nonalcoholic) [1]	32.0	71.0	119.0	20.3	−10.0	41.9

[1] Not seasonally adjusted.

Source: Department of Labor, Bureau of Labor Statistics.

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Total meat production, however, was unchanged from 1976, as production of competing meat and poultry products rose to offset declines in beef output. Consumers substituted more abundant pork and poultry for beef products during 1977; as a result there were only modest increases in prices for meat products in general. From the fourth quarter of 1976 to the final quarter of 1977, beef prices rose only 4 percent, pork prices rose 6 percent, and poultry prices increased by 7 percent. Retail prices of dairy products increased 5 percent, largely reflecting the March increase in the support price of milk.

Consumer expenditures on food, exclusive of alcoholic beverages, totaled $218 billion in 1977, of which $180 billion was for domestically produced food products. The value at the farm of the domestically produced foods was $56 billion, unchanged from 1976. The marketing bill—the cost of processing, transporting, wholesaling, and retailing—was $124 billion, more than double the farm value.

The largest expense component of food marketing firms is labor; hourly compensation in this sector increased 8 percent in 1977. Total labor costs ($58.8 billion) exceeded the farm value of domestically produced foods for the first time last year. Costs for packaging materials, transportation, energy, and all other inputs increased over the levels of a year earlier.

OTHER PRICE DEVELOPMENTS

Prices in 1977 for most goods and services other than food and agricultural products moved in a fairly homogeneous fashion. A few exceptions should be mentioned.

At the retail level, energy prices again posed a special problem early in the year, as noted above, although the pace of increase in energy prices slowed slightly later in the year. Prices of houses, both new and old, rose sharply. On the other hand, prices of apparel and household appliances lagged behind the aggregate indexes.

Medical costs, led by physicians' fees and hospital charges, continued to rise at rates substantially above those of other items, and insurance costs have also risen rapidly. This Administration has proposed to try to reduce inflation in hospital costs by negotiation between representatives of hospitals and physicians, insurers, and the government, which now pays more than half of all hospital charges. The initial goal is to reduce cost increases per admission to 9 percent in fiscal 1978.

At the wholesale level, costs of construction materials rose rapidly during most of the year as prices of lumber and other building materials, especially insulation, moved up sharply. These, of course, contributed to the rise in the price of houses. The rise in lumber prices seem clearly associated with the strength in single-family construction activity, which is particularly lumber intensive. Wholesale and retail fuel prices rose significantly early in the year. Paralleling the moderate rise in retail prices of apparel, textile prices rose less rapidly than the overall average, possibly as a consequence of weak

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consumer demand and strong worldwide competition as well as of good cotton crops. The pace of inflation has also been relatively moderate for nonpetroleum chemicals, rubber, scrap metals, and most internationally traded commodities. Although many raw industrial commodity prices rose early in the year, possibly as a result of speculation occasioned by fears that inflation would accelerate, increases tapered off and some prices fell in the latter half of 1977. Excess world capacity undoubtedly helped to keep these prices in check.

THE FEDERAL BUDGET AND FISCAL POLICY

Soon after the new Administration came into office, it proposed a series of measures intended to raise the rate of growth in real output in 1977 and 1978 to a pace that would lead to significant reductions in the unemployment rate. The package of stimulative measures that was proposed would have had a 2-year budgetary impact of $31 billion.

Given the lags inherent in the implementation of fiscal policy, however, the new measures did not have an effect until early summer. Indeed, in the first quarter of 1977, fiscal policy was actually contractionary by almost any measure because of the unusually slow growth in Federal spending in combination with a sharp upturn in receipts. For the rest of 1977, however, fiscal policy was more expansive, as expenditures resumed their normal growth and the initiatives in the stimulus package began to take effect.

THE PRESIDENT'S STIMULUS PACKAGE

The Administration's stimulus program had seven components:

1. A one-time $50 rebate on 1976 taxes and $50 payments to social security, supplemental security income, and railroad retirement beneficiaries. The proposed rebates and payments totaled $11.4 billion and were to be payable in the spring of 1977.
2. A simplification and a permanent increase in the personal standard deduction. The existing percentage standard deduction was to be converted to a flat deduction of $2,800 for couples filing jointly and $2,400 for single individuals. This change would have reduced personal taxes by $4 billion a year once it was fully in effect.
3. A choice for business firms between a 2-percentage point increase in the investment tax credit and a new 4-percent credit against employer-paid social security taxes. The business tax cut would have been worth $2½ billion annually when fully implemented.
4. An increase in the number of public service jobs funded under Titles II and VI of the Comprehensive Employment and Training Act from the existing 310,000 to 725,000 by mid-1978.
5. An additional 346,000 positions to be added to the various specialized employment, training, and youth programs under other titles of CETA.

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6. A $4-billion increase in the authorization for emergency public works spending beyond the $2 billion already authorized in 1976 by the Local Public Works Capital Development and Investment Act.
7. An increase in the amount of Federal grants made available to States and localities in periods of high employment under the countercyclical revenue sharing program.

These various components of the President's proposal were designed to provide stimulus in both 1977 and 1978. A 2-year program was needed for a continuing improvement in sales and income. Yet it was necessary to preserve sufficient policy flexibility so that the program could be adjusted up or down as circumstances required. The rebate would add immediately to consumer income and therefore allow the stimulus to take effect quickly. The other tax cuts, together with the expansion of CETA jobs, State and local fiscal assistance, and public works, would take effect more gradually, spreading across the last half of 1977 and into 1978. The increases in spending were designed to phase down as unemployment declined; and permanent tax reductions were held to a minimum to allow more time to consider longer-run budget priorities and the desirability of additional tax cuts in conjunction with tax reform.

THE STIMULUS PROGRAM ACTUALLY ENACTED

Review of the economic situation and the stimulus measures by both the Congress and the Administration in the late winter and early spring led to some revisions in the original proposal. In view of the substantial improvement in the rate of expansion of total output and consumer spending in the early part of the year, it was felt that the one-time rebate, which had been designed to give a quick boost to spending, was no longer necessary. The Administration withdrew the proposal in April. In the absence of the rebate for individuals, it was felt that the optional business tax credits were no longer appropriate. The removal of these two items reduced the total size of the Administration's proposed stimulus package by $14 billion.

The tax reduction components of the stimulus program that was enacted were incorporated in the Tax Reduction and Simplification Act of 1977. This bill, which became law in late May, included the following items:

1. A permanent increase in the personal standard deduction to a flat $2,200 for single individuals and heads of households and a flat $3,200 for married couples filing jointly.
2. A nonrefundable employment tax credit for 1977 and 1978 equal to the lesser of one-half the wage or $2,100 for each new employee hired after growth in the firm's wage bill, as specified in the act, exceeds 2 percent. (The wage bill is total wages paid up to $4,200 per employee.) The total credit available for any one year cannot exceed either $100,000 or 25 percent of the firm's Federal unemployment tax base. Unused credits are subject to carry-back and carry-forward rules in effect for the investment tax credit. The employer's normal

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tax deduction for wage costs is reduced by the amount of the employment credit.

3. Extension through the end of 1978 of several tax reduction measures enacted in 1975 and 1976: the general personal income tax credit, the 10-percent earned income tax credit for low-income families with dependents, and the reduction in the corporate tax rate from 22 to 20 percent on the first $25,000 of corporate income and from 48 to 22 percent on the second $25,000 (the rate remains at 48 percent for earnings above $50,000).
4. An increase in funds for countercyclical revenue sharing in 1977 and 1978, and an adjustment of the formula under which the funds are distributed to State and local governments to emphasize local unemployment rates.
5. Several miscellaneous changes in the tax code and modifications of provisions in the Tax Reform Act of 1976.

The remaining parts of the stimulus program—the expansion of public works, public service employment, and other employment and training programs—were generally approved as requested in authorizing legislation enacted during the spring of 1977 and funded by the Economic Stimulus Appropriations Act. Table 3 shows the budgetary impact of the program passed by the Congress, on a basis consistent with the Federal budget document submitted in January 1978.

TABLE 3.—*Budgetary impact of the economic stimulus program, national income and product accounts, calendar years 1977–78*

[Billions of dollars]

Program	1977	1978
Total	6.1	16.9
Tax programs:	4.9	9.9
Change in standard deduction and other	3.3	7.4
Business tax incentives	1.6	2.6
Expenditure programs:		
Grants-in-aid to State and local governments	1.2	7.0
Training and youth programs	.0	1.3
Public service employment	.7	3.5
Countercyclical assistance	.5	.6
Local public works	.0	1.6

Sources: Department of Commerce (Bureau of Economic Analysis) and Office of Management and Budget.

FEDERAL EXPENDITURES IN 1977

Total Federal Government expenditures rose by 9½ percent in 1977 (Table 4), up slightly from the growth in 1976.* As noted earlier, beginning in the second quarter, growth in real Federal defense and nondefense purchases was the most rapid since the mid-1960s and was an important factor in sustaining real growth in the economy during the year.

*Unless otherwise noted, reference is to calendar years and to the Federal sector in the national income and product accounts (NIPA).

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Grants to State and local governments grew somewhat less rapidly than purchases. Most of the growth in grants occurred in the second half of the year, in part as a result of the expenditure components of the President's stimulus program. The growth in Federal transfer payments in 1977 was slowed by declining outlays for unemployment insurance; other social insurance expenditures rose enough for benefits to keep pace with the increase in the general price level.

TABLE 4.—*Federal Government receipts and expenditures, national income and product accounts, calendar years 1976–77*

[Billions of dollars]

Receipt or expenditure category	1976	1977[1]
Federal Government receipts	332.3	373.9
Personal tax and nontax receipts	147.3	170.7
Corporate tax accruals	55.9	59.5
Indirect business tax and nontax accruals	23.4	24.8
Contributions for social insurance	105.7	118.9
Federal Government expenditures	386.3	423.5
Purchases of goods and services	130.1	145.4
National defense	86.8	94.3
Nondefense	43.3	51.1
Transfer payments	162.0	173.1
To persons	158.8	169.8
To foreigners	3.2	3.2
Grants-in-aid to State and local governments	61.0	67.6
Net interest paid	27.2	29.5
Subsidies less current surplus of government enterprises	5.9	7.9
Surplus or deficit (−)	−54.0	−49.6

[1] Preliminary.

Note.—Detail may not add to totals because of rounding.

Source: Department of Commerce (Bureau of Economic Analysis).

FEDERAL RECEIPTS AND THE DEFICIT IN 1977

Federal receipts rose by $41.6 billion in 1977, a somewhat smaller increase than occurred in 1976. The growth was unevenly distributed over the year, with a very large increase in the first quarter and much smaller ones in subsequent quarters. The abnormally large $20.4-billion (annual rate) increase in the first quarter was due to an extra $4 billion in payroll tax increases and a nonrecurring $5.5-billion increase in estate and gift taxes. The additional payroll taxes were the result of the temporary 0.2 percentage point increase in the Federal unemployment insurance (UI) tax rate mandated by the Unemployment Compensation Amendments of 1976, increases in State unemployment insurance taxes—which are counted in the Federal sector—to meet the higher costs of unemployment benefits paid during the recession, and an automatic rise in the taxable wage base for social security. The increase in estate and gift tax collections occurred in response to the revisions made in the Tax Reform Act of 1976. Since gifts were treated more liberally under the old law, there was an incentive to cluster gifts at

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the very end of 1976, before the new law came into effect. The receipts were collected in early 1977.

The reduction in the rate of increase in receipts during the remainder of the year reflected the personal and corporate tax cuts enacted as part of the stimulus package. For the year as a whole personal taxes and contributions for social insurance grew the most rapidly. Together they now account for 77 percent of total Federal receipts, compared with 60 percent in 1957. Most of this increase results from legislated increases in social insurance taxes. Periodic tax reductions have maintained the share of personal taxes in total Federal receipts at a fairly constant 45 percent over the past 20 years, offsetting the rise that would have resulted otherwise because of the progressivity of this tax. The total Federal tax share of GNP rose from 19.5 percent in 1976 to 19.8 percent in 1977.

The Federal deficit on a national income and product accounts (NIPA) basis declined in 1977 for the second year in a row, falling to $49.6 billion for the year. This was $9.5 billion smaller than the deficit projected in February, even after adjusting for withdrawal of portions of the stimulus package.

Several tax changes became effective on January 1, 1978, as a result of previously enacted legislation. The wage base subject to unemployment insurance taxes increased from $4,200 to $6,000 per worker. This change is necessary to keep receipts rising in line with the higher unemployment insurance expenditures. The maximum amount of wages subject to social security taxes was also raised from $16,500 to $17,700 and the total tax rate increased from 11.7 to 12.1 percent. The Social Security Amendments of 1977 provide for major increases in social security taxes, but they are not to take effect until 1979 and subsequent years. Finally, the Federal excise tax on telephone service was reduced from 5 to 4 percent.

THE HIGH-EMPLOYMENT BUDGET

Table 5 shows the high-employment Federal budget for recent years. This budget shows the difference between total receipts and expenditures under the assumption that the economy is operating at a constant high-employment level. The use of high-employment GNP as the level of activity underlying this hypothetical budget is a convenient but arbitrary convention. The purpose is to adjust the budget for cyclical changes in the economy, and this could as well be accomplished using any other trend path of GNP. The high-employment budget eliminates changes in receipts that occur automatically in response to the cyclical behavior of output and employment leaving only those changes due to discretionary fiscal policy and to the secular growth of output and prices. Automatic changes in unemployment compensation payments are excluded from high-employment expenditures; expenditures resulting from new programs, including those explicitly for countercyclical purposes, are included.

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TABLE 5.—*Actual and high-employment Federal receipts and expenditures, national income and product accounts, calendar years 1970–77*

[Billions of dollars; quarterly data at seasonally adjusted annual rates]

Calendar year	Actual				High-employment			
	Receipts	Expenditures	Surplus or deficit (−)		Receipts	Expenditures	Surplus or deficit (−)	
			Amount	Percent of GNP			Amount	Percent of GNP[2]
1970	192.1	204.2	−12.1	−1.2	201.1	203.8	−2.7	−0.3
1971	198.6	220.6	−22.0	−2.1	209.5	219.4	−9.9	−.9
1972	227.5	244.7	−17.3	−1.5	232.1	243.9	−11.8	−1.0
1973	258.3	265.0	−6.7	−.5	256.6	264.9	−8.3	−.6
1974	288.6	299.3	−10.7	−.8	306.1	298.3	7.8	.5
1975	286.9	357.1	−70.2	−4.6	326.0	350.3	−24.2	−1.4
1976	332.3	386.3	−54.0	−3.2	363.8	381.1	−17.3	−1.0
1977[1]	373.9	423.5	−49.6	−2.6	401.9	419.8	−17.9	−.9
1977: I	364.9	403.7	−38.8	−2.1	397.1	399.2	−2.1	−.1
II	371.2	411.5	−40.3	−2.2	398.8	407.8	−9.0	−.5
III	373.2	432.1	−58.9	−3.1	399.3	428.4	−29.1	−1.4

[1] Preliminary.
[2] High-employment surplus or deficit as percent of high-employment GNP.

Note.—Detail may not add to totals because of rounding.

Sources: Department of Commerce (Bureau of Economic Analysis), Office of Management and Budget, and Council of Economic Advisers.

The restrictive shift of fiscal policy in the first quarter of 1977 and the subsequent expansionary swing are reflected in the high-employment budget. Even excluding the nonrecurring increase in gift taxes, the high-employment deficit fell by $8.4 billion to $2.1 billion in the first quarter. Thereafter it rose to $29.1 billion in the third quarter. From the end of 1976 to the third quarter of 1977 the high-employment deficit rose by $13.0 billion, while the actual deficit rose by only $3.0 billion. The difference is a measure of the extra increase in receipts and reduction in expenditures generated by the cyclical increase in GNP toward its high-employment path.

The change in the high-employment surplus is a convenient measure of whether fiscal policy is moving in a contractionary or expansionary direction. A shift in fiscal policy may result either explicitly from discretionary changes in taxes or expenditures, or implicitly from normal growth in real output and prices, which automatically lifts revenues by more than expenditures. Hence, if fiscal policy is to remain unchanged in its effects on the private economy, regular discretionary reductions in taxes or increases in expenditures are necessary to neutralize this fiscal drag.

The level of the high-employment surplus or deficit consistent with maintaining high-employment output depends on the balance between non-Federal saving and investment that would occur at that level of economic activity. An imbalance must be accommodated by the Federal surplus or deficit, or be corrected by the effects of monetary policy or other measures. There is no given level of the high-employment surplus that is suitable in all situations. In particular, just as a balanced actual budget is often not a desirable objective of fiscal policy, a balanced high-employment budget

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will only on occasion be appropriate. As discussed in more detail in Chapter 2, the appropriate level of the high-employment surplus or deficit in the Federal budget depends on the spending decisions of the private sector and of State and local governments, and on the factors affecting the foreign trade balance.

The appropriate path of the high-employment surplus must take into account the movements of actual output relative to the high-employment trend. When the economy is recovering from recession, investment tends to be restrained by both current and past levels of excess capacity, and a more stimulative fiscal policy is necessary to raise capacity utilization. As private demand gains momentum and the economy approaches high employment, the high-employment Federal budget should move closer toward, or into, balance to make room for accelerating private investment. The desirable level and rate of change of the high-employment budget also depend, of course, on the stance of monetary policy and other circumstances specific to any given period.

The high-employment budget should not be interpreted as a precise measure of the Federal sector's impact on the economy. In the first place, different types of taxes and expenditures have widely differing impacts on income and output. For example, an increase in Federal purchases yields larger gains in output than an increase in transfer payments or a reduction in taxes. Similarly, some kinds of tax reductions tend to have a larger stimulative effect than others. Secondly, the effects on aggregate demand of a given tax change will depend on the stage of the business cycle because of the cyclical variability of income shares. Nevertheless, the high-employment budget is a useful simple indicator of the direction of fiscal thrust.

MONETARY POLICY

Short-term interest rates rose fairly sharply from April through October of last year, following an unusual period of downward drift during the first 2 years of the current expansion. Nonetheless, financial markets showed few signs of stress during 1977. Deposit flows to thrift institutions remained fairly high, although some slowing was apparent late in the year. Mortgage credit rose rapidly and there were few signs of tightening of mortgage terms. The volume of new corporate bond issues was down slightly from the preceding year as businesses shifted somewhat toward mortgages and shorter-term borrowing. The yields on new corporate bonds and on long-term Treasury issues rose in the first quarter but then remained stable until late in the year, when a further increase occurred. State and local bond yields drifted slightly lower in 1977, despite a considerable increase in offerings. On balance, the strong liquidity positions and ample cash flow of major lending institutions early in the year limited the upward movement of long-term rates and accommodated substantial credit flows, though at rising costs to many borrowers.

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The sharp increase of almost 2 percentage points in the Federal funds rate between April and October was unsettling, however, both because of its speed and because of uncertainties about its implications for the future of interest rates. From March through October the narrowly defined money supply (M_1, the sum of demand deposits and currency) grew erratically but rapidly, averaging a 10-percent annual rate. This was substantially faster than the 6½-percent upper limit of the target growth range announced by the Federal Reserve at the end of 1976 for the year ahead. Consequently, the Federal Reserve moved to tighten the availability of bank reserves, which led to increases in the Federal funds rate and other short-term interest rates.

The unusually rapid growth of M_1 in 1977 was sharply at variance with the pattern of growth during the first 2 years of the current expansion. During that earlier period money growth had been unusually slow relative to nominal GNP. The resulting rapid rise in velocity (the ratio of GNP to M_1) was accompanied by stable or slightly declining interest rates, indicating that the private sector was developing new means for economizing on cash balances (see discussion later in this chapter). Questions arose during the year concerning the possibility that the unusual velocity pattern would not continue. If velocity growth were returning to a historically more normal pattern, further increases in interest rates would be required to hold growth of the monetary aggregates within the Federal Reserve's target ranges.

INTEREST RATES AND SECURITY YIELDS

Movements of virtually all short-term interest rates tended to follow the Federal funds rate during the year, rising from late spring through early fall and then leveling out through December. During the year as a whole the rate on 3-month Treasury bills rose from 4.5 to 6.1 percent. The prime rate charged by banks on short-term business loans followed, rising from 6¼ percent to 7¾ percent. There were, however, reports of shading of the prime rate, as banks sought to expand their business loans.

Long-term interest rates were relatively stable during the year, after declining rapidly in the preceding 2 years. The yield on newly issued Aaa-rated utility bonds averaged 8.2 percent, compared with an average 8.5 percent during 1976. The yield for 20-year Treasury securities rose unevenly from a January low of 7.5 to 7.9 percent in December, but averaged 7.7 percent for the year, compared with 7.9 percent in 1976.

Corporations had no apparent difficulties in marketing new debt issues, for there was ample demand from both financial institutions and individuals wary of common stocks. Although the yield curve became substantially flatter, as short rates rose relative to long, the curve remained positively sloped particularly within the 1-year range. This resulted in part from the fact that bond market participants expected some further rise in short rates.

Interest rates on municipal bonds were an exception to the general pattern of interest rates: yields on lower-rated tax exempt bonds continued to fall. Yields on Baa-rated municipal bonds fell from 6.7 percent in December 1976

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to 5.8 percent in December 1977, as investors' fears of municipal bankruptcies abated. Inflation also pushed more incomes into the range where the tax exemption is valuable, and the growth of tax exempt mutual funds offered individuals greater access to the municipal bond market. This downward movement of yields was not shared by the more highly rated municipals: the yield on Aaa bonds fluctuated in a narrow band of 5.1 to 5.3 percent.

Despite relatively stable long-term interest rates and rising profits, many stock prices fell in 1977. The widely quoted Dow-Jones average of selected industrial stock prices fell from 1005 at the end of 1976 to a 1977 low of 801 in early November. The broader New York Stock Exchange composite index fell by 14 percent over the same period. Stocks with low price-earnings ratios and high dividend yields generally did better than others. The securities dealers' index (NASDAQ) rose during 1977 by over 7 percent. There have been a number of reasons for the decline in many stock prices in the face of rising corporate earnings. Fears of unfavorable changes in tax laws, particularly with respect to capital gains taxes, and uncertainties about the final form of other policy measures, such as the energy bill, undoubtedly played a part. The dominant factors affecting stock prices, however, were probably rising interest rates and fears of an economic slowdown.

The condition of the stock market is both a symptom of economic uncertainties and a source of economic problems. A lower value of corporate shares makes it expensive for corporations to raise new equity to finance new plant. It also creates an incentive to use internal funds to buy debt or equity investments, rather than make new investment in real assets. The reduction in wealth may also reduce other components of aggregate demand, and this in turn further reduces the incentive for investing in new plant.

SAVINGS FLOWS, CREDIT AVAILABILITY, AND USES OF FUNDS

Business credit availability remained ample at commercial banks, insurance companies, and pension funds. The latter two classes of institutions have been active lenders in the new issues markets, as the funds available to them rose during 1977.

Although new corporate long-term bond issues were down slightly from 1976, the rise in new commercial mortgages offset this decline. Short-term corporate borrowing from commercial banks and finance companies rose more rapidly in 1977 than earlier in the recovery. Nevertheless, total business borrowing needs remained moderate.

While M_1 growth rates rose during the course of 1977, the growth rate of time and savings deposits at commercial banks (other than negotiable certificates of deposit at large commercial banks) fell. For the 6 months ending in March 1977, the growth rate of these deposits was 15.8 percent, at an annual rate. For the 9 months ending in December the growth rate slowed to 9.3 percent. There was some outflow from State and local savings accounts and growth in personal savings accounts slowed. The rate of sav-

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ings flows at thrift institutions slowed late in the year, falling from a 14.8 percent anual rate through October to about 11 percent in the final 2 months of the year. It might have slowed earlier but for the success of the thrift institutions in capturing funds previously held at banks in the "wild card" certificates that were issued in 1973 and matured last summer. As a consequence of continued inflows during the major part of the year, mortgage credit remained readily available.

The continuation of strong savings flows at thrift institutions during most of the year was attributable to several causes. Short-term rates remained below the levels of the previous business cycle peak in November 1973 and were generally below the regulatory ceilings on deposits until late in the year. The response of the public to changes in relative interest rates is likely to be gradual at first and then to gain momentum when interest rates approach or surpass previous peaks.

It is also important that the deposit and liability structure of financial intermediaries has changed substantially since 1973, the last period of credit market tightness. On the deposit side, the institutions rely less on passbook accounts, and more on long-term certificates of deposit. At savings and loan associations, for example, passbook accounts fell from over 50 percent of deposits in late 1972 to under 40 percent in 1977. At the other end of the maturity range, long-term certificates have become more important.

This movement to longer maturities has created a more stable deposit structure. Most obviously, certificate deposits are virtually locked in until the certificate matures, since the penalties for early withdrawal are severe. In addition, the yield curve embodied in the interest rate ceilings imposed by the Federal Reserve (Regulation Q), the Federal Deposit Insurance Corporation, and the Federal Home Loan Bank Board is somewhat steeper than the current yield curve on market securities. As a result, although market rates were above effective ceilings at the shorter end of the maturity range late in the year, ceilings on the long maturity certificates were still above market yields on comparable-maturity government securities.

In previous periods of credit stringency, thrift institutions were also in a poor position to pay rates high enough to attract funds. The average mortgage held by savings and loan associations yielded only 7 percent at the end of 1972. By mid-1977 this had risen to over 8 percent. As a result thrift institutions are better positioned to attract high-cost funds than they were previously.

Reflecting the ready availability of mortgage credit, mortgage borrowings rose sharply in 1977. The substantial excess of mortgage borrowings over the value of new residential construction may indicate that some funds were pulled out of the housing market and used to support consumption expenditures or buy financial assets. By mid-1977, mortgages outstanding had reached 45 percent of personal income, above the historic peak of 44.3 percent reached in 1965 (Table 6). Consumer credit outstanding reached

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TABLE 6.—*Mortgage and consumer debt outstanding as percent of disposable personal income, 1974–77*

[Percent]

Period	Debt		
	Total	Mortgage	Consumer
1974	62.4	43.5	18.9
1975	60.3	42.6	17.7
1976	61.3	43.4	17.8
1977: First 3 quarters	63.5	45.1	18.4

Sources: Department of Commerce (Bureau of Economic Analysis) and Board of Governors of the Federal Reserve System.

18½ percent of disposable income in mid-1977, up substantially from 1976 but still below the 1973–74 peak.

Although the total Federal deficit of $45 billion in fiscal 1977, on a unified budget basis, was down from the $61 billion of fiscal 1976, the Federal Government remained a large borrowing sector. This large Federal deficit was substantially offset, however, by the $27-billion surplus of State and local governments (including both operating and social insurance funds) during the same 4 quarters. The total government deficit (on a NIPA basis) was $18 billion for fiscal 1977. In addition, about $25 billion of Federal debt was purchased for foreign official accounts.

State and local government issues continued to grow as marketing became easier. These governments, however, bought more financial assets, primarily Treasury securities, than they sold. Some of the securities purchased were special issues, as State and local governments utilized the limited legal opportunities to issue new tax exempt securities of their own, in advance of maturing issues, investing the proceeds in special taxable Treasury issues.

THE STATE OF THE ECONOMY AT YEAR-END

Prospects for continued expansion were favorable as 1977 came to a close. The sectors of the economy were in good balance, inventories were relatively lean, and the balance sheets of businesses and financial institutions were strong. Nevertheless much remains to be accomplished to achieve the Nation's economic goals. The great resources of the U.S. economy are still incompletely utilized. Since the cyclical peak in the fourth quarter of 1973, growth in real output has averaged 2.3 percent per year. This is an abnormally slow rate of growth for a 4-year period. Capacity utilization in manufacturing still hovers 4 to 5 percentage points below levels that, in the past, have been consistent with high employment, and its low level is contributing significantly to lagging profit growth and a rate of investment that is too low to meet long-run needs.

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The unemployment problem remains one of the most critical facing the Nation. Not only is the aggregate rate too high, but the composition of unemployment implies that recovery is bypassing some segments of society. Young people and minorities, in particular, continue to account for a disproportionate share of the unemployed, and continued rapid growth of demand may make only small inroads into this problem. It is important to identify and correct the imperfections in labor markets that limit the employment opportunities of these groups if prosperity is to be equitably shared.

Progress in curbing inflation has also been painfully slow because it has proved difficult to reverse the momentum that develops when past inflation comes to be expected. Stabilizing the rate of inflation is an important first step. Reducing the rate further remains a challenging goal.

Continued and accelerated growth in productivity is also required both as a major contributor to the reduction of inflation, and in order to sustain or enhance the U.S. position in international trade. Stronger growth of investment will be required to achieve this objective, as well as to avoid capacity bottlenecks at future levels of high employment, to accommodate needs for environmental control equipment, and to adapt to changing technological and cost conditions affecting particular areas and industries.

A critical challenge remaining at the end of 1977 is a successful shift toward greater energy self-sufficiency. This must entail both conservation of existing resources of oil and gas and conversion to more abundant alternative energy sources. Passage of the Administration's National Energy Plan and the help of all sectors of our economy in its implementation are the first steps in laying the foundation for secure economic growth over the coming decades.

SPECIAL ISSUES

A number of special issues occupied the attention of economic policy makers and observers during the past year. These issues require separate consideration not only because of their importance for interpreting the events of 1977 but also because of their significance for the entire recovery and for its continuation. These issues include developments in financial markets that affect the uses of money balances and their implications for monetary policy, the ability accurately to control and forecast Federal Government expenditures, and the underlying strength of investment propensities in the U.S. economy.

MONEY GROWTH AND VELOCITY

Velocity, the ratio of GNP to M_1, rose by 8.3 percent in the first year of recovery, and by 3.5 percent in the second year, which ended with the first quarter of 1977. These are exceptional increases for a period when interest rates were not increasing. Customarily the increases in velocity during cyclical expansions are in part the result of rising interest rates that lead

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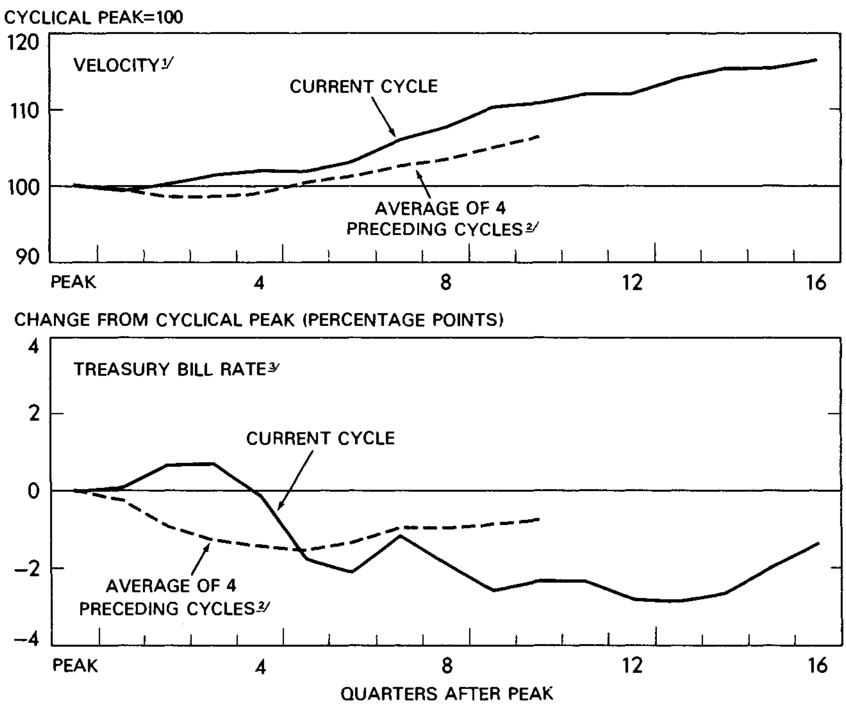
to economizing of money balances. Velocity increases during the first 2 years of the current expansion occurred despite declines in short-term interest rates. Thus the behavior of velocity in the current recovery stands in sharp contrast to previous cyclical patterns. This contrast is shown in Chart 1.

Shifts in velocity, or the relation of money demand to income and interest rates, complicate the implementation of monetary policy. For example, a decline in interest rates could indicate a reduction in the public's preferences for money holdings or a weakening in the pace of economic activity. The appropriate response to the former shift might be slower growth in the money supply, while the response to the latter might be more stimulative monetary policy. Developments influencing the relation of money balances to the usual determinants of money demand consequently have significant policy implications.

Chart 1

Velocity and Interest Rates Over the Business Cycle



1/ RATIO OF GNP TO M_1 (DEMAND DEPOSITS PLUS CURRENCY); SEASONALLY ADJUSTED.

2/ SINCE THE SHORTEST PEAK-TO-PEAK PERIOD IS FROM 1957 III TO 1960 II, THE AVERAGE OF THE PRECEDING CYCLES IS CUT OFF ELEVEN QUARTERS AFTER THE PEAK.

3/ MARKET YIELD ON 3-MONTH BILLS.

SOURCES: DEPARTMENT OF COMMERCE AND BOARD OF GOVERNORS OF THE FEDERAL RESERVE SYSTEM.

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The behavior of velocity in the current recovery cannot be completely explained by the behavior of the factors that usually determine money demand. Most statistical analyses that served to explain money demand in the 1950s and 1960s overpredict money demand for the period from late 1974 through early 1977. Many reasons have been suggested for the apparent downward shift in money demand relative to GNP. The principal cause appears to be changes in cash management techniques of businesses and individuals. Some of the more frequently suggested factors are summarized below:

1. The high interest rates of 1973–74 encouraged the public to institute programs to conserve on money balances. When rates fell, these programs were not dismantled. As a result the amount of money demanded did not return to its earlier relation to GNP.
2. The growth of cash management services offered by banks has reduced corporations' demand for cash. These services allow corporations to keep demand deposits at minimal levels. For example, some banks automatically invest any excess funds in overnight repurchase agreements for some large corporate customers.
3. The growth of negotiable order of withdrawal (NOW) accounts, money market mutual funds, and credit union share drafts has absorbed funds that would otherwise have gone into demand deposits.
4. The growth of corporate and State and local government savings accounts may have absorbed funds from demand deposits.
5. The growing availability and use of overdraft accounts and credit cards have reduced individuals' needs to keep large demand deposit balances. Growing use of telephonic transfers of funds from savings accounts to demand balances and third-party transfer arrangements have worked in the same direction.

The size of these influences is difficult to determine. The volume of new deposit instruments (NOW accounts, money market funds, credit union share drafts, and corporate and State and local government savings accounts) is between 5 and 10 percent of M_1, but some portion of these funds was certainly drawn from sources other than demand deposits. The size of the impact of the other potential causes is largely conjectural.

The broader definitions of the money supply, M_2 and M_3, have shown much less evidence of a shift in money demand. M_2 includes, in addition to M_1, time and savings deposits at commercial banks, other than large negotiable certificates of deposit at large banks. M_3 includes, in addition to M_2, deposits at thrift institutions (mutual savings banks, savings and loan associations, and credit unions).

The growth rates of the more broadly defined money stocks have generally been closer than M_1 to the target ranges set by the Federal Reserve for 1977 From the fourth quarter of 1976 to the fourth quarter of 1977, M_2 grew by 9.6 percent, at the high end of the target range of 7 to 10 percent, and M_3 by 11.6 percent, slightly above its range of 8½ to 11½ percent.

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Since April, the behavior of velocity of M_1 has been more generally in line with the trend from the early post-World War II years to 1974. Following the sharp growth of M_1 in the second and third quarters, money growth in the fourth quarter slowed to a 7-percent annual rate. Given the increase of about three-fourths percentage point in short-term interest rates, and the 10.7-percent rate of growth of nominal GNP, this growth in M_1 appears consistent with the relationship between money demand and GNP that prevailed prior to 1974. The pattern of velocity in the last 3 quarters of 1977 may indicate that the effects of structural changes in financial markets are no longer growing, though it is too early to be certain.

FEDERAL SPENDING SHORTFALLS

Federal spending in 1977 fell short of the levels projected in the new Administration's budget. This is consistent with a tendency for the Federal budget in January of each year to overestimate the level of expenditures for the current year. In 6 of the last 8 years, actual spending, as measured in the NIPA accounts, has fallen below the level projected in the January budget by amounts ranging from \$0.4 billion to \$7.6 billion (Table 7). In fiscal 1977 the shortfall was \$13.7 billion, measured from the new Administration's projections sent to the Congress in February. This was 3.3 percent of actual spending.

Although it is desirable to increase efficiency and minimize costs in the provision of Federal Government services, *unanticipated* shortfalls in expenditures can undermine effective implementation of fiscal policy. Shortfalls may have adverse effects on real economic activity because fiscal policy becomes less expansionary, or more restrictive, than was intended when the budget was planned. A number of steps are involved in the formulation and implementation of fiscal policy. Projections are made of the likely course of private demand and nondiscretionary government spending. These are balanced against the economy's supply capabilities. The discretionary changes

TABLE 7.—*Comparison of projected and actual Federal expenditures, national income and product accounts, fiscal years 1970–77*

[Billions of dollars, except as noted]

Fiscal year	Projection [1]	Actual	Actual less projection	
			Amount	Percent of actual
1970	196.0	195.6	−0.4	−0.2
1971	212.4	212.7	.3	.1
1972	238.2	232.9	−5.3	−2.3
1973	259.7	256.2	−3.5	−1.4
1974	286.4	278.8	−7.6	−2.7
1975	324.3	328.7	4.4	1.3
1976	378.7	372.3	−6.4	−1.7
1977	425.5	411.8	−13.7	−3.3

[1] Projections made in the Budget of the United States Government published in January of the current fiscal year, (February Budget used for 1977), adjusted for revisions by applying projected percent changes to revised data.

Sources: Department of Commerce (Bureau of Economic Analysis), Office of Management and Budget, and Council of Economic Advisers.

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in taxes or spending required to achieve the desired fiscal stance must be determined in light of these projections. Adjustments are, of course, made in the fiscal program by both the Congress and the Administration between presentation of the budget in January and the period to which it applies, which begins 9 months later and ends 21 months later. Nevertheless the process of changing taxes and expenditures is not sufficiently flexible to allow rapid adjustments to unanticipated fluctuations in Federal outlays for basic activities. Reliable expenditure projections are necessary if fiscal measures are to be controllable and effective policy tools.

The magnitude of the effects of shortfalls on the real economy depends on which categories of spending are affected. A shortfall in purchases will have the strongest negative impact because they directly affect economic activity. Underspending in transfers and grants will have a smaller effect, since they are received by individuals and State and local governments, who spend only a part of their receipts. Shortfalls in financial transactions and other asset transfers—which are included in the unified budget, but not in the Federal sector in the national income and product accounts shown in Table 7—have only an indirect effect on aggregate demand. Nevertheless shortfalls in financial transactions do directly affect the size of the total Federal deficit that must be financed by the Treasury. Uncertainties about borrowing requirements resulting from inaccurate estimates of the Federal deficit may be unsettling to financial markets.

The existence of periodic shortfalls may be explained partly by difficulties in forecasting with precision certain key economic and demographic variables that determine spending levels—for example, the rate of inflation and the numbers eligible for various transfer programs. In addition, the timing of legislation necessary to implement parts of the budget may be hard to forecast. In principle, however, there should be no reason why these problems should cause a systematic bias in expenditure estimates.

Nonetheless, there is an apparent upward bias in Federal spending projections. There are several possible explanations for this phenomenon. First, agencies naturally tend to be overly optimistic about their current-year spending estimates, because authorizations for the following year often depend on actual outlays for the current year. Second, there is also a tendency to overestimate the spend-out rates for new program initiatives, both because of the lack of experience with the new programs and because of optimism about their likely success. For example, it was originally estimated that $0.6 billion would be spent on public works in 1977 under the increased authorization contained in the stimulus package. In fact, spending was negligible, although commitments by the Federal Government for specific local projects were completed on schedule. Finally, there are no formal penalties in the Federal budget system for errors in estimating outlays. The spending ceilings in the Congressional Budget Resolutions are a constraint on legislative appropriations but they do not constrain Administration estimates of outlays.

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Since these institutional forces are largely beyond effective control, it is likely that administrative agencies will always tend to overestimate outlays. Nevertheless steps are being taken to mitigate this problem. First, there must be regular monitoring and scrutiny of agency budgets by the Office of Management and Budget (OMB) to ensure that their outlay projections reflect the best information available. Revised outlay estimates for fiscal 1978 published last November identified $11 billion in reductions from estimates made the previous July. Second, to the extent that a regular pattern remains in the difference between actual and predicted levels of Federal spending, adjustments can be made to reflect this in fiscal policy decisions. Continuing efforts by OMB, in cooperation with Federal agencies, can result in more reliable estimates and will improve fiscal management.

BUSINESS FIXED INVESTMENT

Real business fixed investment has grown very slowly over the past 4 years in comparison with its performance in earlier business cycles in the post-World War II period. In the final quarter of last year, real investment outlays were 2 percent below their level at the business cycle peak in the final quarter of 1973. At the comparable stage in four previous cyclical recoveries (excluding the 1957–60 cycle, which is too short for comparison), real business fixed investment averaged 14 percent above its level at the previous cyclical peak.

In large measure, the lag of business capital outlays results from the depth of the last recession—the most severe in the post-World War II period—and its effects on many of the determinants of investment. Investment in structures, however, has been significantly below expectations and has pulled down the investment total. Furthermore, surveys of plans for investment in 1978 do not at the present time suggest the strength that would normally have developed after a sustained period of increases in capacity utilization and in profits.

The investment performance in the current expansion is disturbing for two reasons. First, strong investment is needed to sustain economic expansion and keep the economy moving toward high employment. Higher levels of investment spending during the expansion to date would have made a welcome contribution to total demand. Second, sluggish investment implies slow growth of capacity. Although measurement of capacity is necessarily imprecise, estimates of the growth of capacity in manufacturing industries indicate that growth has slowed in recent years. This growth averaged 4.0 percent from 1968 to 1973 and has fallen to 2.9 percent from 1973 to 1977. In view of the large growth of employment needed in the years ahead to reach unemployment targets in the face of rapid labor force growth, a faster expansion of capacity than the 1973–77 pace will be required to avoid capacity bottlenecks at high employment. Investment must rise as a share of total GNP in coming years in order to achieve adequate growth of capacity.

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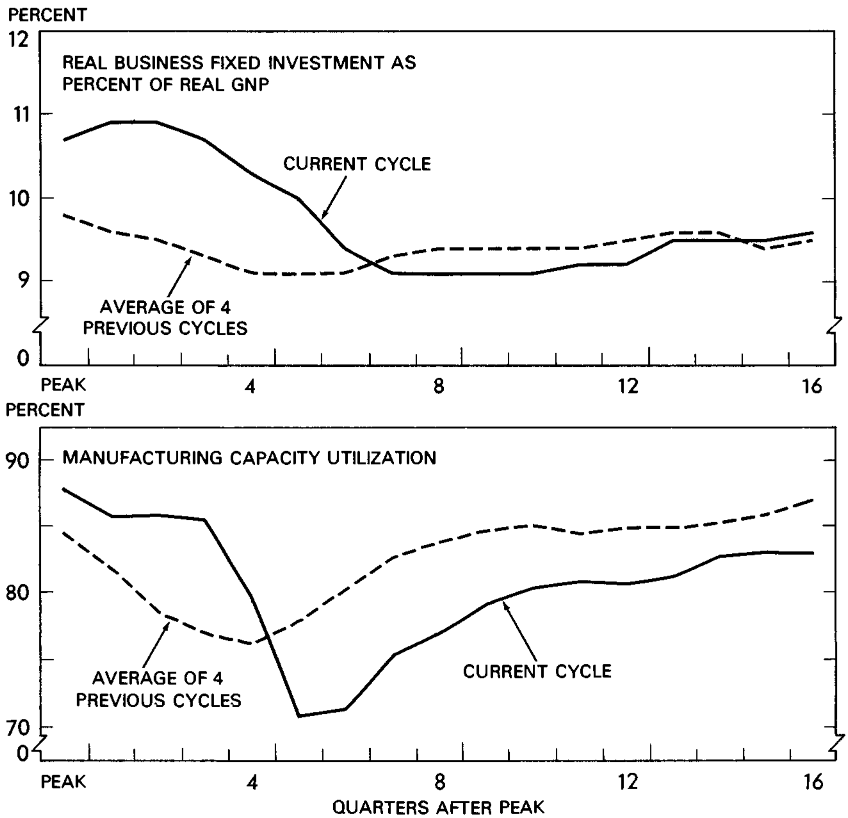
Chart 2 compares the ratio of real business fixed investment to real GNP with its average over four previous recoveries. There has been a sharp decline in this ratio from the unusually high 1973–74 peak. This peak occurred when capacity shortages were providing a strong incentive for investment spending. Investment spending declined more slowly relative to real GNP in the 1974–75 recession than in previous downturns, but its ultimate decline was greater. The recovery of investment relative to GNP was also slower than normal through the end of 1976, 12 quarters after the cyclical peak. The ratio at the end of 1977, however, was 9.6 percent, or 0.1 percentage point above the average of this ratio at a comparable stage of four previous cycles. This comparison overstates the amount of invest-

Chart 2

Investment and Capacity Utilization Over the Business Cycle



NOTE: SEASONALLY ADJUSTED. AVERAGE OF 4 PREVIOUS CYCLES INCLUDES THOSE EXTENDING FROM PEAKS OF 1948 IV, 1953 II, 1960 II, AND 1969 IV.

SOURCES: DEPARTMENT OF COMMERCE AND BOARD OF GOVERNORS OF THE FEDERAL RESERVE SYSTEM.

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ment that added to capacity, however, because purchases of mandated pollution abatement equipment comprise a larger share of investment than in the past. The ratio of real busines fixed investment, excluding pollution control equipment, to real GNP was about 9.2 percent in 1977.

The bottom panel of Chart 2 suggests that the effect of the recession on capacity utilization is important in explaining the sluggishness in investment. Capacity utilization fell dramatically in 1974–75, to the lowest level for any recession in the postwar period, and it remained at depressed levels longer than in previous cycles. An improvement began in 1975, and the 1976–77 upturn in investment was clearly associated with the further rise in capacity utilization, although the utilization rate remained slightly below its 1955–70 average (Table 8).

Many other determinants of investment also remain below their 1955–70 averages, although they have improved considerably during the expansion. Corporate cash flow fell markedly in 1974 but recovered quite quickly and strongly. Its ratio to GNP in 1976 and 1977 was very close to the pre-1970s

TABLE 8.—*Determinants of business fixed investment, 1955–77*

[Percent]

Year	Ratio of real investment to real GNP	Capacity utilization rate in manufacturing [1]	Nonfinancial corporations			
			Cash flow as percent of GNP [2]	Net rate of return on depreciable assets [3]	Rate of return on stockholders' equity [4]	Ratio of market value to replacement cost of net assets [5]
1955	9.4	87.0	9.3	15.0	6.5	0.931
1956	9.8	86.2	8.9	13.3	5.8	.923
1957	9.7	83.6	8.9	11.7	4.9	.857
1958	8.7	75.0	8.7	9.5	3.8	.873
1959	8.7	81.7	9.2	12.3	4.9	1.047
1960	9.0	80.1	8.9	11.2	4.4	1.022
1961	8.7	77.3	8.8	11.1	4.3	1.151
1962	8.9	81.4	9.4	12.7	5.6	1.092
1963	8.9	83.5	9.6	13.6	6.1	1.205
1964	9.3	85.7	10.0	14.7	7.1	1.292
1965	10.3	89.6	10.4	16.2	8.1	1.356
1966	10.8	91.1	10.3	16.1	8.8	1.203
1967	10.3	86.9	9.9	14.0	7.7	1.214
1968	10.3	87.0	9.4	14.2	7.0	1.259
1969	10.6	86.2	8.6	12.8	6.3	1.127
1970	10.2	79.2	7.9	9.9	5.0	.911
1971	9.7	78.1	8.2	10.4	4.5	1.006
1972	10.0	83.1	8.6	11.5	6.2	1.089
1973	10.6	87.6	8.0	12.3	5.8	1.026
1974	10.7	84.2	6.9	11.3	9.9	.762
1975	9.4	73.6	8.8	9.5	6.1	.750
1976	9.2	80.2	9.1	10.8	5.8	.838
1977 [6]	9.5	82.3	9.0	10.6	5.9	.788
1955–70 average	9.6	83.8	9.3	13.0	6.0	1.091

[1] Federal Reserve Board index.
[2] Cash flow calculated as after-tax profits plus capital consumption allowance plus inventory valuation adjustment.
[3] Profits before taxes plus capital consumption adjustment plus net interest paid divided by the stock of depreciable assets valued at current replacement cost.
[4] After-tax profits corrected for inflation effects divided by net worth (physical capital component valued at current replacement cost).
[5] Equity plus interest-bearing debt divided by current replacement cost of net assets.
[6] Preliminary.

Sources: Department of Commerce (Bureau of Economic Analysis), Board of Governors of the Federal Reserve System, and Council of Economic Advisers.

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average. This enlarged cash flow was not devoted to increased investment early in the expansion, however, but was used instead to reduce debt that had risen because of heavy external financing in 1972–73 and the drop in earnings in 1974. By 1977, short-term corporate debt was much lower and liquidity was much improved.

Despite the strong rise in cash flow, the rate of return on depreciable assets shown in the fourth column of the table did not rise correspondingly. An important factor in the early growth of cash flow was a strong increase in depreciation allowances, which contribute to internal funds but are not part of net return. The rate of return on depreciable assets is also lower relative to cash flow in 1975–77 because depreciation allowable for tax purposes falls below replacement cost in periods of inflation. There is a gap of about 2½ percentage points between current levels of the net rate of return on nonfinancial corporate capital and the 1955–70 average of 13 percent. Much of the gap exists, however, because recovery is still incomplete.

Cyclical adjustments can only approximate the effect of differing capacity utilization rates on the rate of return. They suggest, however, that if the rate of capacity utilization in 1977 had been at a high-employment level, the rate of return would also have been improved, though still below high-employment levels prior to 1970. The rate of return has fallen from the high level attained during the mid-1960s, but it appears to be recovering from the depressed periods of the early 1970s, when profits may have been affected not only by slack capacity but also by price controls. Thus, stronger overall performance of the economy holds the promise of raising the return to capital.

Corporation taxes and interest payments are subtracted from the rate of return on depreciable assets to obtain profits earned on stockholders' equity, shown in Table 8. This measure of profits differs from "book value" profits reported by corporations, by excluding inventory profits and measuring depreciation on a replacement–cost basis. In periods of rising prices, profits must also be adjusted to reflect the reduction in the real value of corporate debt that is induced by inflation. This reduction in the real value offsets the part of nominal interest costs that is a premium to compensate lenders for anticipated continuation of inflation. Although these adjustments involve a number of statistical problems, reasonable approximations can be made. As shown in the table, the after-tax return on corporate equity in 1977 approximately matched the 1955–70 average. On a cyclically adjusted basis this profit rate appears to be slightly above the 1955–70 average.

The ratio of the market valuation of the assets of nonfinancial corporations to their replacement cost is a way of formulating the joint roles of financial and nonfinancial influences on investment decisions. The recurrent weakness of stock market values during the recovery, despite rising corporate profits, has strongly influenced this ratio and may indicate unfavorable expectations shared by business managers and investors in

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equities. A great variety of factors influence the stock market—including, of course, anticipations of economic growth and profitability and the prospects for all the policies that will influence them. Monetary policy may have an additional, more direct, effect through its influence on the rate of return on alternatives to equity investment.

The ratio of market values to replacement cost has remained considerably below 1 throughout this recovery. This may be an indication that it is more profitable, on average, to buy existing financial assets than to invest in new plant and equipment. At the margin, of course, the ratio of market value to replacement cost may be greater than the average in particular industries or for particular types of equipment. For example, this is likely to be true now for energy-intensive production processes. Old capital may have lost considerable value as energy prices rose, but new energy-conserving equipment could have a much higher value. Thus, enactment by the Congress of a national energy policy that clarifies the long-range relation between fuel prices and the prices of other inputs to production could lead to substantially greater investment than the current average ratio of market value to replacement cost would indicate. Other economic policy measures being proposed, tax measures in particular, may also create more favorable attitudes toward investment in both real and equity assets.

Interest rates on short- and long-term corporate debt and the earnings-to-price ratio on equities both influence the cost of funds to business, and both are likely to influence investment decisions. In the case of interest rates, however, it is the real rate, exclusive of inflation premiums, that is relevant. On an annual average basis the interest rate on long-term bonds less the rate of inflation (an approximation of the real rate of interest) and the earnings-to-price ratio on equities were both higher in 1977 than in 1973. (See Chart 5 in Chapter 2.) They moved in divergent directions between 1976 and 1977—the real interest rate declined slightly while the earnings-to-price ratio rose—but parallel upward movements occurred in the course of 1977.

Studies of investment behavior conducted by the Council in the past year have explored the relation of investment to a number of its measurable determinants—growth of output, capacity utilization, cash flow, the rental price of capital services, and the ratio of the market value of assets to their replacement cost. In order to test whether the relationship of investment to these determinants has changed in the recent period, statistical relationships were estimated by econometric methods for the 1957–73 period. Projections for the period from 1974 through 1977 were generated from many of these earlier relationships. (Not all could be extended through 1977 because of lags in data availability.) These projections produce a wide range of estimates, and all the alternative formulations involve a substantial margin of error. Conclusions about the performance of investment therefore remain uncertain.

It appears, however, that total investment outlays during the expansion have fallen somewhat short of those implied by historical relationships of

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investment to its determinants. Investment expenditures fell much more sharply in 1975 than would have been expected and remained depressed for a longer time. Once the upturn occurred, late in 1975, the rate of growth of investment was for a time approximately in line with econometric projections. An unusually rapid acceleration would have been required, however, to make up for the 1975 shortfall and this did not occur. Indeed, the rate of growth appears to have drifted below the projections in the latter part of last year, and surveys taken late last year of the investment planned for 1978 suggest a widening gap.

The components of business fixed investment have differed widely in their behavior during the expansion. The level of investment in equipment was largely consistent with the econometric projections through early 1977. Excluding the effects of strikes in the fourth quarter of 1976, the divergence between actual and projected growth rates was probably well within the margin of error for these projections. Later in 1977, however, the increase in equipment investment appeared to be a bit slower than most of the econometric projections would suggest.

The investment level for structures during the past few years, however, has fallen consistently and substantially below what would have been expected on the basis of all of the econometric projections. Not only was the decline extraordinarily sharp in 1975 but the subsequent recovery was slower than might have been expected. The result has been a widening gap between the actual level of investment in structures and the level that would have been projected on the basis of historical patterns. Since investment in structures accounts for approximately one-third of business fixed investment, its slow growth has had an important impact on the total. In the fourth quarter of last year, real outlays for private nonresidential construction were 13 percent below their level at the end of 1973, while outlays for producers' durable equipment were about 4½ percent higher than at the end of 1973.

A number of possible reasons exist for the lagging investment performance. The perceived risk of investment may have increased in the 1970s as a result of higher inflation rates and larger cyclical fluctuations in output. Although a steady and fully anticipated inflation rate of 6 percent is not inherently riskier than price stability, high inflation rates have historically been associated with larger variations in the rate of price increase, both here and abroad. For this reason, measures to control inflation are important.

Uncertainties about future rates of change of specific output prices and costs are even more likely to affect investment behavior adversely. Changes in energy costs are an obvious example. At least during a period of adjustment, flexibility of foreign exchange rates may also have caused increased uncertainties. Apart from these examples, it is unlikely that other relative prices and costs have become substantially more volatile in recent years.

Uncertainties about future expansion of sales were undoubtedly increased by the depth of the last recession, but they should be abating as the expan-

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sion in the United States continues. Excess capacity and slow growth in other industrial countries, together with deep import penetration into a few key industries, may, however, be continuing to restrain business optimism.

Environmental and safety regulations have also been assuming a larger role in decisions regarding investment. The effect is hard to quantify, but there is direct evidence that environmental regulations are more stringent for new installations and may have a particularly inhibiting effect on investment in structures. On the other hand, mandated antipollution investments may actually have raised investment levels from what they would otherwise have been in some industries; this increases aggregate demand but does not enlarge productive capacity.

Finally, it should be noted that during a substantial part of the 1950s and 1960s heavy investments were made in fuel and power facilities that are long lived. Demand for electricity was growing extremely rapidly, stimulating continuous expansion in generating capacity, and the network of natural gas pipelines was also considerably extended. Investment in structures from 1973 to 1976 included outlays for the Alaska pipeline that have now ended. Increased investment by energy-producing industries can be expected in the future; but the timing is uncertain, and in the case of electricity higher energy prices may limit the growth in demand and capacity expansion.

At a time when strong growth in the capital stock is needed to meet future goals, investment appears to be drifting below normal trends. This drift must be reversed. A stable financial environment and tax measures specifically directed to enhancing investment incentives are particularly important. The situation should also be especially helped by progress in the fields of energy and regulation. These measures will be most effective in the context of a steady continuation of overall expansion.

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