CHAPTER 1

Economic Policy and Outlook

THE U.S. ECONOMIC RECOVERY is now almost 2 years old. In 1976 real gross national product (GNP) rose by 6.2 percent, and employment increased by almost 3 million persons. Although the pattern of real GNP growth during 1976 was more erratic than had been anticipated, showing rapid growth in the first quarter followed by more moderate gains in subsequent quarters, the rise in real GNP for the year as a whole was about what had been projected a year ago. The growth of production and employment for 1976 was accompanied by a further significant moderation of the inflation rate. The average annual rate of change in the GNP deflator was 5 percent over the 4 quarters of 1976 compared with a 7 percent average in 1975.

The unemployment rate declined by almost 1 percentage point from 1975 to 1976, but it is still much too high and must be reduced further. The 3.2 percent increase in employment in 1976 indicates that progress is being made in alleviating the economic and social hardships remaining from the recession. Owing to the combination of secular and cyclical increases in labor force participation rates and in the growth of the working-age population, the labor force grew by 2.3 percent in 1976. This rapid growth of the labor force means that jobs must be created at a fast pace in order to reduce the rate of unemployment.

A continuation of rapid employment and real income gains will require a strong growth in private investment demand in the years ahead. Little extra impetus to the economic expansion will be forthcoming from inventory investment and personal consumption, because inventories already have risen and saving rates have dropped closer to normal levels. Although business fixed investment has begun to recover from the low levels of the recession, its growth has been slower than in past recoveries. Without a sharper upturn in investment the expansionary momentum, already slower in the second half of last year, cannot easily be maintained. Even if final sales growth could be bolstered without a strong recovery of business fixed investment, the implied lesser growth of productive capital would not be sufficient to provide new jobs at a faster rate in the future without a slower growth of productivity and real wages.

In our 1976 *Report* we indicated that business fixed investment would have to account for approximately 12 percent of GNP during the last half

of the 1970s if the Nation is to achieve full employment by 1980, meet specified productivity and environmental objectives, and attain greater independence in regard to energy. While it was not suggested that economic equilibrium cannot be attained under many other sets of conditions, the social and economic strains of adjusting to a slower and less widely shared improvement in living standards seem likely to become severe if we continue to fall very far short of this ratio. Business fixed investment in 1976 was less than 10 percent of GNP, and even with the improvement anticipated this year the share is likely to remain below 10 percent in 1977. The momentum of the recovery must be maintained in the near term through measures which foster growing business confidence and which support stable economic growth and decelerating inflation. If not, a slow growth of capital formation may create capacity limitations which could stall the expansion before acceptably low levels of unemployment are reached.

To provide support for an economic expansion strong enough to effect a substantial reduction in unemployment without at the same time jeopardizing the progress achieved so far in containing inflation, the President has recommended a permanent reduction in personal and business taxes beginning this year. The purpose of these measures is to further the growth of disposable income, which has been eroded in part by inflation-induced increases in taxes, and to provide more incentives to investment spending. The continuing diminution of inflation during the past year indicates that such tax reductions to promote the growth of demand are consistent with the goal of sustainable noninflationary growth—if they are accompanied by steps to restrain the growth of Federal expenditures in future years. To help consolidate our progress in curbing inflation, the President has proposed a budget which provides for a slowing of the growth in Federal outlays in 1978 and beyond. Unless surpluses can eventually be achieved in the Federal budget at high levels of employment, it may be difficult to increase the share of investment in GNP and maintain the growth of the Nation's productive capacity.

With the help of these policies the economic recovery is expected to continue in 1977. Real GNP is expected to be 5 to 5½ percent higher than in 1976, and its rate of growth should average between 5½ and 6 percent during the 4 quarters of 1977. Such growth will produce further gains in employment. But unless labor force growth decelerates significantly from the current high rates, the decline in the unemployment rate is likely to be modest. In any event, unemployment will still be unacceptably high during the year. If we are to eliminate the economic loss and hardship associated with idle resources, economic growth in 1978 and beyond must continue to proceed at a more rapid pace than the longer-run rate of growth of potential output. We do not anticipate that these policies will lead to an increase in the underlying rate of inflation. Indeed, if wage settlements continue to moderate, further progress in reducing inflation could be possible in this year and in future years.

GENERAL POLICY PRINCIPLES

To assure a sustained expansion, four general principles should guide the formulation of economic policies over the next several years. Economic stimulus, where needed, should be provided by tax reduction rather than by increases in government spending. Tax reduction should be permanent rather than in the form of a temporary rebate. Policy initiatives should be balanced between measures directed toward consumption and those aimed at increasing business fixed investment. Economic policy should aim for a steady economic expansion in which the components of aggregate demand are in balance.

1. *Stimulus should be provided by tax reduction rather than by increases in government spending.* Rising government purchases of goods and services first increase income and employment in the areas that produce the increased output demanded by government. The visibility and strength of these first-round effects account for much of the political support for increased spending. A number of serious difficulties arise, however, when government expenditures are used as a tool of stabilization policy.

Our experience has been that under existing institutional arrangements the startup time for many spending programs can be quite long; this is particularly true of the large construction projects which are considered by many to be useful instruments of countercyclical fiscal policy. The danger is that the economic impact of new spending programs will not be felt when it is most needed and will then outlast the need for stimulus. In addition, when restraint rather than continued stimulus becomes desirable, it may be politically difficult to cut these programs. As a result, a fiscal policy which stimulates expansion primarily through increases in government purchases may risk overstimulating the expansion at a later stage. Another difficulty is that frictional inefficiencies arise from manipulating the level of government expenditures for stabilization purposes. Each time a government program is changed, costs are incurred as the private sector is forced to adjust and reallocate the necessary resources. And in some cases the rules and regulations associated with the enactment of these programs may necessitate widening government interference in the private sector.

Similar dangers exist with income maintenance and support programs. These programs are essential to relieve the economic hardships associated with unemployment. But we must be careful that changes in programs designed to deal with cyclical contingencies do not end by permanently increasing Federal payments, the number of beneficiaries, and the size of the individual benefits. Such a result would reduce the growth of resources available to the private sector; and the higher marginal tax rates eventually required to finance these expenditures may lower incentives to work and invest, thereby hindering the growth of our aggregate supply capabilities and heightening inflationary pressures. An analysis of some special job creation programs is provided in Chapter 4 of this *Report*.

2. *Tax reduction should be permanent rather than in the form of a temporary rebate.* The primary objectives of tax reduction in the current situation should be to provide relief from the inflation-induced increases in real tax burdens and to support a lasting economic expansion. Because consumers normally adjust expenditures to their "permanent" or long-run income, a lasting reduction in personal taxes which raises both current and future after-tax income should yield a sustained rise in consumer spending, as happened following the permanent tax reduction in 1964. Sustained growth in consumer spending is required to promote a durable economic expansion.

On the other hand, any stimulative effect that a temporary tax rebate may have on consumer spending will diminish quickly. For example, a substantial increase in expenditures for durables did occur after the payment of the 1975 rebate. Part of the effect of such a one-time windfall, however, may have been to shift some expenditures to the present that had been planned for a later time, with the result that spending would be correspondingly lower in subsequent periods. This phenomenon may be the reason for the very low rates of increase in purchases of consumer durables in the last 3 quarters of 1976. Such fluctuations in the movements of demand contribute to uncertainty about fiscal policy and damage the prospects for steady growth. Thus temporary tax rebates are not consistent with the objective of sustaining an economic expansion. While they may be useful in helping to bring about a reversal of generally declining demands during a recession, they are not consistent with the maintenance of an expansion of demand that is already under way.

Moreover transitory increases in consumer spending associated with temporary tax cuts are not likely to stimulate investment as much as more permanent increases in demand would do. Business firms may realize that an expansion in sales will not last if the increase is apparently due to a temporary reduction in taxes and will have less incentive to expand capacity than if they expect a more sustained rise in sales. A permanent reduction in income taxes has a more lasting impact on household consumption demand and consequently on business firms' willingness to invest in productive capital.

It is sometimes argued that tax cuts should be temporary in order to maintain a permanent revenue base for future spending programs. A strong and more certain growth in 1977 and beyond, however, is ultimately the key to whether resources will become available to support these expenditures. Moreover taxes automatically increase faster than income over time because of the combined effects exerted by inflation, real growth, and our graduated tax rate structure. Unless permanent reductions are made from time to time, taxes will account for an ever larger share of taxable income. Thus there is little danger that a permanent tax reduction will destroy the revenue base for the Federal Government. Indeed, another fear may be more realistic: if taxes are not reduced periodically we run the risk of allowing the tax burden to rise over time and thus inhibit the growth of demand in the private sector.

3. *Economic initiatives should be balanced between measures to stimulate consumption and those designed to increase business investment.* We noted above that investment must grow somewhat faster than GNP for some years to achieve long-run goals of employment and income growth. It is therefore essential that economic policy create an environment which will encourage business investment. Clearly, investment spending will be stimulated by substantial increases in final sales, which tend to reduce excess capacity and increase expected profitability. A cut in personal income taxes which sustains real consumption growth will thus encourage investment. However, in the current economic environment we believe this consumption-induced investment growth can usefully be augmented by direct stimulus to private investment. Consumption-oriented growth in demand will not necessarily bring aggregate investment to the levels needed to offset the inadequate investment of the past few years. On the contrary, direct stimulus may be necessary to counteract forces which have deterred investment.

Chart 1 shows that business fixed investment currently accounts for a relatively low proportion of GNP, approximating the percentage of the early 1960s. Even with substantial increases in business fixed investment next year this ratio will remain under 10 percent and far below the ratios we believe are desirable. Furthermore the slow growth of labor productivity, analyzed later in this chapter, does not suggest that productive capital has become relatively more abundant over the last decade. The policy response to comparable problems in the early 1960s was to stimulate investment directly with such measures as a reduction in corporate tax rates.

Chart 1

Relation of Real Business Fixed Investment to Real GNP

SOURCE: DEPARTMENT OF COMMERCE.

A number of factors may have prevented the restoration of business confidence and hence restrained investment growth. Wage and price controls are still a recent memory, and fears of a reacceleration of inflation have not been completely dispelled. Recollections of the severe 1974–75 recession may also restrain business confidence. Because fears of a renewed inflation-recession cycle may encourage businesses to increase liquidity rather than invest in plant and equipment, confidence must be rebuilt before sales growth will be translated into higher capital outlays.

Laws and regulations to provide necessary protection for the environment also create costs and uncertainties. Not only does the spread of regulations raise production costs, but long-run cost and profit calculations are made less certain because of the possibility of future changes in regulations. For instance, if a change in environmental laws may affect the operations of a new plant, then the risk associated with building this plant is correspondingly increased. The impact is more severe on longer-lived investments which require longer commitments with less flexibility once they are made.

It is of course very difficult to prove that a decline in business confidence or an increase in risk premiums is responsible for the failure of investment to rise as much as might have been expected during the current recovery. This difficulty results partly from our inability to directly measure the uncertainty or accurately assess the expectational factors and the environment within which long-term investment decisions are made. Most evidence for the view that business confidence remains poor is qualitative and involves a degree of casual empiricism. One quantitative indicator of the expectations affecting business investment is the market value of a corporation's stocks and of net interest-bearing debt relative to the replacement cost of its assets. If, for example, assets are valued in the market significantly above their replacement cost, corporations will be encouraged to invest in new equipment and thereby create capital gains for the owners of their securities. On the other hand, if assets are valued below their replacement cost, corporations which sell new securities to buy new capital goods may be creating capital losses for their security holders. In the latter case we can infer that the cost of capital has risen relative to the average profitability of past investment projects and that new investment will be discouraged. Of course, at the margin the expected rate of return on a significant number of potential new investments will remain above the cost of capital, even though existing assets on average are valued below their replacement cost. Thus even if the market value of a firm fell below the replacement cost of its assets this would not mean the end of investment incentives. It would be especially inappropriate to draw such conclusions from estimated aggregates composed of heterogeneous corporations.

Nevertheless it is probably safe to infer that the almost continuous decline in the ratio of the market value of nonfinancial corporations to the replacement cost of their assets during the last few years (Table 1 and Chart 2) is an indication that investment incentives are much lower currently than in the

TABLE 1.—*The market value and the replacement cost of net assets of nonfinancial corporations, 1960–76*

Year	Market value			Replacement cost of net assets			Ratio of market value to replacement cost of net assets	Ratio of real business fixed investment to real GNP
	Total	Interest-bearing debt [1]	Equity [2]	Total	Net non-interest-bearing financial assets [3]	Net stock of depreciable fixed assets and inventories [3]		
	Billions of dollars							
1960	435.6	103.8	331.8	427.0	61.4	365.6	1.020	0.090
1961	507.9	114.8	393.1	442.9	67.3	375.6	1.147	.087
1962	503.9	126.0	378.0	460.9	73.3	387.6	1.093	.089
1963	581.0	136.7	444.2	482.2	78.5	403.7	1.205	.088
1964	656.6	147.9	508.7	507.2	83.0	424.2	1.295	.093
1965	737.5	162.9	574.7	541.7	87.2	454.5	1.361	.103
1966	712.9	180.4	532.4	590.8	91.8	499.0	1.207	.108
1967	789.8	200.0	589.9	649.9	100.7	549.2	1.215	.103
1968	893.0	217.8	675.3	711.0	109.3	601.7	1.256	.103
1969	881.9	243.1	638.8	782.9	117.0	665.9	1.126	.106
1970	787.1	267.7	519.4	858.1	126.4	731.7	.917	.102
1971	934.2	296.8	637.4	925.3	135.9	789.4	1.010	.098
1972	1,093.1	330.3	762.8	1,002.5	149.6	852.9	1.090	.100
1973	1,166.1	386.1	780.0	1,126.4	166.3	960.1	1.034	.106
1974	1,106.5	428.2	678.3	1,319.8	181.8	1,138.0	.838	.106
1975	1,113.1	439.4	673.8	1,494.5	198.3	1,296.2	.745	.093
1976 [4]	1,326.2	470.0	856.2	1,601.4	212.3	1,389.1	.828	.091

[1] Market value of net interest-bearing debt of nonfinancial corporations (NFCs) adjusted from face value by assuming a maturity of 5 years and discounting a stream of coupon payments equal to the net interest paid by NFCs. The discount rate is assumed to equal Moody's Baa corporate bond yield.
[2] Dividends of NFCs divided by the dividend/price ratio of Standard & Poor's composite index of 500 common stocks.
[3] Average of year-end values.
[4] Preliminary.

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

Source: Council of Economic Advisers (based on data from various sources).

second half of the 1960s. Even allowing for the possibility that the high values of the ratio in the 1960s reflected some temporary overconfidence in the evaluation of future returns, the significant downward trend is an indicator that a lack of confidence may be a factor holding back long-term investment commitments now. One inference from this evidence is that a direct stimulus to investment, such as a corporate tax reduction would provide, could hasten the restoration of business confidence and be useful to supplement the normal accelerator mechanism. Another is that measures which would help reduce the risks of substantial changes in the regulatory climate over the normal life of fixed assets would also raise investment. Such measures would help to offset the uncertainties which are still restraining investment and would make up for the slow growth of productive capital in the past few years.

4. *Policy should aim at a steady expansion with balance among the components of aggregate demand.* An important policy decision in the years ahead concerns the appropriate amount of fiscal and monetary stimulus to sustain the recovery. In the effort to achieve continued progress toward full employment we must not create inherently unstable and ultimately

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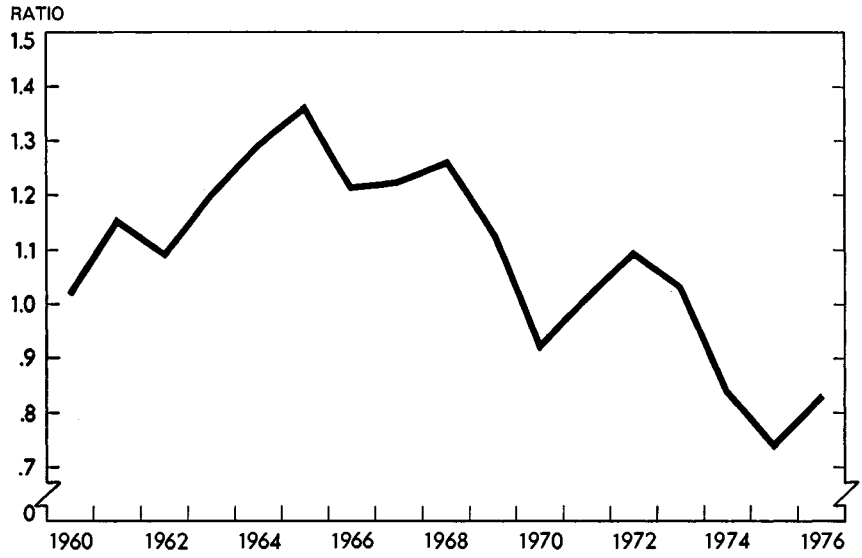
Chart 2

Ratio of Market Value of Nonfinancial Corporations to Replacement Cost of Net Assets



SOURCE: COUNCIL OF ECONOMIC ADVISERS (BASED ON DATA FROM VARIOUS SOURCES).

counterproductive conditions along the way. With a high inflation rate and many uncertainties still remaining to hamper the economy, stimulus which aims for a balanced composition of demand and a steady pace will provide the safest and surest path of advance. A steady recovery allows aggregate production to expand gradually toward full capacity, thereby avoiding such imbalances as overaccumulation of inventories, shortages of strategic commodities, or insufficient accumulation of fixed capital. Moreover, if unexpected shortages or demand deficiencies begin to arise, policy can react before either inflationary or deflationary pressures become too severe. In this way the possibility of renewed instabilities is minimized. In turn the improved outlook should help restore confidence, encourage investment, and assure that increases in demand raise employment rather than inflation rates.

Evidence showing the impact of inflation and expectations of inflation on business decisions is very limited. Nevertheless an overly rapid expansion could generate a rise in inflationary expectations which might restrain capital accumulation and threaten to cut off the expansion before full employment is reached. In the short run, increases in inflation may appear to stimulate investment because of delays in the upward adjustment of market interest rates and the estimates of the risk associated with inflation. However, high rates of inflation may be associated with high variability in individual prices. If this is so, the expected variance of future returns

on investment would increase with inflation, thereby adding a risk premium to the rate of return required to undertake new investment projects. Thus the cost-price uncertainties which could be associated with high inflation because of larger, more frequent, and less predictable changes in relative prices may eventually discourage business spending. In the long run the effect of inflation may be negative as market interest rates adjust to offset the inflation stimulus and only the negative effect of greater uncertainty remains.

Another factor which will call for moderation at a later stage if the expansion is to be sustainable is the current uncertainty about the level of potential output in the U.S. economy and the likelihood that the potential has been growing at a lower rate in the 1970s than during most of the 1960s. There is also some uncertainty about the unemployment rate that should be used to represent a constant degree of tightness in the labor market at full employment either now or in the future. These uncertainties suggest the wisdom of proceeding with a greater degree of caution in our return to full employment than was previously thought necessary. (These and other factors that bear on long-run economic growth are discussed more fully later in this chapter.

International considerations provide a further reason for maintaining a steady recovery. If a too rapid expansion at home is accompanied by rapid expansions followed by bottlenecks in other major industrial countries, inflationary forces can be intensified by worldwide excess demand for strategic commodities. On the other hand, in a situation where the world's economic development is lagging, it is important that U.S. growth should not be so slow as to contribute to sluggishness in world trade. This would reinforce rather than alleviate demand deficiencies and increase the risk of another recession.

ECONOMIC POLICY FOR 1977

FISCAL POLICY

With these general principles in mind, the President has proposed a permanent tax cut for individuals and corporations which will reduce tax liabilities by about $12.5 billion in calendar 1977. The largest part of the tax cut, $10 billion, would go to individuals in the form of higher personal exemptions, an increase in the low-income allowance, and lower tax rates. The rest would go to corporations in the form of a 2 percentage point reduction in the corporate income tax rate. Federal expenditures on a national income and product accounts (NIPA) basis are expected to be $429 billion in 1977. This will yield an actual deficit of $57 billion for the year and a decline in the full-employment surplus of $13 billion in 1977. As private sector spending continues to expand, it is expected that the Federal deficit will gradually diminish to make room for the necessary private savings flows to finance new capital formation.

The proposed $10-billion permanent reduction in personal income taxes would be implemented by an increase in the individual exemption from $750 to $1,000, an increase in the low-income allowance to $1,800 for single persons and $2,500 for joint returns, and a reduction in rates in the lower- and middle-income brackets. Furthermore, the temporary tax credits first enacted in 1975 would be repealed. These changes would offset the increase in the real tax burden of middle-income families resulting from the high inflation rates of recent years. The reduction in personal taxes would lead to a permanent increase in after-tax income and a more confident outlook in the household sector, both of which should significantly boost consumer spending in the year ahead. By creating stronger markets and raising the rate of capacity utilization, the personal tax cut would also indirectly stimulate additional investment.

The proposed reduction in the corporate income tax rate from 48 percent to 46 percent would reduce corporate tax liabilities by about $2.5 billion in 1977. It would thus improve the net return on all capital assets and enlarge the flow of internal funds to finance new projects. The supply of savings has been adequate since the recovery began in 1975; but as the expansion proceeds and pressure on capacity builds, the increased cash flow would be an important source of finance for new investment. The tax cut would also have a beneficial effect on expectations in the business community, possibly yielding further gains in investment spending. The President is also renewing several previous recommendations to improve business profitability: a program of accelerated depreciation for newly installed plant and equipment in areas of high unemployment; the partial integration of corporate and personal income taxes over a period of years, beginning in 1978, to offset the double tax on corporate earnings; and permanent extensions of the 10 percent investment tax credit, the 20 percent tax on the first $25,000 of corporate income, and the $50,000 corporate surtax exemption.

As noted in the 1963 *Economic Report of the President*, at a time when there was a similar concern that stagnating investment could damage the prospects for long-term growth:

> . . . it is essential to our employment and growth objectives . . . that we stimulate more rapid expansion and modernization of America's productive facilities. . . . Investment in private plant and equipment is a principal source of long-term gains in productivity. . . . A high rate of investment is needed to equip our growing labor force with better and more modern equipment. . . . The investment needed to gain our growth objectives will be achieved only if we eliminate economic slack—only if we strengthen demand and broaden incentives to take risks.

The tax program outlined in this *Report* is designed to achieve these same objectives in 1977 and beyond. If business confidence does not improve and if investment does not begin to grow rapidly, additional stimulative measures for investment should be considered in the future.

MONETARY POLICY

The Federal Reserve Board has projected growth ranges for the three major money supply measures through the third quarter of 1977. Barring unforeseen changes in financial conditions, monetary growth within these ranges should be sufficient to finance continued economic expansion without risking a resurgence of inflation. However, the unusual uncertainties which have recently clouded the relationship between monetary growth—especially M_1 growth—and nominal GNP will require special caution and adaptability in setting, and revising if necessary, the growth ranges in the near future.

The specific ranges which have been set for the year ending in the third quarter of 1977 are 4½ to 6½ percent for M_1, 7½ to 10 percent for M_2, and 9 to 11½ percent for M_3. The projected ranges for M_1 reflect a projected structural shift in the growth of demand for this aggregate. The Federal Reserve has estimated that a number of regulatory and technological changes encouraging the use of alternatives to demand deposits for transactions will reduce the demand for M_1 in 1977. Quantitatively the most significant of these changes appear to be regulations permitting the use of savings deposits by businesses and State and local governments, the growing use of negotiable orders of withdrawal (NOW) savings accounts, which can provide the equivalent of checking services, and the use of telephonic transfers of funds from savings to checking accounts.

To the extent that these developments will continue to reduce the growth of demand for M_1 in 1977 the announced ranges for M_1 growth are consistent with a monetary policy that will encourage a stable economic recovery. If the effects of these changes are forecast correctly, then a sustained growth of M_1 beyond the new upper boundary would be more than is needed to finance the recovery, and hence it might overstimulate the economy and carry a risk of renewed inflation. However, if these structural changes cease to have this expected negative effect on M_1 demand, then a reconsideration of the ranges would be necessary to ensure that the growth in M_1 is consistent with a continuation of the recovery. In interpreting the impact of these structural changes it is important to recognize that a further slowdown in the economic recovery could be a direct cause of slower M_1 growth. If so, it would be inappropriate to adjust the growth range downward. A sustained rather than a reduced M_1 growth would be an important stabilizing influence, offsetting the weakness in aggregate demand. Because the current forecast of the structural change in M_1 demand is necessarily imprecise, financial developments must be closely monitored to determine the underlying causes of observed monetary growth trends.

This is not to say that the current uncertainties in the demand for M_1 suggest an abandonment of monetary growth ranges in favor of market interest rates or other money market indicators. The ranges directly act to dampen inflationary expectations by indicating a commitment to a monetary policy consistent with long-run price stability. Moreover interest rates

alone cannot serve as a guide to monetary policy, especially during periods of high and variable inflation rates. A monetary policy which attempts to hold market interest rates steady for too long would be destabilizing. In the face of an unanticipated and excessive economic boom, such a policy would result in a rapid monetary expansion which would reinforce the boom and prevent the moderating effect of a rise in interest rates. On the other hand, if an unnoticed fall in inflationary expectations developed, a policy which stabilizes market interest rates would effectively raise real rates and be contractionary. Properly interpreted, however, interest rates as well as other economic variables, such as business investment, should be useful in projecting and revising the monetary growth ranges. Because a strong growth in the capital stock is crucial both for the near-term economic expansion and for the long-run sustainability of income growth, policy must be flexible enough to minimize the risk of not providing sufficient credit for long-term productive investment.

The upper boundary for M_2 and M_3 growth has been increased by one-half of 1 percentage point since the previous Federal Reserve growth projection (Table 2), and this may provide some additional flexibility. One of

TABLE 2.—*Projected growth rates of monetary aggregates, 1977*

Period	M_1	M_2	M_3
Range of percent change from a year earlier[1]:			
1977: I	4½–7	7½–10	9–12
II	4½–7	7½–9½	9–11
III	4½–6½	7½–10	9–11½

[1] Range of percent changes in M_1, M_2, and M_3 forecast by Federal Reserve for the period.

Note.—M_1 is currency plus demand deposits; M_2 is M_1 plus time deposits at commercial banks other than large negotiable certificates of deposit; and M_3 is M_2 plus deposits at nonbank thrift innstitutions.

Source: Board of Governors of the Federal Reserve System.

the serious problems facing the monetary authorities is the choice of an appropriate measure of the money supply. Theoretical or empirical evidence does not indicate the clear superiority of any one of the measures, and at times they give conflicting indications. Throughout much of 1976, M_1 growth was near the lower boundary of its range and M_2 growth near the upper boundary. Until there is a reversal of these diverse patterns, the increase in the upper boundary for M_2 may permit a slightly faster growth of both aggregates if this is necessary to finance the recovery.

Our forecast for nominal GNP growth for the year ending in the third quarter of 1977 is about 11 percent. Along with these projected monetary growth ranges it implies that the velocity of M_1—the ratio of GNP to M_1—will increase by 4½ to 6½ percent. For the 4 quarters of 1976, M_1 velocity growth was 4.5 percent. Thus even if M_1 grows near the upper boundary of its range, velocity growth in 1977 will be about the same as in 1976. Some reduction in velocity growth normally occurs in the advanced stages of economic recoveries, especially during periods of slower economic growth

like the latter part of 1976. The 4½ percent velocity growth of M_1 is unusually large and presupposes a continued structural shift in M_1 demand. The projections also imply that the velocity of M_2 will increase by 1 to 3½ percent over the year ending in the third quarter of 1977. This compares with a decline in M_2 velocity over the 4 quarters of 1976. Given our GNP forecasts, velocity gains closer to the larger of the above estimates—6½ and 3½ percent for M_1 and M_2 velocity respectively—would be unusual under any circumstances, and could generate a substantial increase in interest rates, unless the shift in money demand is even larger than last year.

For the longer run, fiscal policy will have to absorb proportionately more of the burden of restraint than monetary policy, if we are to meet our capital growth needs. In 1975 the Federal deficit absorbed 40 percent of the net funds raised in U.S. credit markets, and although the proportion was reduced to 30 percent in the first 3 quarters of 1976 it is not expected to be reduced further in 1977. This has not yet constrained private finance because overall credit needs have been low. As the borrowing requirements for private investment grow in the years ahead, however, fiscal stimulus will have to be lessened in order to release funds to meet these needs. Smaller Federal deficits, and eventually surpluses, will permit a less restrictive monetary policy with easier conditions in the credit market. In the years ahead aggregate demand management must rely less on consumption-oriented fiscal policy for stimulus, in order that monetary policy, which generally has a disproportionate effect on investment, is not forced to take all the burden of restraining inflationary forces.

ENERGY POLICY

Assurance of sufficient supplies of energy resources will be required to sustain a steady economic expansion. To promote this end the President has recommended an energy program which stresses expanded domestic energy production and increased utilization of our most abundant resources, particularly coal. The key feature of this program is the phased elimination of controls on prices of natural gas and oil. While such a change would entail higher prices for these products in the near term, it would help to ensure that the U.S. economy is less vulnerable to sudden changes in the availability and cost of imported resources in coming years. Moreover the most efficient production and allocation of the economy's resources, which would be encouraged by decontrol, would increase our aggregate supply capabilities and reduce inflationary pressures in the longer run.

Higher prices for oil and natural gas in the short run would reduce the relative share of imported oil and gas in total energy consumption. The higher prices would also tend to shift fuel use away from oil and natural gas in favor of coal, and this would further moderate the economic impact of price increases by the Organization of Petroleum Exporting Countries (OPEC). The phased elimination of price controls on natural gas would help remove the risk that a period of severe cold weather could disrupt the

economic recovery by forcing a random, unscheduled closing of factories owing to curtailment of supplies. Such forced closing did not cause significant disruptions in 1974 and 1975, when there was excess capacity; but as utilization rates increase during the next 2 years the risk of shortages in manufacturing capacity could become more serious with resulting inflationary pressures.

The President has also proposed measures to encourage the use of nuclear power. If they succeed, they will further reduce our dependence on imported oil and natural gas. Increased funds for general energy development have also been proposed. While these may contribute little in the near future, in the longer run the benefits to our energy supply capabilities could be substantial.

These actions would ease and hasten the adjustment of the economy to the new energy situation, and they would help to ensure more stable and reliable energy supplies for the future. The OPEC pricing decisions of December were a forceful reminder of the Nation's growing need for protection against foreign moves that affect the price and availability of imported oil. The proposed measures mean somewhat larger increases in domestic energy prices in the near term, and they would combine with the upward adjustments of U.S. petroleum prices under the Energy Policy and Conservation Act and the long overdue upward adjustments in natural gas prices under the Federal Power Commission (FPC) decisions of 1976. Taken together, however, these energy price increases would not be great enough to exert a significant restraining influence upon the expansion.

THE OUTLOOK

The main elements of continued economic growth in the United States are well established, despite the slowdown which occurred in the second half of 1976. With the assistance of the monetary and fiscal policies discussed above, and with continued strength in the private sector, real GNP is expected to rise by 5 to 5½ percent from 1976 to 1977, and its annual growth rate is expected to average between 5½ and 6 percent over the 4 quarters of 1977. This will permit a further expansion of employment and bring the rate of unemployment down to nearly 7 percent by year's end. At the same time, because the recovery over the past 2 years has avoided the excesses in public and private demand which characterized the previous upturn, the rate of inflation is not expected to rise above the 5 to 6 percent range.

With a much smaller expected rise in inventory investment compared to earlier stages of this recovery, the expansion in 1977 will require a strong growth in final demand. The expected recovery of business fixed investment will be an essential component of this demand. The proposed reduction in personal income taxes, which will stimulate a higher rate of real consumption growth, as well as the reduced corporate tax rate will help to encourage such an investment recovery. A continued strengthening of residential investment is also expected to boost the rate of growth in final sales in 1977.

PRIVATE CONSUMPTION

The growth of real disposable income slowed in the latter half of 1976 but is expected to reaccelerate in 1977 as a result of strong employment growth, the reduction in personal taxes, and moderate increases in consumer prices. Because of the slower growth in real disposable income in the latter half of 1976, the saving rate had fallen to 6 percent in the last quarter. This rate should rise in early 1977 with the start of the personal tax reductions, but for the year as a whole the saving rate is not expected to be appreciably different from the 1976 average of 6⅔ percent. Real consumption growth for 1977 should therefore approximate the 4 to 5 percent rate expected for real disposable income.

The growth in consumer spending in 1977 is expected to be most pronounced in the durable goods categories. The combination of a return to strong and steady real income gains and lower layoff rates should continue to restore the confidence which is essential for accelerated growth in real expenditures on durable goods. The year-over-year growth in real purchases of motor vehicles and parts is expected to be about 7–8 percent. This figure is down substantially from the 23 percent growth in 1976 but still represents an important contribution to a continued economic expansion. Another major factor bolstering spending will be the strong growth in housing completions in 1977, which should stimulate furniture and appliance sales.

NONRESIDENTIAL FIXED INVESTMENT

The growth of nonresidential fixed investment in 1976, especially in the latter part of the year, was low for this stage of recovery, and by the end of the year the real level was still well below the 1973–74 peak. With the expected increase in sales growth, and with the reduction in the corporate tax rate which will begin to affect investment later this year, real business fixed investment is expected to increase by approximately 9 percent in 1977. The projected rate of investment will provide sufficient capacity for the year ahead, but the share of investment in GNP will almost certainly remain below the average of the late 1960s.

Recent surveys of investment anticipation have indicated that current dollar expenditures in business fixed investment should increase by 11 to 13 percent in 1977. Surveys often underestimate actual new investment in periods of expansion, however, and the recent surveys may not have taken full account of the effects of the proposed cut in taxes in 1977. An increase of about 15 percent therefore seems quite possible.

Investment growth in 1977 is likely to be strongest in durable manufacturing, particularly in the automobile sector. Plant and equipment modifications for producing lighter small and intermediate-sized cars as well as for general modernization appear to be the underlying factors here. Other sectors where new investment should grow rapidly are nonelectrical

machinery and ferrous and nonferrous metals. Investment growth in nondurable manufacturing, except for petroleum refining, and in the commercial sector is expected to be comparatively weak. The sluggishness in the construction of commercial and office buildings should persist through 1977 owing to overbuilding earlier in the decade.

HOUSING STARTS AND RESIDENTIAL INVESTMENT

The housing recovery, which accelerated in the third and fourth quarters of last year, should continue in 1977 and be an important factor in the growth of final demand. Total housing starts are expected to average between 1.7 and 1.8 million units this year with approximately 1.3 million single-unit starts. Since this represents a significant increase over last year, and because last year's increase was concentrated in the second half of the year, real investment in residential construction is expected to rise by 15 percent in 1977. The major sources of strength for housing in 1977 will be continued growth of real disposable income, continued strong flows of funds for mortgage credit, slightly lower mortgage rates, and some stimulus from programs of the U.S. Department of Housing and Urban Development (HUD).

An important influence on residential construction is the availability and cost of long-term funds for mortgages. Short-term interest rates have declined during the recovery and savings flows to thrift institutions are likely to remain strong, making funds for mortgages readily available. Moreover the decline in secondary-market mortgage rates in the latter half of 1976 has begun to bring primary-market mortgage rates down slightly.

Until the latter half of 1976 the recovery in multifamily housing had been relatively weak. Overbuilding in 1972 and 1973 and continued low profitability on rental housing had evidently been restraining the construction of multiple-dwelling units. Vacancy rates for rental housing have finally dropped, however, and are now below the 6 percent average of 1975. These factors, coupled with the HUD Section 8 lower income housing assistance program and the $5 billion in Government National Mortgage Association (GNMA) loan commitments during 1976, should support the recent recovery in the multifamily sector.

INVENTORY INVESTMENT

The dramatic $21-billion shift from real inventory liquidation in 1975 to positive accumulation in 1976 was a major reason for the high rate of GNP growth last year. This year we expect continued growth in inventory investment as demand advances, but the growth will be slower than last year. In real terms, inventory investment should increase only by about $2 to $4 billion from 1976 to 1977. In view of some apparently undesired inventory buildup last year, as well as uncertainty about the outlook for 1977, businesses can be expected to proceed cautiously in building new stocks.

NET EXPORTS

In real terms net exports of goods and services are expected to be slightly lower in 1977 than in 1976. While the change in real net exports is likely to be small, the composition of the growth in merchandise exports is expected to be very different from that in 1976.

During 1977, growth in merchandise exports is expected to be concentrated in the industrial and capital goods categories, with agricultural exports slightly below their 1976 level. This change in the composition of exports contrasts with that of last year, when rising agricultural exports were an important factor. Because exports of industrial and capital goods have a larger effect on employment than agricultural exports do, the overall economic effects of this shift could be substantial.

Developments on the import side are likely to be dominated by oil imports. Because of a large oil inventory buildup late in 1976 in anticipation of a price rise, imports early in 1977 are expected to be relatively low. By midyear they should return to normal levels but should begin to decline again in the fourth quarter when we project Alaskan oil to become available. The volume of nonfuel imports is expected to rise fairly smoothly and gradually throughout the year.

GOVERNMENT PURCHASES

Government purchases are expected to increase rapidly in 1977 following a year of sluggish growth. Total government purchases of goods and services are projected to rise by about 3½ percent in real terms, with Federal spending growing somewhat faster and State and local purchases somewhat slower than the overall rate. In current dollar terms the President's budget projects that Federal purchases will rise approximately 12 percent in calendar 1977.

At the State and local level the overall fiscal outlook for 1977 is significantly better than it has been for the last 2 or 3 years. State and local tax receipts should increase in line with nominal income by some 11 percent. Federal grants-in-aid—which now account for nearly 25 percent of State and local receipts—are also expected to grow substantially from 1976 to 1977. A significant portion of the increase will be for public service jobs, accelerated public works, and other antirecession assistance. In addition, general revenue sharing has been extended for 4 years at about a $7-billion annual rate. Thus total State and local government receipts should rise by about 11 percent. Allowing for a temporary increase in surpluses in their operating accounts (which exclude receipts and expenditures from social insurance funds) an 8 to 9 percent rate of growth in current dollar purchases in 1977 appears likely. If the inflation rate averages about 6 percent, the real growth would be between 2 and 3 percent. Indeed, in view of the unusually small increase in expenditures in 1976, one could reasonably

argue that some extra catching up may take place this year, with real growth reaching the 3 to 4 percent range. On the other hand, the conservative spending behavior from 1976 may carry over into 1977, in which case real growth could fall below 2 percent.

Looking beyond 1977, the impetus for continued rapid expansion of State and local purchases is diminishing for several reasons. The growth in the school-age population has slowed notably, thus reducing the need to build new schools and hire more teachers. Moreover salaries of State and local workers have now caught up with those in the private sector. Wages and salaries account for more than half of total State and local purchases, and a major reason for the rapid growth of this sector in recent years was the drive for salary comparability. Now that parity has been achieved, it is unlikely that the rise in State and local government wage rates will diverge significantly from the economy-wide trend in wages. Finally, there appears to be strong sentiment among voters to curb the expansion of State and local spending.

These considerations point to more modest growth in State and local real expenditures in the years ahead; and, if inflation rates do not increase, nominal expenditures should grow at a rate less than the 12 percent average between 1965 and 1975. With sustained revenue growth, States and localities, taken as a whole, are therefore expected to accumulate rising surpluses. It is quite possible that those governments with positive operating surpluses will want to maintain them during the expansion to avoid the possibility of further tax increases or expenditure cuts during periods of weaker economic growth. But in the long run there is little reason for these surpluses to rise strongly, and opportunities may exist in certain jurisdictions to lower taxes.

The one cautionary note to add to this optimistic longer-term outlook concerns the funding of State and local retirement plans. These plans have become an important part of the total compensation package of State and local employees, and benefits are now paid to over 1.7 million individuals. Benefits have also become exceptionally large in recent years because they are not subject to a current budget constraint or debt limitation. Most State and local pension funds are not fully funded, which means that the assets held by the funds are not sufficient to cover the present value of all promised benefits. Consequently there is growing concern that some of these funds—particularly in large cities with a deteriorating economic base—will eventually become insolvent as current contributions fail to keep up with benefits. This has already led to legal action by current and prospective beneficiaries asking that States and localities fund their retirement plans on a more current basis. At least one of these suits (in Philadelphia) has been upheld and an additional contribution has been ordered. To the extent that there is a general move toward current funding, State and local expenditures will have to rise, as will the taxes to finance them. These will be budgetary increases that do not result in a higher level of current services.

LABOR FORCE AND UNEMPLOYMENT

It is expected that the civilian labor force will grow at about 2.5 percent in 1977 compared with the 2.3 percent average annual rate of growth for the last decade. The upward trend in the rate of labor force participation by women should continue and the proportion of young persons in the working-age population should increase. The trend toward earlier retirement, however, is also expected to continue. With real GNP expected to grow by 5 to 5½ percent in 1977, a decline in the average unemployment rate for the year of a little more than one-half a percentage point would be considered normal. If labor force growth is somewhat higher, however, a slightly smaller decline is possible. By the end of the year the unemployment rate is expected to be near 7 percent.

INFLATION

The inflation outlook in 1977 should be heavily influenced by the behavior of production costs, since the economy is still some distance from the point where aggregate demand would begin exerting generalized pressure on capacity. Given the cost increases expected in 1977 and the projected growth in demand, the rate of inflation is expected to remain in the 5 to 6 percent range. To the extent that the nonrecurrent changes in food and energy prices during 1976 brought measured inflation rates below the underlying rates, the forecast for 1977 represents a moderate slowing of the rate of inflation. To some degree this slowing is a reflection of the excess supply which still exists in many sectors of the economy.

Compensation per hour is expected to increase by about 7½ percent, slightly below the 8 percent increase in 1976. However, productivity increases are expected to be smaller than in 1976. In the very short run, productivity shifts are reflected primarily in profit changes. In the longer run, however, income shares tend to remain relatively constant. With most of the cyclical gains in labor productivity probably already realized, the productivity growth rate is expected to be in the 2½ to 3 percent range this year. As a result, unit labor costs in the private sector should rise by about 5 percent. Additional improvement in the inflation rate will probably require a further slowdown in nominal compensation growth. The price of food—often an erratic component of the total inflation picture—is expected to increase only modestly in 1977 because of adequate supplies of most farm products. The rate of increase in energy prices will continue to converge toward the overall inflation rate in 1977.

1. *Wages.* The decline in the rate of inflation since late 1974 has had a moderating effect on the rate of increase in nominal wage demands. This source of moderation is fragile, however, since fears of a renewed inflationary spiral and of wage and price guidelines or controls could generate anticipatory wage increases. But assuming that inflationary expectations do not increase and that the overall rate of inflation is about 5½ percent, the rate of

increase in nominal wages in 1977 should be about 7 percent. The translation of wage rate increases into compensation per hour depends on interindustry shifts in employment, changes in the relative proportion of wage to salary workers, increases in private fringe benefits, and increases in publicly mandated supplements to wages. As noted above, it is estimated that total compensation per hour of work in the private sector will rise about 7½ percent in 1977.

Although nearly one-fourth of all civilian workers are members of labor unions, only about 10 million, or 11 percent of total employees, are under major contracts covering 1,000 or more workers. Some believe, however, that wage settlements in these sectors have a disproportionate impact on overall wage developments because of a demonstration effect. Consequently, in forecasting wages it is useful to examine the collective bargaining schedule for the year ahead.

The major collective bargaining contracts that expire this year or are subject to wage renegotiation cover nearly 5 million workers (Table 3). This year will be the second consecutive year of heavy collective bargaining in the 3-year cycle. The average duration of contracts expiring in 1977 is 33 months. Thus most of these contracts were negotiated in 1974 or later, after the end of the Economic Stabilization Program and during a period of high inflation. The latter led to an expansion of coverage under cost-of-living adjustments (COLA) and high first-year wage increases. Hence some of the factors that

TABLE 3.—*Calendar of major private nonfarm collective bargaining activity, 1977*

Period	Principal industry	Contract expirations		Scheduled wage reopenings	
		Number	Workers covered (thousands)	Number	Workers covered (thousands)
All years		2,253	9,984	69	261
1977: Total		1,033	4,721	46	172
January	Petroleum refining	63	150	3	9
February	Food stores	37	116		
March	Construction, food stores	89	297	8	24
April	Construction	145	333	6	22
May	Apparel, construction, lumber	138	509	9	22
June	Construction, utilities	143	529	6	52
July	Construction, mining	61	159	3	12
August	Communications, steel	133	1,381	1	4
September	Maritime, food stores	70	204	4	20
October	Transportation equipment	71	260	1	2
November	do	24	68	2	2
December	Railroads, mining	59	716	3	4
1978 and beyond		884	3,560	23	89
Year unknown or in negotiation [1]		336	1,703		

[1] Bargaining units for which necessary information was not available include 212 agreements which expired prior to October 1976 (when these data were tabulated) covering 1,311,400 workers and 124 contracts which expired between October 1 and December 31, 1976, covering 391,300 workers.

Note.—Major agreements are those covering 1,000 or more workers.
Detail may not add to totals because of rounding.

Source: Department of Labor, Bureau of Labor Statistics.

led to large first-year catchup increases in 1976 (for example the absence of the COLA provision or a limit to it, as in the United Rubber Workers and Teamsters contracts) will be less significant in 1977. For example, two-thirds of the workers covered by contracts expiring in 1977 are already under cost-of-living adjustments and thus have been well protected from the effects of inflation in the past 3 years. The only major contract expiring in 1977 in which there has been a cap on the COLA is in the railroad industry.

The effective wage rate change that is likely to occur in 1977 for all persons covered by major collective bargaining agreements may be projected on the basis of current contract information. Wages change because of scheduled or deferred increases written into previous contracts, automatic cost-of-living adjustments, and first-year or currently negotiated wage increases. A tabulation of deferred wage increases, excluding COLA, scheduled for the 5 million workers in the second and third years of their contracts shows an average increase of 5½ percent for 1977, compared with 6 percent for such agreements in 1976. This implies a contribution of 2½ to 3 percentage points to the expected wage rate increase in 1977 for all workers covered by major collective bargaining agreements. Cost-of-living adjustments are expected to add another 1 percent, while first-year settlements are likely to be in the neighborhood of 8 percent. The effective wage rate increase in 1977 for workers covered by major collective bargaining agreements is thus expected to be about 7½ percent. Increases of this magnitude are consistent with our projected overall growth in compensation.

2. *Food prices.* Food prices are not expected to be a source of inflationary pressure in 1977. Though errors in forecasting food prices are large, one may expect the consumer price of food relative to nonfood items to fall as it did in 1976. Commodity futures prices on organized exchanges are consistent with a food component of the consumer price index (CPI) about 3 percent higher in 1977 than a year earlier, about the same increase as in 1976. This projection is roughly in line with forecasts by the U.S. Department of Agriculture. While futures prices are often inaccurate predictors, they do incorporate all the currently available information and therefore provide a useful point of reference for next year's outlook for wholesale food prices.

There are important uncertainties in the outlook for food prices. Meat prices were primarily responsible for the stability of consumer food prices in 1976. However, the supply conditions that led to lower meat prices last year are unlikely to persist throughout 1977, particularly for beef. Exactly when and how much prices for all meats will be affected is not yet clear for several reasons. First, it is uncertain how long farmers will go on reducing cattle inventories. Marketing of breeding stock could continue to sustain total beef production. Second, continued large supplies of pork and poultry will dampen upward pressure on the overall price of meat. Ample pork and poultry production seems assured through the first half of 1977, although low prices could cause this supply to taper off later in the year. Third, the

marketing margin—costs added to meat prices between the farm and retail markets—is difficult to forecast for 1977. It rose sharply in 1976, especially for pork, as larger supplies increased the demand for marketing services. If supplies begin to slacken, the reduced demand for marketing services could substantially lower the rate of increase in these margins. Thus, while cattle prices above the 1976 average are expected in 1977, the ultimate effect on retail meat prices should be tempered by lower prices for hogs and poultry than in 1976 and by slower growth in marketing margins.

Prices of fresh fruits and vegetables are even more difficult to forecast than those for meat, but they also carry less weight in the CPI. Generally, supplies of fruits and vegetables for processing should be sufficient to limit the risk of sharp price increases. Coffee prices should continue to be high. Cereal products are unlikely to be subject to significant upward price pressures in 1977 because of ample stocks of the principal food grains: wheat and rice. Milk production is expected to continue at high levels, creating the possibility of some weakness in prices. Because of low stocks of the major feed grains and oilseeds for feed, production of dairy and other livestock products late in the year will be sensitive to harvests of 1977 feed and forage crops. Current soil moisture reserve conditions in the upper Midwest are unfavorable; hence 1977 crop prospects will depend more than usual on adequate spring and summer precipitation.

3. *Energy prices.* During the period from 1974 to 1976, wholesale and retail prices of fuel and related products rose on average at rates in excess of the increase in overall consumer and wholesale prices. In 1976, however, these rates of growth began to converge and this movement should continue in 1977; prices of consumer energy products are expected to increase between 6 and 7 percent during the year. The recently announced increase in the price of petroleum exports imposed by members of OPEC does not alter this conclusion. The higher price of imported oil is expected to add about 1 cent per gallon to the price of domestic petroleum products, and to result in a 2 to 3 percent increase in the consumer price index for gasoline and distillate fuel oil.

Consumer and wholesale prices of natural gas contributed most to the increase in the wholesale and consumer price indexes of fuel and power during 1975 and 1976, largely owing to increases in the price of imported natural gas, primarily from Canada, and to regulatory actions by the Federal Power Commission. This trend will continue in 1977 as a result of recent decisions which permit higher prices to be charged for supplies of natural gas flowing from new domestic wells. In addition, in July 1976 the FPC raised the ceiling price for gas supplies introduced into interstate commerce during 1975 and 1976. These actions will undoubtedly lead to continued large increases in wholesale and consumer prices for natural gas in the near term. In the longer run, it is hoped that higher prices will bring forth additional supplies of natural gas which will tend to moderate future price increases.

Consumer prices of fuels during 1977 will probably not be affected by the removal of price controls on petroleum products. Controls were removed from distillate and residual fuel oils in mid-1976 without a noticeable impact on inflation. The supply of gasoline appears to be more than adequate to satisfy projected demand at prevailing prices, so that the removal of price controls from gasoline would not have adverse inflationary consequences.

PRODUCTIVITY GROWTH AND RESOURCE UTILIZATION

In designing economic policy to cope with cyclical fluctuations in economic activity, it is important not to overlook the longer-term issue of growth. In the past 25 years more than two-thirds of the increase in real national output has been generated by increases in average labor productivity, or output per labor-hour. Over the past decade, however, productivity growth has shown a marked decline, even after adjusting for cyclical effects. Since 1966 the trend rate of growth in measured output per labor-hour has decreased by about one-third from the rate attained in the 1950s and early 1960s. If productivity gains continue to be small, real wages will continue to grow more slowly than in the 1950–65 period.

THE PRODUCTIVITY SLOWDOWN, 1966–76

Productivity growth in the private sector averaged 3.3 percent per year between 1948 and 1966, almost 1 percentage point above the 1929–75 average. Between 1966 and 1973, however, the private productivity growth rate was only 2.1 percent per year, below the long-run trend. This slower advance may have contributed to increased inflationary pressures and may have led to lower growth in real wages.

As shown in Chart 3 the reduction in private productivity growth is striking. While part of this poor performance can be attributed to the recent recession, the falloff in productivity was evident even before 1974. Slower growth in capital per worker, a larger proportion of less experienced workers in the labor force, and the changing industrial composition of labor input have all contributed to this slowdown. Higher relative energy prices and slower technical progress may also have played a part. However, the reasons for the slowdown are not fully understood at this time because the decline in productivity growth appears to be larger than the sum of the estimated effects of these factors.

Growth of Capital and Labor

One important source of productivity growth is the increase in the amount of capital per hour of labor input. Between 1948 and 1966 capital per labor-hour in the private sector grew by about 3.1 percent per year; during the 1966–73 period this growth rate fell to 2.8 percent per year. Since 1973 the growth of capital per labor-hour has apparently fallen to 1.7 percent,

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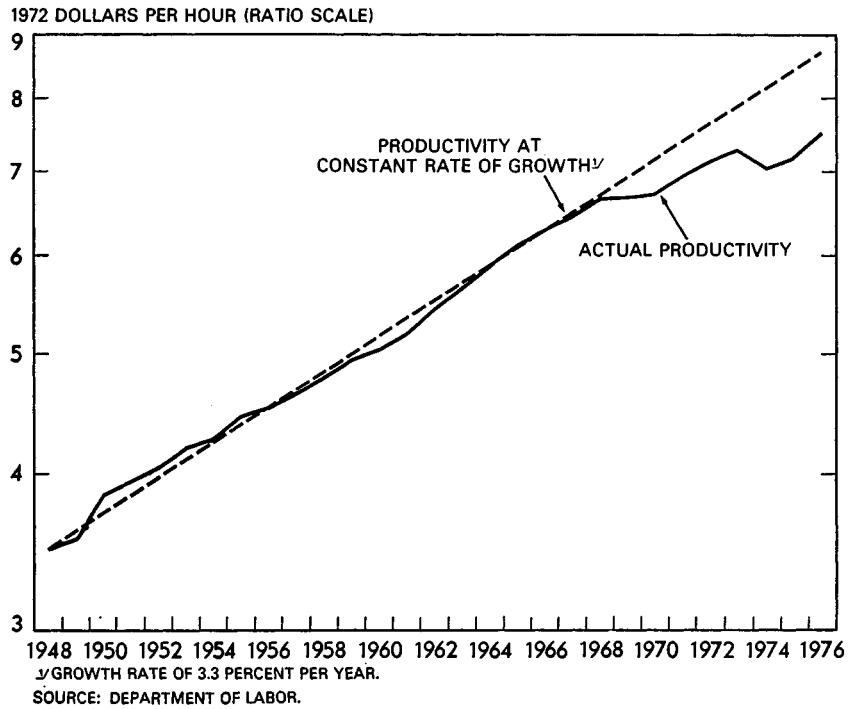
Chart 3

Productivity in the Private Business Economy



1/ GROWTH RATE OF 3.3 PERCENT PER YEAR.
SOURCE: DEPARTMENT OF LABOR.

after adjustment for cyclical factors. The decrease can be attributed to a faster rate of growth of labor input not matched by corresponding increases in the capital stock. The larger growth in the labor force since the mid-sixties has been a result of the postwar baby boom and of an increased percentage of women in the work force. Although the average growth rate of fixed nonresidential capital in 1966–73 was higher than the average growth rate for 1948–66, the effective growth rate of capacity may well have increased less because of higher obsolescence rates and increased expenditures on pollution abatement and safety equipment. While both types of investment contribute to our well-being they do not in general increase our capacity to produce measured output. Estimates of the contribution of increases in the capital-labor ratio to productivity growth are very sensitive to the measure of capital stock used; our analysis suggests that perhaps one-tenth to one-third of the productivity slowdown since 1966 can be explained by slower growth in effective capital per labor-hour.

Composition of the Labor Force

In the last decade the proportion of the labor force made up of teenagers and young adults has been rising. Workers in these groups tend to be less productive to the extent that they have less experience and training than

other workers. Productivity is measured by output per labor-hour, and these labor-hours do not reflect differences in training and experience. Early retirement has also reduced the proportion of experienced workers. Thus lower productivity growth is a natural consequence of a fall in the average work experience of those in the labor force. Changes in the age-sex composition of the labor force can explain more than 0.1 percentage point (or about 10 percent) of the productivity growth differential between 1948–66 and 1966–73.

Median educational attainment in the labor force has also increased more slowly in the past decade than it did in the previous 10 years. In many age and sex categories of workers there has been a slight slowdown in the rate of increase in years of schooling. It is, however, unlikely that this small change had a significant effect on average productivity.

Employment Shifts Between Sectors in the Economy

Changes in the industrial composition of employment have also been a factor in lowering average productivity growth. Before 1970 the shift of workers out of agriculture contributed to growth in productivity. Even though the rate of growth of productivity in agriculture was high, the average level of productivity was below the general average, and the movement of workers from agriculture to other sectors increased aggregate productivity. Since the late 1960s this shift out of agriculture has slowed, and productivity growth from this source has been much reduced. Almost one-third of the difference between the trend rate of private productivity growth in 1948–66 and 1966–73 can be attributed to the higher rate of reduction in agricultural employment in the earlier period.

A higher rate of increase in the number of workers in the low-productivity service sector has also been a factor in the slowdown in productivity growth. However, the effect of shifts in employment in the private nonfarm sector are much smaller than the effect of the movement of workers out of agriculture.

To some extent shifts in employment between sectors and changes in the amount of capital per labor-hour measure the same thing and thus represent double counting of changes in the capital-labor ratio. Low-productivity sectors may be less capital intensive, and therefore a shift in employment toward low-productivity sectors can be accompanied by a decrease in the growth of capital per worker. There are also independent effects, however, since capital per worker can change within each sector.

Other Factors Affecting Productivity

Productivity growth that is not caused by increases in capital per labor-hour or changes in the composition of the labor force is attributed to a catch-all residual category. Measurement errors of many kinds comprise part of the residual, but most of it is probably traceable to various forms of technical progress, such as improvements in the quality of capital and new techniques for combining inputs to increase production.

While allocation of resources to research and development should generate technical progress and increase residual productivity growth, the quantitative relation between productivity and research is not well documented. Even though a close causal relation between aggregate research and development expenditures and residual productivity growth cannot be proved, such expenditures and their share of total output give some indication of probable productivity growth in the future. Research and development expenditures, which grew rapidly from 1955 to 1969, have fallen in real terms since 1970. The share of research and development in GNP reached a peak of 3.0 percent in 1964 and fell to 2.3 percent in 1975.

Although changes in labor force composition and slower growth in fixed capital per worker have been a partial cause of the productivity slowdown in the last decade, much of it must be attributed to other factors. Significantly greater productivity may be generated by the technical improvements incorporated in new capital equipment, a consideration which would increase the impact of the slowdown in the growth of the capital-labor ratio. However, it seems unlikely that the effect of this "embodied" technical progress could explain most of the large difference in residual productivity growth before and after 1966.

Since the productivity slowdown coincides with the entrance into the labor market of those born during the post-World War II baby boom, the slowdown in productivity may be in part a consequence of the time required to adjust to changes in relative factor proportions. If so, productivity growth similar to that in 1966–76 may continue through 1980, since the labor force is projected to grow at relatively high rates until that time. After 1980 the growth rate of the working-age population will decline, and the labor force will expand more slowly unless the slower population growth is offset by increases in the proportion of the population in the labor force.

THE FULL-EMPLOYMENT UNEMPLOYMENT RATE

Assessing long-run trends in economic growth requires a standard to measure labor resource utilization. Although an explicit definition is difficult, the full-employment unemployment rate is generally understood to mean the lowest rate of unemployment attainable, under the existing institutional structure, that will not result in accelerated inflation. Given the inexact relation between changes in the rate of inflation and the rate of unemployment, estimates are necessarily imprecise, but in the early 1960s the Council of Economic Advisers selected 4 percent as an estimate of the full-employment unemployment rate in the economic circumstances existing at that time. This estimate referred to the overall measure of unemployment as a percentage of the civilian labor force and was based on an examination of economic conditions in the mid-1950s when the overall unemployment rate fluctuated around 4 percent. During the 20 years since then a number of relevant changes have occurred which give reason to believe that the full-employment unemployment rate equivalent to 4 percent in the mid-1950s has increased.

Since the mid-1950s a dramatic change in the composition of the labor force has apparently led to an increase in the movement of workers in and out of the labor force. High rates of labor force turnover generally increase measured unemployment, since first entry and reentry into the labor force generally involve a period of job search and are counted as unemployment in the labor force statistics. Hence for approximately the same tightness in the labor market, the measured unemployment rate will be higher if a larger proportion of job seekers are persons formerly outside the labor force.

Data on reasons for unemployment indicate that the high rates of labor force entry and reentry account for most of the higher unemployment rates among youths compared with adults, and that the unemployment rates for job losers and job leavers differ very little among demographic groups (Table 4). Youths are far more likely than adults to combine work in the labor market with some other activity such as schooling or work at home. Students move in and out of the labor force in search of part-time and full-time employment during the school recess, and during the school term many search for part-time employment. A rising proportion of youths in the labor force would therefore be associated with a rising proportion of new entrants and reentrants—and hence, other things being equal, with a rise in the unemployment rate. Since the mid-1950s teenagers and young adults have, in fact, constituted an increasing proportion of the labor force, from 15 percent in 1955 to 24 percent in 1976, because of the postwar baby boom that has increased the proportion of youths in the working-age population, and because of a rise in the labor force participation rate of students.

TABLE 4.—*Civilian unemployment rates by age, sex, and reason for unemployment, 1973*

[Percent]

Age and sex	All civilian workers [1]	Job losers and job leavers [2]
25 years and over:		
Men	2.5	2.0
Women	4.0	2.3
16–24 years:		
Men	9.9	4.9
Women	11.2	4.1

[1] Unemployment as percent of civilian labor force in group specified.
[2] Unemployment as percent of civilian labor force excluding new entrants and reentrants.

Sources: Department of Labor (Bureau of Labor Statistics) and Council of Economic Advisers.

The difference between the overall unemployment rate and that for subgroups of the population has widened markedly since the mid-1950s, partly because of these changing labor force proportions (Table 5). The unemployment rates for adults, experienced workers, and the long-term unemployed in 1965 and 1973, were all roughly equal to the rates in 1956, a year in which the overall rate of unemployment approximated the full-employment estimate of 4 percent. Yet for the later years the overall unemployment rate was much higher, rising to 4.5 percent in 1965 and to 4.9 percent in 1973.

TABLE 5.—*Civilian unemployment rates for selected groups,* 1956, 1965, and 1973

[Percent [1]]

Group	1956	1965	1973
All civilian workers	4.1	4.5	4.9
Experienced wage and salary workers	4.4	4.3	4.5
Long-term unemployed workers [2]	.8	1.0	.9
Age groups:			
25-54 years	3.3	3.2	3.2
55 years and over	3.4	3.2	2.7
16-24 years	8.5	10.1	10.5

[1] Unemployment as a percent of civilian labor force in group specified, except as noted.
[2] Unemployed 15 weeks or longer as percent of total civilian labor force.
Source: Department of Labor, Bureau of Labor Statistics.

The apparent secular rise in the unemployment rate for young persons relative to adults suggests that the change in the composition of the labor force does not explain all of the shift between the overall unemployment rate and the rate for adults. Direct data are not available, but some of this change in the structure of unemployment rates may be due to increased movement in and out of the labor force by youths. Among youths there has been an increase in school enrollment rates since the mid-1950s and students are more likely than other youths to alternate between working or job seeking and attending school.

There also appears to have been an increase in the measured unemployment rate for adult women relative to adult men, but because of a change in the survey the data reported after 1967 are not strictly comparable with earlier years. Moreover how greatly this survey change has affected the difference in unemployment rates between adult men and adult women is uncertain. If there has been a rise in the actual unemployment rate of adult women relative to adult men, it may be due to an increase in labor force participation for married women. Many married women leave the labor force when a child is born and return intermittently for several years. A disproportionate increase in the component of the adult female labor force in which the labor force turnover is highest would thus tend to raise the unemployment rate of adult females relative to that of adult men. Because the estimates of these developments are still uncertain, however, it is difficult to assess their influence on the overall unemployment rate.

Other developments in the past 20 years may have tended to increase the full-employment unemployment rates of all demographic groups. For example, broader coverage of unemployment compensation is likely to raise the rate of unemployment associated with a particular degree of tightness in the labor market. The most recent extension of coverage, in 1975, placed an estimated 12 million wage and salary workers under the temporary special unemployment assistance program. As a result of 1976 legislation, coverage under the regular State programs is to be extended to about 9 million of these 12 million workers. Other circumstances suggest that the financial burden of unemployment has been lessened for many families: the rise in the proportion of families with two adult earners because of the growth in

women's labor force participation; and an increase in other public transfer programs for the low-income unemployed. These factors have tended to weaken the tie between current consumption and current earnings, and they may have increased the extent of unemployment that is consistent with a full-employment economy.

Other changes may have had the opposite effect. These include the rising level of education, the relative increase in white-collar occupations, and more efficient job search because of improvements in transportation and communication. Because the reasons for differences in unemployment rates by education level are not well understood, it is not clear whether the rise in education by itself has been accompanied by a stable or a changing education-specific full-employment unemployment rate for given age and sex groups. The effects of improved labor market efficiency are also ambiguous since it is not clear whether greater efficiency in the search for jobs lessens the rate of unemployment at full employment.

There is no unique procedure for adjusting the full-employment unemployment rate for the changing demographic composition of the labor force and for the changing relationships in the unemployment rates of various demographic groups. Moreover any estimating procedure is subject to sampling variability. Using available data on labor force composition and unemployment rates, and adjusting for the increased proportion of young persons in the labor force and for the increase in their unemployment rate relative to adults, the Council of Economic Advisers has estimated that the full-employment unemployment rate equivalent to 4.0 percent in 1955 is now 4.9 percent. This estimate corresponds with the widening in the difference between the overall unemployment rate and the unemployment rate for adults observed in Table 5.

The effects of many of the other factors which are believed to influence the full-employment unemployment rate are much more difficult to quantify. Partly because of this difficulty there is considerable dispute about their relative importance, but it is likely that they have raised the full-employment unemployment rate even higher than the current estimate, perhaps closer to 5½ percent. The current benchmark estimates, however, incorporate only the effects for which the evidence is substantial. As further evidence becomes available—perhaps through more data on unemployed persons classified by reason for unemployment, or perhaps through observed changes in wages and prices as actual unemployment rates decline—the current estimate of the full-employment unemployment rate might be further refined.

It is important to bear in mind, however, that the full-employment unemployment rate will not remain constant. For example, as the population ages and youths represent a smaller percentage of the labor force, the full-employment unemployment rate will also tend to decline. The overall unemployment rate that represents full employment can be expected to change with time as demographic, social, and economic factors affect the rates at which workers move in and out of jobs, and in and out of the work force.

GROWTH IN POTENTIAL OUTPUT

Potential GNP is a measure of the aggregate supply capability of the economy, or the amount of output that could be expected at full employment. More precisely, potential GNP is the output the economy could produce with the existing technology under assumed conditions of high but sustainable utilization of the factors of production—labor, capital, and natural resources. It does not represent the absolute maximum level of production that could be generated by wartime or other abnormal levels of aggregate demand, but rather that which could be expected from high utilization rates obtainable under more normal circumstances.

The significant slowdown in average productivity growth suggests that the rate of growth of potential output was lower in the past 10 years than has been previously estimated. The revision of the national income and product accounts also reduced the rate of growth of real GNP. Moreover the widespread shortages of physical capacity and the resulting inflationary pressures experienced in 1973 suggest that previous estimates of potential GNP are overstated. The Council has therefore reestimated potential GNP, taking into account the lowered rate of productivity growth, the factors contributing to this slowdown, and the increase in the full-employment unemployment rate. The new estimates of potential output are experimental in the sense that they are based on highly aggregated measures of labor, capital, and output; and they must therefore be considered interim revisions. A more definitive study would use disaggregated data on labor and capital inputs and more evidence on the education and experience of the work force.

Estimates of Potential GNP

The benchmark level of resource utilization implicit in the Council of Economic Advisers' previous estimates of potential output was an overall unemployment rate of 4 percent; it was assumed that full utilization of other resources, such as capital and land, would accompany 4 percent unemployment. The new estimates of potential attempt to include explicitly the contribution to output of fixed capital; hence a benchmark for capital utilization as well as for labor utilization must be set. Full employment of fixed capital is assumed to be attained when the manufacturing capacity utilization index calculated by the Department of Commerce reaches 86 percent. This is the capacity utilization rate attained in the first and second quarters of 1973. In 1969, another year of high employment, manufacturing capacity utilization was 85 percent; 86 percent is thus a relatively optimistic estimate of sustainable capacity utilization. The capacity utilization index that represents the same degree of resource utilization may change over time, since capital input is at least as heterogeneous as labor input. A higher proportion of old equipment in the capital stock would probably lower the capacity utilization benchmark. Inadequate data make estimation of such a variable benchmark very difficult, however, and it has not been attempted here.

The full-employment benchmark has been changed from a constant 4 percent unemployment rate to a rate that varies over time. The new labor utilization benchmark adjusts for the increase in the proportion of younger workers in the labor force since 1955, and for the observed increase in unemployment rates for younger workers relative to those for adults. As discussed earlier, these adjustments imply a rate that rises from 4.0 percent in 1955 to 4.9 percent in 1976. The definition of the new estimate of potential GNP in 1976 is, then, the output in 1972 dollars that the economy would produce if the Department of Commerce manufacturing capacity utilization rate were 86 percent and the unemployment rate 4.9 percent.

The new potential GNP estimates are compared to the previous estimates in Table 6, and are shown graphically in Chart 4. The average annual growth rate of potential from 1962 to 1976 is now estimated to be 3.6 percent per year, a reduction from the former estimate of 3.9 percent per year; and the rate is projected to be about 3½ percent per year in the near future. The reduction in the growth of potential GNP results in an estimate that is $58 billion in 1972 dollars (or about 4 percent) lower in 1976 than that previous estimate of potential. Most of the reduction in the estimate of the growth of potential output is due to slower growth in labor productivity since 1966. In 1976, $30 to $40 billion of the estimated reduction in potential output can be attributed to this factor.

Some of the reduction in the growth rate of potential output can also be attributed to the recent benchmark revisions of the national income and product accounts, which incorporate new source data and estimating procedures. The revised real GNP estimates are evaluated in terms of 1972 rather than 1958 prices. The result of these changes has been to lower growth rates of real GNP.

The change in the unemployment benchmark lowers slightly our estimates of how the expanding labor force has increased potential GNP. Using a full-employment benchmark of 4.0 percent rather than 4.9 percent in 1976 would raise potential GNP by 0.3 percent to 1.1 percent, depending on how the reduction in unemployment is distributed over the labor force. Thus between $5 billion and $15 billion of the $58 billion reduction in potential for 1976 can be attributed to the change in the assumed unemployment rate at potential.

The downward revision in potential GNP results in a current growth rate for potential output that is about the same as the 3½ percent per year originally estimated by the Council of Economic Advisers for the period from 1952 to 1962. Increases in the labor force growth rate since that time have been offset by decreases in the rate of productivity growth, yielding a growth rate of potential output which is nearly constant. This downward revision does not appear to be sensitive to the particular method which we have used to estimate potential. Experiments with a number of alternative procedures give similar results and indicate that the new estimates are robust, given current information. For example, a calculation for the period from

TABLE 6.—*Potential and actual gross national product, 1952–76*

[Billions of 1972 dollars]

Year	Potential GNP		Actual GNP	GNP gap	
	New	Old		New (new potential less actual)	Old (old potential less actual)
1952	584.9	592.2	598.5	—13.6	—6.3
1953	608.2	613.0	621.8	—13.6	—8.8
1954	629.7	634.4	613.7	16.0	20.7
1955	651.4	656.6	654.8	—3.4	1.8
1956	673.9	679.6	668.8	5.1	10.8
1957	697.2	703.4	680.9	16.3	22.5
1958	721.3	728.0	679.5	41.8	48.5
1959	746.2	753.5	720.4	25.8	33.1
1960	771.9	779.9	736.8	35.1	43.1
1961	798.6	807.1	755.3	43.3	51.8
1962	826.4	835.4	799.1	27.3	36.3
1963	857.1	865.9	830.7	26.4	35.2
1964	890.3	898.4	874.4	15.9	24.0
1965	925.0	932.1	925.9	—.9	6.2
1966	960.8	967.0	981.0	—20.2	—14.0
1967	996.3	1,003.3	1,007.7	—11.4	—4.4
1968	1,031.7	1,040.9	1,051.8	—20.1	—10.9
1969	1,068.3	1,081.6	1,078.8	—10.5	2.8
1970	1,106.2	1,124.9	1,075.3	30.9	49.6
1971	1,145.5	1,169.9	1,107.5	38.0	62.4
1972	1,186.1	1,216.7	1,171.1	15.0	45.6
1973	1,228.2	1,265.4	1,235.0	—6.8	30.4
1974	1,271.7	1,315.9	1,214.0	57.7	101.9
1975	1,316.9	1,368.6	1,191.7	125.2	176.9
1976	1,363.6	1,421.2	[1] 1,265.0	[1] 98.6	[1] 156.2

[1] Preliminary.

Note.—See text in this chapter on "Productivity Growth and Resource Utilization" for differences between the old and new potential GNP.

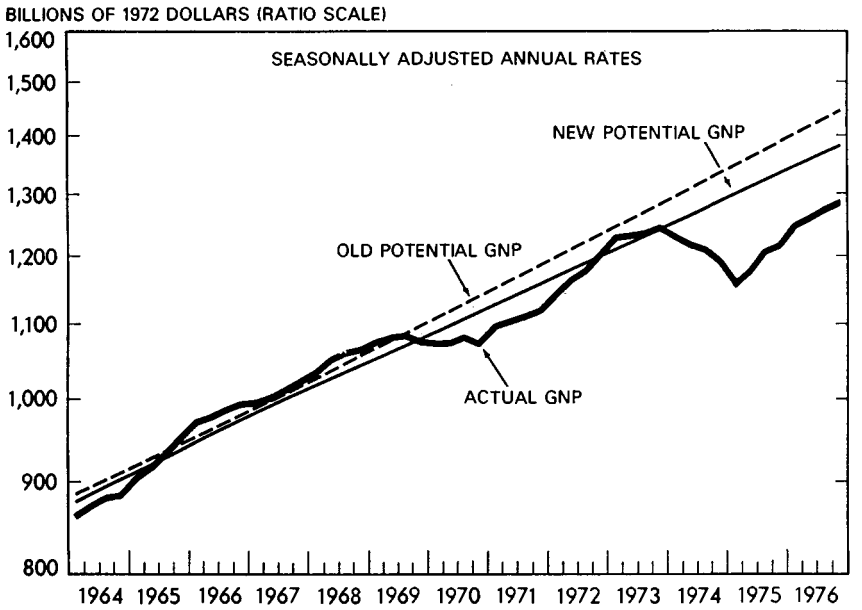
Sources: Department of Commerce, Bureau of Economic Analysis (actual GNP) and Council of Economic Advisers (potential GNP).

1968 to 1973 which adds labor force growth of 2.0 percent to productivity growth of 1.8 percent and subtracts 0.3 percent for the decline in average hours worked per week, all at annual rates, yields a growth rate of potential output amounting to 3.5 percent per year. More research would be useful, however, to further our understanding of the determinants of the economy's potential and the relation between the growth of potential and economic policy. The attempt made here to incorporate the effects of capital accumulation and labor force composition on economic growth is a step in this direction.

The decline in average hours worked is also a factor which contributes to a slower growth in potential output than might be expected from the high rate of growth in the labor force. Between 1966 and 1973 the tendency toward shorter workweeks accelerated somewhat. The slightly accelerated decline in the average workweek, added to the effect of the changing composition of the labor force, implies a growth rate of effective labor input (labor hours weighted by average hourly earnings) that is significantly lower than the growth rate of the labor force. For example, from 1966 to 1973 the civilian labor force grew by 2.3 percent per year, while effective

Chart 4

Gross National Product, Actual and Potential



NOTE.—SEE TEXT IN CHAPTER ON "PRODUCTIVITY GROWTH AND RESOURCE UTILIZATION" FOR DIFFERENCES BETWEEN THE OLD AND NEW POTENTIAL GNP.

SOURCES: DEPARTMENT OF COMMERCE AND COUNCIL OF ECONOMIC ADVISERS.

labor input grew by only 1.5 percent per year. Therefore, although the rapidly growing labor force implies a high rate of growth in potential output, reductions in the average workweek and changes in the age-sex composition of the labor force indicate that the increases are somewhat lower.

Productivity behavior since 1973 raises a further question about the current level of potential output. In the most recent downturn, the productivity decline started earlier and was much more severe than might have been expected from earlier recessions. The data indicate that part of this decrease may have been a permanent downward shift in the level of productivity. A conservative estimate of this shift lowers potential output to $1,330 billion in 1976. Thus the GNP gap may be about $30 billion lower than indicated.

There is reason to expect such a drop in productivity to accompany the OPEC oil embargo and the subsequent quadrupling of crude oil prices. The new high energy prices should have made some capital equipment and some energy-intensive production processes inefficient, with a consequent loss in economic capacity. This loss would not be included in capital stock estimates, because the method normally used for estimating the aggregate capital stock depreciates new investment over a fixed period and does not adjust for short-term changes in obsolescence.

The statistical methods used to adjust for cyclical variations in productivity are necessarily based on the presumption that the variations in productivity over the business cycle are related in a stable way to measures of the cycle, such as the unemployment rate and capital utilization rates. Since the data indicate that the current slowdown may have produced an atypical reaction in productivity, it is possible that productivity will continue to increase and reach its former trend in the next 2 years. This possibility would imply private productivity growth rates for 1977 and 1978 well in excess of the 2 percent trend.

On the other hand, it has been nearly 2 years since the recession reached its trough, and there has been little evidence of cyclical productivity gains this late in previous recoveries. Because of this uncertainty regarding the permanence of the recent decline in productivity, estimates of potential output will be similarly uncertain. The estimates of potential GNP presented in Table 6 and Chart 4 do not include a shift in the level of productivity in 1973–74, but instead assume that the downward movement will be offset by an equivalent upward movement as recovery continues. The performance of the economy over the next 2 years will indicate whether or not a further revision in the estimates of potential GNP is necessary.

POLICY IMPLICATIONS

Neither potential GNP nor the full-employment unemployment rate will be reached in 1977. However, both may set limits to growth in coming years which cannot be exceeded without risking accelerating inflation and renewed instability. For example, the uncertainty that surrounds the estimates of potential output implies that caution must be observed as potential GNP is approached. If the 1974–75 reduction in the level of productivity proves to be permanent, physical capacity constraints similar to those encountered in 1973 may appear well before an unemployment rate of 4.9 percent is reached. If so, they will seriously interfere with our full-employment goals.

As discussed previously, there are reasons to believe that the full-employment rate may be above the 4.9 percent benchmark we have used to estimate potential output. In any case, policy makers should realize that a 4 percent goal is not likely to be sustainable in the current economic environment; and because of the tentative nature of the full-employment rate estimates they should watch closely for signs of accelerating wage inflation when the overall rate of unemployment falls to about 5½ percent. The analysis suggests, for example, that the 4.9 percent unemployment rate in 1973 may have been partly responsible for the accelerating inflation in 1973–74, although this interpretation is clouded by other events such as the wage and price controls and the extraordinary increases in the prices of food and fuel. It also suggests that economic programs which aim to reduce unemployment in particularly depressed areas or among disadvantaged

groups can be a useful supplement to policies which focus on the economy as a whole. Moreover it must be remembered that even with our revised estimates, the current output is far below potential, and unemployment is much above full-employment levels. Thus aggregate demand policies, such as the tax program proposed by the President, are still necessary to reduce unemployment and close the existing gap between potential and actual output.

The uncertainty about the lowest rate of unemployment that will not result in accelerating inflation also has important policy implications. Not too long ago economic policy makers were able to illustrate the difficulties of achieving both a stable price level and a full-employment economy by referring to the fairly close negative association between the unemployment rate and the inflation rate during the 1950s and early 1960s. While it was never thought to be exact, the relationship indicated the inevitable upward pressure of high utilization of labor and capital on prices and wages, and it was used to calculate the tradeoff between inflation and unemployment. According to this relationship, the cost of an excessively low unemployment rate was a higher, though not necessarily increasing, rate of inflation.

During the last 10 years, however, this relationship has shifted dramatically and the concept of a stable tradeoff has become untenable. Nevertheless it is difficult to deny the essential fact that excessive expansion and extremely low unemployment rates ultimately produce higher and perhaps accelerating inflation. Nor can one deny that a slack economy with low utilization of capital and labor resources is usually a moderating influence on prices and wages. However, because of an economy-wide persistence in price and wage inflation, these excess demand and excess supply effects sometimes seem to work very slowly, with their influence spread over a long period.

In the long run the lower estimated growth rate of potential output, if projected into the future, implies a decrease in the "fiscal dividend" to be gained from full employment. Projection of the new potential GNP estimates through 1980 gives an output that is 4.8 percent lower than the previous estimate, a difference amounting to about $130 billion in current dollars. The estimate of Federal tax receipts in 1980 is thus more than $30 billion lower if output is assumed to be the new potential GNP rather than the old estimate. Lower total output implies lower tax revenues available for further tax cuts or for new or expanded Federal Government programs.

The challenge for the future will be to devise new policies to cope with the problems of economic growth and productivity. Increased productivity growth is necessary if the economy is to provide jobs without incurring declines in the growth of real income for the many new workers in the labor force. Chapter 4 in this *Report* discusses several areas in which microeconomic policies have been devised or are being considered to increase production and employment beyond levels attainable through the management of aggregate demand.