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MIDYEAR REVIEW OF THE
ECONOMY: THE OUTLOOK
FOR 1979

REPORT

OF THE

JOINT ECONOMIC COMMITTEE
CONGRESS OF THE UNITED STATES

TOGETHER WITH A STAFF ANALYSIS ENTITLED

"THE U.S. ECONOMY IN THE 1980's"



AUGUST 9, 1979

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CHAIRMAN'S INTRODUCTION

The enormous benefits to be gained by the whole nation from rapid economic growth have united the Joint Economic Committee, Majority and Minority, in a continuing cooperative effort to demonstrate the importance of productivity and economic expansion.

This year's brief Mid-Year Report reaffirms the Committee's basic view that the solution to stagflation lies in the adoption of policies aimed at expanding the supply side of the economy by raising our country's productive potential. In short, this Committee believes that we must and we can produce our way out of our economic problems.

The Mid-Year Report focuses on our country's economic prospects for the short-term. But the Members of this Committee recognize that one of its primary responsibilities is to take the long view so that they can provide advice which will enable the Congress to prepare for the future. Accordingly, the Members of the Committee have agreed to publish a staff study which analyzes economic trends for the 1980s.

America needs a coherent, consistent and coordinated economic policy for the 1980s. We simply cannot afford a decade characterized by crisis management/crisis containment policies where we bounce from problem to deeper problem without any overall strategy to achieve clearly defined, long-run goals. To develop such strategy, Congress

must have the capacity to anticipate future trends so that it can act to avert crises rather than simply react to them. That is why the Members of the Joint Economic Committee directed the staff to analyze the probable trends of the American economy in the 1980s.

There are several conclusions which leap out of that analysis. First, policies which produce slow growth will not also produce price stability. A slow growth scenario for the 1980s implies a concomitant rapid rise in the cost of living. The fight against inflation can be won only by policies which increase production, which put more goods on the shelves of our nation's businesses at lower unit costs.

Second, we need to reduce our reliance on imported oil by encouraging more domestic production of oil and gas, the development of alternative energy sources and conservation.

Third, the average American is likely to see his standard of living decline in the 1980s unless we accelerate the rate of growth of our nation's productivity. If no new steps are taken to address the problems of structural unemployment, lagging capital formation, and a slowdown in productivity, then the American economy faces a bleak future. It is clear from this analysis that productivity is the linchpin of economic progress in the 1980s. A stagnating economy will mean fewer Americans will be able to afford the necessities of life, such as a decent home. Home ownership has always been a reachable dream for most Americans, serving as a symbol to all that Americans had the opportunity to improve their living standards.

A stagnating economy means more double-digit inflation and less take-home pay for the average worker. It means protracted and rising unemployment and under-employment for blacks and other minorities. It means a reduced standard of living and a time of such severe shortages and high prices for energy that people will look back nostalgically and enviously at 1979.

Policies which lead to slow growth will result in many unnecessary and cruel hardships for disadvantaged Americans. Blacks, Hispanics and other minorities fare poorly even under a moderate growth scenario for the 1980s. Slow growth spells disaster for these Americans.

This study demonstrates that we do not have to accept slow growth, high inflation, high unemployment and a declining standard of living in the 1980s. We can do better than this, but we need to take steps to shore up the supply side of our economy by reducing our reliance on foreign energy and increasing our productivity. We must address the tax and regulatory barriers to production. We need to save more, invest more and train more disadvantaged Americans to assume their rightful roles in the workplaces of America. We must shift our attention to the supply side of our economy and, in the determination of President John Kennedy, "get our country moving again."

This staff study of economic trends in the 1980s is intended to introduce the long term Special Study on Economic Change which the Committee began in the Summer of 1977. During the next year the Special Study project will produce numerous papers which will deal with many of the complex structural changes occurring in the domestic and

international economies. We believe that this Special Study on Economic Change is one of the most important projects which this Committee has ever undertaken.

MIDYEAR REVIEW OF THE ECONOMY:
THE OUTLOOK FOR 1979

COMMITTEE REPORT

I. THE OUTLOOK FOR 1979

Our last assessment of the economic outlook was published in March. At that time, we felt that the economic forecast underlying the Administration's budget was overly optimistic. We summarized our views saying, "because there are so many areas of potential weakness, the possibility of a mild recession cannot be ruled out." Today that recession is probably upon us, and there is at least the possibility that the recession could be severe.

The discussion in this report should make it clear that while oil price increases are a huge negative factor in the economic outlook, fundamental weaknesses in our economy would be emerging even in the absence of oil problems.

Consumption

The best place to begin this review is with the American consumer. Personal consumption expenditures were the primary source of economic strength in 1978 and the major factor responsible for the economic weakness we have observed in the first half of 1979. This slowdown in consumer spending was widely anticipated and is not difficult to understand.

From 1977 to 1978, personal income grew 11.7 percent. Rising taxes due to the impact

of inflation and higher social security payments were not offset by the 1978 income tax cut (which did not become effective until 1979) so that disposable personal income grew slightly less than personal income -- 11.4 percent. Since inflation was 7.7 percent, there was some modest real growth in spending last year. In the first part of 1979, this situation was reversed. During the first six months of 1979, personal income increased at a 5 percent annual rate, while prices rose at a 13.4 percent rate. If inflation for the year averages something close to the Administration's forecast (10.6 percent), then the tax cut enacted in 1978 will roughly offset the higher taxes produced by inflation. If inflation is worse than anticipated, this will further reduce consumers' spendable income. We should also note that the timing of the various tax changes results in a greater drag on spendable income in the last half of the year. The impact of reduced income tax withholding gradually wears off as time passes and as workers in the middle income brackets realize that the social security wage base was raised as they pay taxes for a longer period each year. The result of rising prices and taxes has been stagnation in consumer spending.

The most recent data show little growth in the dollar value of retail sales, and in volume terms, sales have fallen. As shown by Table I-1, in June of 1979 retail sales adjusted for price increases had fallen in all categories to the levels observed in the summer of 1977. The most striking recent statistics have been the sharp decline in automobile sales. The June estimate is that U.S. auto sales fell about 19 percent. Recent information from both the Gallup Economic Service and the Survey Research

Center at the University of Michigan indicates that this trend is likely to continue. Consumer attitudes about buying autos and major household goods have declined significantly since this time last year.

TABLE I-1
 DEFLATED RETAIL SALES INDEX
 (1967 = 100)

	Total Retail Sales	Total Sales Less Autos	Durables	Nondurables
1977				
January	134.4	130.4	167.7	129.0
February	135.5	131.7	170.4	129.3
March	135.7	131.6	171.9	129.0
April	135.3	131.7	169.6	129.0
May	134.7	131.3	167.5	128.8
June	133.2	130.0	165.3	127.7
July	134.7	131.5	167.6	129.5
August	135.1	131.3	171.1	129.0
September	135.5	131.5	173.0	129.4
October	137.5	133.4	175.5	131.2
November	138.9	135.1	176.8	132.8
December	137.7	133.9	174.9	131.9
1978				
January	135.7	132.5	170.2	131.2
February	137.0	134.0	173.2	132.2
March	138.6	135.0	176.4	132.9
April	139.6	135.5	180.4	132.4
May	139.0	135.1	178.2	131.8
June	138.3	134.4	177.6	131.2
July	137.6	134.3	176.8	131.0
August	139.2	135.3	180.9	132.0
September	139.9	136.0	181.8	132.9
October	140.6	136.4	184.2	133.1
November	142.3	138.4	187.5	134.5
December	143.5	139.7	188.2	135.2
1979				
January	142.1	137.2	189.0	133.3
February	140.9	136.4	185.9	132.7
March	141.5	137.3	187.3	132.3
April	138.5	135.8	178.2	130.9
May	136.1	134.5	175.1	129.1
June	133.7	133.9	166.6	127.8

Sources: Bureau of the Census
 Bureau of Labor Statistics
 Joint Economic Committee Staff

A disturbing undercurrent in the consumer's income picture is the source of that income growth. The most important reason that income has kept pace with prices and occasionally moved ahead is that employment has expanded very rapidly. In 1978 3-1/2 million workers were added to the Nation's payroll, and the number continued to increase in the early months of this year. While this employment growth has allowed the unemployment rate to gradually drift downward, we must recognize that when income growth is totally dependent upon employment growth -- with little contribution from improvements in productivity -- we are in an especially vulnerable position. If employment growth falters, as it has done recently, then it will be reflected by a slowing in income and consumption growth. More alarming, if employment declines (this possibility is discussed later), the recession could be severe.

The second problem in income determination is inflation. As we have already pointed out, inflation has exceeded income growth in 1979. However, the statistics currently available do not take into consideration the oil price increase recently announced by the Organization of Petroleum Exporting Countries (OPEC). Since December 1978, the price of imported oil has increased almost 60 percent. Although gasoline prices have risen rapidly in advance of the rise in the delivered price of imported crude oil, the impact on other goods which use petroleum as an input has not yet been fully reflected in the price indices. This one factor is likely to boost the rate of increase in the price index by at least 1 percentage point in 1979 and even more in 1980. After reviewing the energy program President Carter announced on July 15, we have concluded that while the program

may have a substantial impact on our long-term energy outlook, there is no immediate impact on prices or supplies. As the President explained, the program focuses on the next decade rather than the next half year.

At the same time that energy prices have been increased dramatically, the outlook for improvement in food prices has deteriorated. The summer's harvest has increased food supplies, and the short-term meat situation remains favorable. However, the increasing likelihood of poor grain harvests in other parts of the world, especially the Soviet Union, means that we can anticipate substantial grain exports. Although it is too early to judge the full extent of these exports, if grain prices rise further, they are likely to have the impact of increasing meat prices next year. Further, the summer's harvest will only be reflected in a slower rate of increase in the price indices if processors stop increasing profit margins. Thus far, price declines at the wholesale level have not shown up at retail due to increased profits.

In addition to the various forces squeezing consumer's real income, the energy situation has had important psychological effects. The long gasoline lines have discouraged traveling and have created a mood of unrest and uncertainty in the general public. As we move through the summer and into the fall, the focus of public concern is likely to shift from gasoline to heating oil, but the basic problem of energy shortages with occasional supply disruptions is likely to remain. In the short run we have no reason to believe that the energy situation will provide a source of confidence for the American consumer. While President Carter's

newest energy policies may restore some confidence about the long-term situation, a careful economic evaluation indicates that it will have little impact on the short-term situation.

Shortages in energy have had a rippling effect which produced spot shortages in other areas. The independent truckers' strike, for example, caused some disruptions in certain food supplies. Other strike activity has been unusually high, and some material shortages have created production problems.

Altogether this means that the economic slowdown in the consumer sector has come from both the demand side with a squeeze on income and the supply side with spiraling prices, shortages, and disruptions. The result is quite predictable: consumer confidence has fallen to recession levels, and growth in this largest sector of the economy has ground to a halt. There is little prospect for improvement in the remainder of this year.

Investment

Turning to investment, the picture looks somewhat better for the short run, but only for the short run. The Commerce Department's June Survey of Business Plans for New Plant and Equipment Spending shows moderate strength in this area. According to that survey, business fixed investment should rise about 4-1/2 percent in 1979. The estimates of order backlogs tend to confirm this projection.

Accurately judging the strength of business investment has become very critical in the overall assessment of the economy. Many forecasters are depending upon strength

in this area to offset weakness in the consumer sector. And over the longer run, strength in capital investment is crucial for adequate economic growth. One reason the recovery from the 1973-1975 recession has been unsatisfactory in terms of reducing the unemployment rate more and in failing to mitigate inflationary pressures in the economy was the weakness of the capital investment sector during most of the recovery period.

For the remainder of 1979, the investment outlook is reasonably good. However, as we look ahead to 1980, it is far less certain. If the consumer sector remains weak into next year, this will soon begin to have an adverse effect on business investment. If exports falter, the situation will be exacerbated. Businessmen will be less willing to undertake investment if they feel that the risk of being unable to sell their output has risen. The recent decline in new orders for nondefense capital goods is the first evidence of this caution. In addition, inflation is reducing the rate of return on investment by interfering with depreciation allowances. This point is discussed below.

One reason for some optimism about investment over the short term is the behavior of inventories. While inventory to sales ratios have begun to creep up and there are certain problem areas (e.g., large autos), the general situation remains favorable. The current ratio -- 1.4 percent -- is far below the 1.7 percent level reached in the early stages of the 1973-1975 recession. Although a decline in sales could cause the ratio to rise dramatically, we believe that this is unlikely. This recession has been widely anticipated and discussed in the popular press for such a

long time that businessmen, remembering the disastrous consequences of 1974, have been unusually cautious. If businessmen remain alert, they should be able to avoid a situation that would require a costly inventory adjustment.

The final area of investment, of course, is housing. We are all familiar with the successful money market certificates which provided an adequate supply of money for housing finance in 1978 and early 1979. Recent changes in the regulations governing the interest rates payable on various types of deposits have caused the financial flows to behave erratically. March and April were very weak months, but during May and June some of the losses were recouped. Regardless of these erratic factors, private funds combined with strong Federal support for the secondary mortgage market have provided an adequate supply of housing credit. The simple fact is that interest rates may have finally reached levels which reduce housing starts in spite of financing availability.

The combination of very high interest rates and rapid increases in home prices may have begun to outweigh the consumer's desire and ability to purchase a home. Housing starts in the first six months of this year were running at a 1.7 million rate -- the lowest six-month average in over three years. Data for building permits indicate that backlogs have been reduced, and the slowdown is likely to continue. The current outlook is for housing starts to fall within the 1-1/2 to 1-3/4 million unit range we projected last spring.

Government

It has been clear for some time that the Federal Government's fiscal policies would be exercising a restraining force on the U.S. economy in 1979 and 1980. We continue to believe that a moderate amount of restraint is appropriate and necessary in the current environment. Nevertheless, because Administration officials appear to have underestimated the degree of this fiscal restraint, a careful re-evaluation is in order.

One way to measure fiscal policy is to examine the amount of revenues produced when inflation pushes individuals into higher tax brackets. For 1979 the effects of inflation alone will add \$12-14 billion to Federal revenues, assuming inflation does not exceed about 10.5 percent. This amount was roughly offset by the personal tax cuts contained in the Revenue Act of 1978, which became effective at the beginning of this year. In 1980 there will be an additional \$14-16 billion in fiscal restraint, but at present there is no policy in place to offset this effect. Some economists would argue that aside from the sheer quantity of money involved, the higher tax rates may have additional disincentive effects on labor force participation and savings behavior.

In addition to income tax increases, the Federal Government has raised dramatically social insurance taxes. The macroeconomic effect of these tax increases is to increase the total amount of fiscal restraint. Receipts from social insurance taxes are estimated to rise about \$20 billion in 1979 -- \$7 billion of which is the direct result of increases in the tax rate and increases in the earnings base which became effective in

January. In 1980 these receipts are estimated to rise another \$15 billion -- about \$2-1/2 billion from new tax increases which become effective in January 1980 and most of the remaining \$12-1/2 billion from the 1979 increases.

The effects of inflation are not restricted to the individual income tax structure. To the extent that our tax system does not allow the depreciation allowance to cover the cost of replacing capital equipment at inflated prices, inflation will reduce the rate of return to investment and cause profits to be overstated and will therefore increase business tax liability. Estimates of the seriousness of this problem cover a wide range, but something in excess of \$20 billion appears reasonable. In addition, inflation causes the value of inventories to be overstated.

At the present time, another tax increase which would take effect in 1980 is pending before Congress. Revenues which would be collected under the windfall profits bills under consideration are expected to generate several billions of dollars in 1980 and 1981. (In the House version, as this goes to press, the figure would be \$3.7 billion in 1980 and \$7.7 billion in 1981.) Without commenting on the merits of this proposal, it should be observed that any such tax will transfer resources from the private to the public sector. This will reduce private sector demand and add to the restrictiveness of total fiscal policy to the extent that the tax increase is not offset by spending increases or other tax reductions.

The final factor which must be considered along with fiscal policy is the effect of recent energy price increases on income.

While this is not a tax, its short-term effect on the economy is exactly the same as an increase in excise taxes with no increase in spending. As the oil producing countries spend their new revenues, part of the "oil tax" will flow back into this country through an increase in our exports.

When fiscal policy was being planned last January, it was widely assumed that oil prices would rise about 14.5 percent as announced by OPEC. This price increase would have added about \$6-1/2 billion to our oil bill in 1979. With the most recent OPEC announcement and the possibility of further increases later this year, it is now more realistic to expect a price rise of almost 60 percent. This means that the drain on Americans' purchasing power in 1979 will be approximately \$19 billion more than was anticipated last January, and it will continue in 1980.

Because of the factors discussed above, economic policies are more restrictive than was anticipated earlier in the year.

International

Intermittent gasoline shortages and rapidly rising energy prices have focused attention on the growing importance of international commerce to the United States. Energy is only the most visible example of the interdependence that encompasses many parts of the American economy. Imports of goods are now equal to about 8-1/2 percent of our gross national product (GNP). In 1970 the comparable figure was about 4-1/2 percent of GNP.

The economic health of our trading partners has also become increasingly important to the United States. Like imports, exports of goods have grown in importance over the last decade; they now account for some 6.7 percent of GNP. Just nine years ago, the comparable figure was 4.3 percent of GNP. One out of three acres of American farmland produces for export and more than 2 million manufacturing jobs are directly related to export sales. When the profits from U.S. exports are added to the profits on overseas operations, more than 30 percent of U.S. corporate profits are tied to international operations.

Throughout much of the recovery from the 1973-75 recession, the United States has had difficulty in balancing its international accounts. A deteriorating trade performance pushed the current account from a recession-bred surplus in 1975 to a deficit of almost \$14 billion in 1978. A persistently strong record in the export of services, while encouraging, was unable to compensate for an even stronger rise in the imports of goods. This resulted in successive record merchandise trade deficits of \$30.9 billion in 1977 and \$34.2 billion in 1978. The deteriorating trade balance reflected dollar appreciation in the 1975-76 period continued poor productivity performance, loss of competitiveness in foreign markets, a relatively sudden shift toward dependence on imported oil, and a more rapid recovery from the 1973-75 recession at home than abroad.

The U.S. trade and current account deficits were matched by strong trade and current account surpluses in Germany and Japan. Earlier in the decade, sudden increases in the price of oil and the low absorptive capacity of some of the principal

oil producers generated a tremendous current account imbalance between the Organization of Petroleum Exporting Countries and the non-oil-producing states. By 1978 the OPEC current account surplus had shrunk to about \$10 billion, and the largest imbalances were among the major industrial powers. The combination of sharply higher oil prices and an economic slowdown in the United States and the rest of the Organization for Economic Cooperation and Development (OECD) area is likely to have a serious impact on the non-oil, developing countries. Rising current account deficits will drain scarce hard currency reserves and could actually limit the ability of some developing countries to service their current debt, which could further retard U.S. export performance and possibly weaken the international financial system.

Accelerating inflation in the United States and the payments deficits resulted in a precipitous fall in the international value of the dollar, particularly against the mark, the yen, and the Swiss franc. The falling dollar raised the cost of imports in the United States, and the costs of competing imported goods and some exports also began to rise -- both trends exacerbating inflationary pressures. In July that estimate was revised to 10.6 percent. Such marked instability in the world's key currency threatened to retard investment and trade around the world.

This is the background that led to the decision last November to use foreign exchange market intervention in combination with domestic economic policy changes to stabilize the value of the dollar. It was widely believed then that the coordinated intervention program -- involving the United States, Germany, Japan, and Switzerland --

was by itself insufficient to restore stability to the foreign exchanges; the key to the success of the operation rested on maintenance of a permanent change in the direction of economic policy. Toward that end, U.S. monetary and fiscal policies were tightened. The discount rate was raised on November 1 by 1 percentage point to 9.5 percent, and the Federal Reserve adopted a policy aimed at a gradual long-term slowing of the growth of the monetary aggregates; the belt-tightening on the fiscal side was reflected in the 1980 FY budget and in the subsequent First Concurrent Budget Resolution. Given the importance which is now attached to ensuring the continued relative stability in the foreign exchange value of the dollar, we expect that the role of monetary policy in moving us out of our current slump will be limited. Indeed, the hike in the discount rate by another one-half percentage point -- from 9.5 to 10.0 percent -- on July 20, 1979, in apparent response to the dollar's recent weakness confirms this view.

Concern over the availability of oil and the possibility of further price increases dominate the international economic scene. As a result of recently announced OPEC price increases, we expect other nations to grow more slowly and therefore to demand fewer of our exports. The exception to this general situation is in grain exports where poor crops abroad may force other nations to purchase more grain from the United States. At the same time, stagnation in our economy means that we will reduce our import of manufactured goods. Unfortunately, this is likely to be outweighed by our higher bill for oil imports.

On balance, we expect the net export position of the United States to show a very modest improvement through the remainder of 1979. We do not expect the foreign sector to provide strength for the U.S. economy, but neither will it slow our overall growth. In 1980 the situation could deteriorate, on both current and capital accounts. Much of this depends on how the OPEC surpluses are handled by the international financial markets, where they are finally invested, and whether changing currency values are used as a pretext to stimulate further oil price increases.

Government Purchases

The final sector in our assessment of the GNP accounts is direct government purchases of goods and services. This is the one area where there has been little significant change since our review last spring. We continue to expect Federal purchases to show very little growth in current dollar terms and to fall in real terms. State and local spending is following a similar pattern although it is expected to be somewhat stronger than at the Federal level.

Employment-Unemployment

In the discussion of consumer incomes, we stressed the fact that most of the increase in income came from rapid employment growth. Without the 1 million jobs that have been added in the past year, consumer expenditures would have been much lower. The critical question for the future is: Can this expansion continue?

During the remainder of 1979, we expect total employment to be relatively flat. In

the early months of 1979, both the level of employment and the labor force moved erratically, but the June levels were very close to those observed in January. As the labor force continues to grow, the unemployment rate will rise. How fast the unemployment rate will rise remains an open question.

As we have explained before, the relationship between output and unemployment has been different during the recovery from the 1973-75 recession than from earlier experience. If one accepts the premise that our underlying growth rate has been roughly 3-1/2 percent per year, then one would have expected the unemployment rate to have stabilized around 6.5 percent during the past year. When compared to the actual rate of 6 percent or less, one might conclude that the current unemployment rate is 1/2 to 3/4 percentage points below its historical relationship to production. This would imply that in a period of economic weakness, the unemployment rate could rise very quickly to the 6.5 percent level. The burden of this unemployment rise will fall disproportionately on low-skilled and minority workers. This would add 1 million people to the jobless roles with further increases in unemployment occurring if the economic slowdown continues. This possibility occurs because, as the decline in productivity indicates, in recent years capital investment has not kept pace with employment. We consider this possibility to be a major risk in the economic outlook and, if it develops, it would be the source of a longer and deeper recession than most economists are currently expecting. While we cannot rule out this possibility, we do not consider it the most likely prospect.

Measures of labor market tightness are always an important factor in considering the need for a policy change. Earlier this year some of the best measures, unemployment rates for experienced worker groups, were beginning to show tightness. Recently, however, this tension has eased despite the fact that the overall unemployment rate has fallen. The unemployment rates for experienced workers are currently 1/2 to 1-1/2 percentage points higher than those observed in past periods of labor market tightness.

Wages, Prices, and Productivity

The final elements which are critical to any evaluation of the economic outlook are wages, prices, and productivity. Since the next section of this report is devoted exclusively to this subject, the comments here will be brief.

It has been obvious for some time that the Administration's forecast of 7.4 percent inflation in 1979 was far too low. The combination of wage increases that have not kept pace with inflation and workers' expectations of continued inflation has resulted in hourly compensation increasing in the 9 to 9-1/2 percent range. As long as this continues, prices must rise at least this rapidly unless there are offsetting productivity increases. The discussion in Chapter II suggests that the poor productivity performance of the economy makes it unlikely that the underlying rate of inflation is likely to improve in the immediate future.

Price increases will also occur from nonlabor sources such as food and fuel. If the value of the dollar declines, this too

will aggravate the inflation situation. Combining all of these factors, it is probable that increases will be in the double digit range for the remainder of the year. As we have already had five months of price increases in the 13-14 percent range, even the Administration's revised forecast now appears to be too low.

Equally important is the effect these price increases are having on wage settlements. As high rates of inflation continue, it is unrealistic to expect wage earners to accept increases which reduce their real standard of living. While we consider the behavior of wages to have been quite reasonable in light of inflation, this does not help to unwind the wage-price spiral which has caused the underlying rate of inflation in our economy to rise above 8 percent. Realistically, there are no economic policies now in place which will have an appreciable effect on this problem in the immediate future.

Conclusions

In summary, we agree with those economists who attach the greatest probability to the prospect of a mild recession in 1979. However, we do not rule out the possibility that this recession could extend well into 1980 and be more severe than is generally anticipated. The risks in this forecast are obviously on the down side.

As the economic situation has deteriorated, fiscal policy has become much more restrictive than originally planned. The combination of the energy price increases, social security tax increases, and income tax increases caused by inflation,

even though partly offset by the income tax cuts passed by Congress, creates an economic drag in excess of \$25 billion. Next year these same disincentives to investment, production, and employment will create a drag exceeding \$30 billion. Some additional allowance must be made for the inadequate business depreciation schedules. Whether the economy moves back on the road to recovery in 1980 will depend in large measure on policy choices made late this year and early next.

The widely anticipated recession is probably now upon us. Real output turned sharply negative in the second quarter of this year, and for the year as a whole, the American economy will exhibit little or no positive economic growth. A continuation of this lackluster performance in 1980 is all but guaranteed.

The results of this slowdown will soon be reflected in the unemployment statistics. The Administration, in what it admits is an optimistic forecast, expects the unemployment rate to rise from its current June rate of 5.6 percent to 6.6 percent by the fourth quarter of 1979, and to 6.9 percent by the end of 1980. Many private forecasters expect much higher unemployment rates, perhaps reaching levels well in excess of 8.0 percent by the end of 1980.

Despite the dramatic slowdown in the pace of economic activity, the inflation rate has accelerated sharply. As measured by the Consumer Price Index (CPI), inflation is currently roaring ahead at an annual rate of 13.2 percent, up by more than 4 percentage points over the rate registered in 1978, and almost double the rate posted in 1977. The escalation of energy and food prices clearly dominated the upward price trend for the

first half of 1979, but the "core" or underlying rate of inflation -- the rate determined by the pace of unit labor and capital costs -- also moved up sharply.

Can we expect much improvement on the inflation front in upcoming months? Not if we believe the economic forecasters: even the most optimistic forecast -- the one presented in July by the Administration -- suggests a CPI increase of almost 11 percent for 1979 as a whole, and a further 8.3 percent rate of increase in 1980; other forecasters are less optimistic about the 1980 price outlook suggesting that the rate of increase in consumer prices will be, at best, only marginally less than the 1979 rate of 11 percent.

Although forecasters differ somewhat in their assessment of the near-term outlook, they are in complete agreement on one fundamental point: the American people will be forced to suffer through yet another period of vicious "stagflation" characterized by rapidly escalating prices and by lengthening unemployment lines.

II. PRODUCTIVITY AND STAGFLATION

As Chapter 1 illustrates, an economic recession is probably upon us, and the outlook for inflation is grim. There is no reason to believe that the recession will cure our short-run inflation problem, and in the long run it is likely to make it worse.

Moreover, the disproportionate burden of a recession falls on blacks, Hispanics, and other minority groups. And the disincentives to investment spending caused by idled machines and plants are something our economy can ill afford. Not only would a shut-off of capital spending severely limit our future growth potential, it would virtually guarantee yet another sharp increase in prices once the economy turns up.

In brief, the solution to our long-run stagflation problem does not lie in short-run policy initiatives designed to maintain aggregate spending far below our Nation's productive potential. Rather, the solution lies in the adoption of longer run policies aimed at expanding the supply side of the economy; that is, at expanding our Nation's productive potential in a manner that raises dramatically the growth of American productivity. Although we have discussed different aspects of the productivity problem in previous reports, it is so fundamental and so pervasive that it merits the careful review which follows. Only by understanding our productivity problems will we be able to develop solutions to the stagflation that

dominates the economic outlook in the foreseeable future.

The Recent Performance of Productivity

In the past few years, economists and public officials have reached a consensus that an important cause of our stagflation and poor growth record is our dismal productivity performance.

Currently, official productivity measures refer only to labor productivity -- output per hour of labor input. Other single-factor productivity indicators would also be useful in analyzing economic growth -- capital productivity (output per unit of capital input); energy productivity (output per unit of energy input); and materials productivity (output per unit of materials input). Additionally, a broader measure of multiple-factor productivity, obtained by combining inputs, would be valuable. But labor productivity would still be of paramount importance -- it is the measure most directly tied to individual economic welfare.

Since World War II, the United States has experienced three distinct periods of productivity growth, as shown in Table II-1. From the late 1940s until the mid or late 1960s, private sector productivity increased at an annual rate somewhat greater than 3 percent; from the mid or late 1960s to the early 1970s, it rose at an annual rate slightly greater than 2 percent; and from the early 1970s to the late 1970s, it increased at a rate slightly more than 1 percent. For the first half of 1979, output per hour in the private business sector actually decreased at an annual rate of 3.3 percent.

International Comparisons

When we compare our growth in productivity with those of other major industrialized countries, our record is the least enviable. Our growth in productivity since World War II has lagged behind the rates posted by every one of our major trading partners. The Joint Economic Committee, in its 1979 annual report to Congress, examined international productivity rates and found that productivity in Japan grew four times faster than in the United States from 1950 to 1977. In France, Italy, and Germany, it grew two and one-half times faster. From 1967 to 1977, the British economy scored productivity gains two or three times our own.

Although our working men and women still outproduce foreign workers, the gap is closing quickly: if present trends continue, German and French workers will be outproducing us within six years; Japanese and Canadian workers will follow soon thereafter. Major gains in our standard of living could have been obtained if our productivity performance had been better.

What accounts for our poor relative showing on the productivity growth front? In our view, an important part of the explanation can be found in the savings and investment rates of the United States and the other major industrialized countries. According to statistics compiled by the Organization for Economic Cooperation and Development (OECD), U.S. nonresidential fixed investment, since 1965, has commanded a smaller percentage of gross national product (GNP) than in all other major industrialized countries. Thus, for the years 1966-1978, Japan devoted, on average, 18 percent of its GNP to nonresidential fixed investment, West

Germany devoted 13 percent, while the United States devoted only 10 percent. Additionally, the U.S. savings rate (personal savings as a percent of disposable income) has consistently been well below the rates experienced by these same countries. For the years 1966 to 1978, the U.S. savings rate averaged only 6.6 percent, while for Japan and West Germany the corresponding rates were 18.7 and 13.4 percent respectively.

Causes of the Productivity Slowdown

Two of the leading analysts of productivity growth are Edward Denison and John Kendrick. In Table II-2, we have presented Kendrick's latest estimates of the sources of productivity growth for the business economy and his projections for 1980 to 1990. Some of these estimates are based on previous work by Denison. Kendrick has also divided the post-World War II years into three parts, but the rates of growth differ slightly from those in Table II-1 because the periods chosen and the measure of productivity differ slightly from the ones used in Table II-1. The conclusion is nonetheless the same -- a drop of somewhat more than 2 percentage points in the annual growth rate between the first two postwar decades and the last five years.

TABLE II-1

GROWTH OF LABOR PRODUCTIVITY
(Average Annual Rates of Change)

	1947-65	1965-73	1973-78	1978:4-1979:4
<u>Sector</u>				
Private Business	3.2	2.3	1.1	-3.3
Nonfarm Business	2.6	2.0	1.0	-4.3
Manufacturing	3.2	2.4	1.6	0.6
Nonfinancial Corporations	3.7 <u>a/</u>	1.9	1.1	-1.8 <u>b/</u>

a/ 1958-65; Data not available for years prior to 1958.

b/ 1978:4 to 1979:1

Source: Bureau of Labor Statistics.

We have grouped these eight sources of growth into three categories: five major causes of the slowdown, one minor cause, and one offsetting factor. (The eighth factor, "Actual/Potential Efficiency & Not Elsewhere Classified," the residual after the impacts of other factors have been estimated, had the same impact in 1948 to 1966 and 1973 to 1978.)

The five major causes of the slowdown are:

(1) Slower growth of the capital-labor ratio. Due to inadequate capital formation (relative to the rapidly growing labor force), the contribution to labor productivity growth of the capital-labor ratio (weighted by capital's share of national income) declined steadily over the period. This fact, and possible policies to deal with it, were discussed in more detail in the Committee's Joint Economic Report 1979. For the next decade, Kendrick foresees some improvement, back toward the 1966-73 level.

(2) A reduction in the contribution from advances of knowledge. This is primarily due to the lessened contribution of formal research and development and to a slower rate of diffusion of existing knowledge. The latter is measured by the average age of the capital stock because the latest technological advances are embodied in new capital. Between 1948 and 1966, this average declined by about three years, but there was virtually no change between 1973 and 1978.

(3) Reduced gains from resource reallocation. These reflect both a slower rate of movement of labor out of lower productivity agriculture and a slower rate of capital relocation out of low-productivity industries and geographic areas.

(4) A change from a net gain to a slight net loss from volume changes. The drop arising from this factor is approximately evenly divided between lessened economies of scale and the impact of intensity of demand, Kendrick's term for the cyclical productivity pattern discussed below.

(5) Effects of Government Regulation. Government services continued to contribute slightly to growth over 1973 to 1978, at the rate of 0.1 percent per year. But regulations multiplied, changing from a slight negative factor to a significant deterrent of productivity growth. Of course these regulations yield some benefits, many of which are not included in the current measures of GNP and productivity.

The one minor cause of the productivity slowdown was a reduction in the quality of natural resources used in production. This mainly showed up in mining (primarily coal) but also in agriculture. A further deterioration is projected, particularly if we become more dependent on domestic energy sources.

The only factor which contributed more to productivity growth for 1973 to 1978 than for 1948 to 1966 was the overall quality of labor, reflecting primarily greater average levels of education and training. The latter is projected to have the same impact on productivity over the next decade as it did for 1973 to 1978.

Kendrick's estimate of the effect of the changing demographic composition of the labor force differs somewhat from those of others. In his view, the reduced average experience level arising from the influx of women and baby-boom teenagers had its most severe impact (0.4 percent per year) during the 1966-73 period. For 1973 to 1978 this reduced the rate of labor productivity growth by only 0.2 percent per year, versus 0.1 percent over the 1948-66 period. This factor should become a net source of productivity growth as women and teenagers gain experience.

These data on the sources of productivity growth are not precise, but they are useful "order of magnitude" estimates. They do give us some guidance with regard to the policy areas which must be addressed to reverse our productivity slide over the long run.

TABLE II-2

ESTIMATED SOURCES OF GROWTH OF LABOR PRODUCTIVITY
(Average Annual Growth Rate)

	1948- 1966	1966- 1973	1973- 1978	'73-'78 less -48-'66	Projected 1980- 1990
Real Product Per Unit of Labor	3.5	2.1	1.1	-2.4	2.1
<u>Sources of Growth</u>					
Growth of Capital-Labor Ratio	0.7	0.5	0.3	-0.4	0.5
Advances of Knowledge:	1.4	1.1	0.8	-0.6	0.9
R&D Stock	0.85	0.75	0.6	-0.25	0.6
Informal Innovation	0.3	0.25	0.2	-0.1	0.2
Rate of Diffusion	0.25	0.1	0.0	-0.25	0.1
Changes in Labor Quality:	0.6	0.4	0.7	0.1	1.0
Education & Training	0.6	0.7	0.8	0.2	0.8
Health	0.1	0.1	0.1	0.0	0.1
Age/Sex Composition	-0.1	-0.4	-0.2	-0.1	0.1
Changes in Quality of Natural Resources	0.0	-0.1	-0.2	-0.2	-0.3
Resource Reallocations:	0.8	0.7	0.3	-0.5	0.3
Labor	0.4	0.2	0.1	-0.3	0.1
Capital	0.4	0.5	0.2	-0.2	0.2
Volume Changes:	0.4	0.2	-0.1	-0.5	0.4
Economies of Scale	0.4	0.3	0.2	-0.2	0.3
Intensity of Demand (Cyclical)	0.0	-0.1	-0.3	-0.3	0.1
Net Government Impact:	0.0	-0.1	-0.3	-0.3	-0.2
Services to Business	0.1	0.1	0.1	0.0	0.0
Regulations	-0.1	-0.2	-0.4	-0.3	-0.2
Actual/Potential Efficiency & Not Elsewhere Classified	-0.4	-0.6	-0.4	-0.0	-0.5

Source: John W. Kendrick, in American Enterprise Institute, Contemporary Economic Problems-1979, edited by William Fellner, forthcoming.

The Relationship Between Inflation and Productivity Growth

The relationship between productivity and inflation is double-edged. A slowed rate of productivity growth causes inflation to accelerate, and escalating prices depress productivity. As we detail below, even a marginal increase in the rate of productivity advance could bring about a significant slowdown in the rate of increase of prices.

The most obvious way in which reduced productivity growth increases inflation arises from the fact that in the long-run unit labor costs and the price level move virtually in tandem. Employee compensation accounts for more than 75 percent of national income, thus for the economy as a whole unit labor cost (labor cost per unit of output) is the most important component of total unit cost and average price. By definition, the percentage change in unit labor cost in any period is equal to the difference between the percentage change in average hourly compensation and the percentage change in output per hour. For any given rate of increase in average hourly compensation, each increase of 1 percentage point in productivity growth reduces by 1 percentage point the rates of increase in unit cost and inflation, barring major changes in profit margins or other costs. That is, productivity growth is the only way we can achieve growth in real compensation.

However, this mathematical identity understates the benefits from productivity growth because it ignores the dynamic feedback effects of today's inflation on tomorrow's wage settlements. Taking these into account, the impact on inflation of a sustained improvement of 1 percentage point

in the rate of productivity growth may be substantially greater than 1 percent.

This conclusion is extremely important, for we are all aware of how difficult it will be to reverse the decline in productivity growth. If a 1 percent increase in productivity led only to a 1 percent reduction in our Nation's ultimate inflation rate, policies designed to raise productivity would look less attractive than they actually are. For example, suppose that each increase of one percentage point in this year's inflation is reflected in an increase of 0.60 percent in next year's average hourly compensation. Then if an increase of 1 percentage point in productivity is maintained in each year of the 1980s, inflation will be reduced by:

- * 1.0 percent in 1980, the direct impact on prices of the 1980 productivity gain;
- * 1.6 percent in 1981: the direct impact of the 1.0 percent gain in 1981, plus the indirect feedback on 1981 wage settlements of 0.6 percent from the reduced inflation rate of 1980;
- * 1.96 percent in 1982: the direct impact of the 1.0 percent gain in 1982, plus the indirect feedback on wage settlements of .96 percent (0.6×1.6) from the 1981 inflation reduction; etc.

By 1985, the total reduction in the annual rate of inflation would be 2.38 percent; the long-run equilibrium reduction would amount to 2.50 percent. This example is hypothetical, but everyday observation and

the structures of several econometric models confirm the existence of these feedback effects of productivity gains. Unfortunately, this cumulative effect on inflation cuts in both directions: a reduction of 1 percentage point in the rate of productivity growth may lead to an increase in the rate of inflation of several percentage points. However, the example assumes workers do not adjust to inflationary expectations.

As discussed above, in the long run, increases in real hourly compensation can only arise from, and will closely parallel, increases in productivity. But this may not occur in the next few quarters. As shown in Table II-3, in the first quarter of 1979, productivity in the nonfinancial corporate sector decreased at an annual rate of 1.8 percent, but real hourly compensation nearly held even, decreasing at an annual rate of only 0.3 percent. This occurred because the gain in nominal hourly compensation of 11.3 percent combined with the productivity decrease to raise unit labor costs by 13.4 percent. But because unit nonlabor costs increased by only 6.8 percent, total unit cost rose by 11.7 percent; this combined with a decrease in unit profits of 22.1 percent to increase average prices by 7.6 percent (as measured by the GNP deflator - the Consumer Price Index rose by 11.0 percent).

These relationships may be reversed over the next few quarters. Due to the increase in energy prices, increases in unit nonlabor costs may outstrip the increases in unit labor costs, and unit profits may increase, or at least they will not continue to decline at the first quarter's rate. Thus a gain in productivity of at least 1 percent may be

necessary simply to keep real hourly compensation from falling.

The other side of this double-edged relation is the impact of inflation on productivity. We focus our attention on the effects of inflation in general and the effects of escalating energy prices in particular.

TABLE II-3

COMPENSATION, COSTS, AND PRODUCTIVITY
(Average Annual Rates of Increase for the
Nonfinancial Corporate Sector)

	1958- 1968	1968- 1973	1973- 1978	1978:4- 1979:1
(1) Nominal Hourly Compensation	4.1	6.5	8.9	11.3
(2) Productivity	3.3	1.9	1.5	-1.8
(3) Unit Labor Cost	0.8	4.5	7.3	13.4
(4) Unit Nonlabor Cost	0.7	5.8	7.0	6.8
(5) Total Unit Cost	0.8	4.9	7.2	11.7
(6) Unit Profits	2.8	-2.2	11.8	-22.1
(7) Implicit Price Deflator	1.1	4.0	7.6	7.6
(8) Consumer Price Index	1.7	4.9	7.7	11.0
(9) Real Hourly Compensation	2.3	1.6	1.2	0.3

Notes: (3) = (1) - (2)
 (5) = weighted average of (3) and (4), with weights based on the relative shares of labor cost and nonlabor cost in total cost
 (7) = weighted average of (5) and (6), with weights based on the relative shares of total cost and profit in total price
 (8) and (7) are both measures of inflation, but as indicated, the specific values of these two measures over any period
 (9) = (1) - (8)

Source: Bureau of Labor Statistics, based on trend lines. Relations may not hold exactly. Nonfinancial corporations account for approximately two-thirds of the private business sector.

With respect to inflation in general, inflation and the existing tax rules have combined to depress the rate of capital formation. Firms are allowed to depreciate their plant and equipment on an "historic cost" basis only, even though inflation raises their replacement costs. Also, at least some portion of inventory profits, if measured as the difference between the original and the replacement cost value of inventories, are illusory. For these two reasons, inflation automatically raises the effective tax rate on corporate income. One estimate is that understatement of depreciation allowances and inventory replacement costs raised the tax burden on the income of nonfinancial corporations by more than \$30 billion in 1977, the most recent year for which detailed data are available, representing a 50 percent increase in the total tax paid.

Personal saving is a major source of funds for investment and productivity increases. Unfortunately, inflation reduces the incentive to save. Small savers, in particular, have difficulty in finding safe investments with rates of return high enough to compensate for inflation. When interest rates are less than the inflation rate, the interest is insufficient to offset the loss in purchasing power of the principle. The saver has a negative real rate of return to start with and then must pay taxes on the interest. This problem is made worse as inflation forces taxpayers into higher brackets.

With respect to the effects of higher energy prices, the four fold increase in petroleum prices in 1973 to 1974 may have been a contributor to our most recent productivity slowdown. If this past

experience serves as a guide to the future, the rapid escalation of energy prices this year, in combination with further prospective rapid increases in the future, may imply continued sluggish productivity growth.

Economists have traditionally stressed the importance of the capital-labor ratio as a determinant of labor productivity. Higher energy prices influence that ratio. On the one hand, higher energy prices encourage capital spending on more fuel-efficient equipment. On the other hand, higher energy prices reduce the effective capital stock by making the most energy-inefficient equipment obsolete. Some recent analysis suggests that in the short run the latter effect predominates, although the magnitude of the effect is unclear. Productivity growth began slowing down before the energy crisis occurred.

The Short-Term Outlook for Productivity and Unit Labor Costs

The short-term outlook for productivity growth is unfavorable for two reasons: the recent low trend rate of productivity growth and the cyclical performance of productivity. In the early stages of an economic slowdown management is hesitant to make major cutbacks in labor, and labor overhead is spread over fewer units of production; thus, the rate of increase in productivity falls, or the level may actually decrease. This offsets partially or even fully any slowdown in the rate of increase in hourly compensation that occurs during a recession. This offset has been especially significant in the past two recessions. If this pattern should hold today, the effects on inflation of a recession would be minimal.

There is no quick fix for our productivity problem. That is something we need to keep uppermost in our minds as we wrestle with the economic problems confronting our country. Testifying before our Committee during the Midyear hearings, Barry Bosworth, Director of the Council on Wage and Price Stability, said:

In the long run, the control of inflation requires that the vulnerability of the economy to extraneous shocks be reduced. This could be brought about, in part, by a resurgence of productivity growth. Thus, as we grapple with the immediate problem of preventing the food and fuel price increases from spreading throughout the remainder of the economy, we should not lose track of a fundamental long-term malady -- slow productivity growth. We must redouble our efforts to revive the growth in productivity.

ADDITIONAL VIEWS OF
REPRESENTATIVE PARREN J. MITCHELL

The Congressional Budget Office, the Federal Reserve Board, the Council of Economic Advisers, and the President's Subcabinet Economic Task Force, all with minor variation in their projections, have informed us that the economy is currently moving into recession which should peak by late 1980. The leading indicator of recession, Black unemployment, was currently 12 percent but by their projections is expected to rise to 17 percent by late 1980. Black youth unemployment has remained above 30 percent for a decade and most certainly will increase as the aggregate rate of unemployment approaches the mystical 5 percent level and the mechanisms of targeted high unemployment are used to combat exogenously induced inflation.

The Joint Economic Committee's Midyear Report does not go far enough in analyzing the problem of unemployment. In acknowledging that inflation, productivity, and capital formation are factors contributing to no-growth economics, the Report understates the problems of labor surplus and low labor skill levels as factors of no-growth economics.

The Report states that inflation and the existing tax laws have combined to depress the rate of capital formation because firms are allowed to invest on an "historic cost" basis only. It is not clear that cost accounting has that relationship with capital

formation. The Congress has voted tax expenditure policy that affords business repeated acceleration of the rate of depreciation. For example, we have shortened depreciated tax lives as in the asset depreciation range, permitted more rapid early recovery with additional first-year depreciation, provided specific industry and investment depreciation, and voted a sundry of tax expenditures in an attempt to encourage investment. Also, it is fact that the provisions of sum-of-years rapid depreciation and double-declining balance methods have most often been substituted for the straight line depreciation. Consequently, we have made provisions for inflation's impact on business much more so than the provisions we have made on inflation's impact on the people of this country.

A concern of the Report is inflation's impact on the value of inventories. Higher valuation of inventories effectively imposes a tap on the existing inventories. I do not identify higher valuation complemented with higher prices as a deterrent to capital formation. Business investment for new capital is derived from anticipated profits or minimum losses associated with their output not corporate tax rate. Even the most advantageous profit-oriented tax expenditure will not create an unprofitable new investment. Reliance Electric is but one of the recent investments of the oil companies from their "windfall profits." Diversification rather than less profitable new investment for exploration, despite the tax expenditure, was the decision of the major oil companies. Consequently, the rate of corporate or business income tax does not, in itself, directly affect the rate of business investment.

The evolution of the U.S. economy has understandably always had a capital intensive bias. From the early settlement period, the economy had ample land, less labor, and very little capital. Under those circumstances a capital intensive growth pattern emerged. However, at a period in our economy when we experience labor surplus and 70 percent of the \$17.2 billion investment tax credit is claimed by corporations with assets greater than \$250 million thus revealing the realization of a dichotomized economic structure that depicts high wage, capital intensive, large asset structured firms versus low wage, labor intensive, low asset structured firms, it is eminently clear that "a careful re-evaluation is in order."

In discussing the effects of energy prices on the capital labor ratio, it is apparent that increased energy prices will render the older, less efficient capital equipment obsolete and cause plant shutdowns during economic downturn. This obsolescence will again target unemployment to the older central city regions of the Northeast and Mid-Atlantic corridor. In doing so, again, a disproportionate number of Black workers will be victimized in the short run. As energy prices increase, energy as a resource input will at some point make energy consuming capital more costly and thus render highly productive labor a more viable input. It is possible that in the long run a resource input as energy will cause shifts from a capital intensive economic structure to a more labor intensive economic structure? Perhaps at that point the economic focus will shift to labor productivity, training, education programs, and skill development.

The factors that have contributed to the recessionary trend have impacted more

severely in the small business sector. Inflation, energy prices, and the reduction in consumer spending have served to curtail the participation of small businesses in the economic mainstream. Because they traditionally have been labor intensive, more service-oriented businesses, the tax advantages designed to encourage capital formation are not beneficial to their growth patterns. Businesses owned by Blacks, Hispanics, other racial minorities, and women seem to generate even less concern in the Congress and the Administration when discussing the mode to economic growth. The demise of this sub-sector is the leading indicator for business downturn and the lagging indicator for economic growth. During growth their existence and participation is promulgated as exemplification of a free market economy. However, during downturn their role and sometimes existence is overlooked. A more active participation of the small business sector in the economy is clearly an alternative to the recurring economic problems generated by the structural inefficiencies and capital formation.

I commend the Joint Economic Committee staff estimates on fiscal drag, yet I question procedures to combat the effects of fiscal drag in an expressed posture of conserving fiscal restraint. Tax policy to include additional targeted tax expenditures dictate revenue reductions. A 1.0 percent increase in unemployment cost the Federal budget between \$16 and \$18 billion. Federal program stimulus to include targeted employment programs increase discretionary spending. At the same time, 30 percent of the budget which is inflation indexed modified will raise the uncontrollable spending level. How do we combat fiscal drag

without additional Federal spending and lost revenues? With an estimated \$50 billion in fiscal drag projected for 1979, what are the order and magnitude of the policies necessary to combat that deficiency? I anticipate that \$35 billion of additional stimulus will be needed. Of that stimulus, \$10 billion should be allocated to targeted Federal spending, while \$25 billion should be allocated for social security rollback, employment tax credits, R&D expenditures, targeted tax relief to small businesses, and investment tax credits.

In conclusion, let me state that I agree with the acknowledged probability of recession. However, let me supplement that by noting that the small business community in general, and Blacks, Hispanics, other racial minorities, and women who own businesses in specific, have been in a depression for nearly four years. A projection of a mild recession translates into deeper depression in the Black community. Where are the economic policies designed to assist the victims of the last-hired, first-fired cyclical variation of the economy? What do we do to negate the fact that Black teenage unemployment has not been below 30 percent for the last ten years? We must refocus our economic system to reflect the needs of people. We must channel Federal resources to meet the needs of the working poor, the unemployed, and the elderly. The economic policy of the Committee provides more options because it stimulates or encourages the private market, while it is quite often the only assistance for those with no options.

THE U.S. ECONOMY IN THE 1980s

I. INTRODUCTION

The purpose of this study is to demonstrate how the economy might look in the next decade under varying sets of assumptions and how changes in one or more economic factors influence the overall results. Of course, no one can accurately predict the future. The study therefore consists of projections under various assumptions rather than forecasts. The difference is important to note because an economic forecast is a prediction of what is to occur. Normally forecasts are made for a period only of a year or so into the future because it is recognized that the period beyond that time is too uncertain and can be influenced by too many unknown factors to be predictable. The projections in the study are thus not predictions of what will probably occur but rather informed judgments of what will occur under certain assumptions. Obviously, assumptions different from those used in this study would produce different results.

The assumptions were arranged into three categories: (1) a baseline case, (2) a pessimistic case, and (3) an optimistic case. Each is analyzed with respect to the specific assumptions in that case. As an aid in the analysis, the staff employed the econometric model of the U.S. economy of Data Resources, Inc. (DRI). The model made possible innumerable calculations of future trends based on the complicated interactions that occur when the trends are varied in accordance with the different assumptions. However, for the most part, the model is

based on the results of past experiences and is unable to incorporate or accommodate significant changes in the interrelationships of economic forces that may result from new patterns of behavior. For this reason, the analysis was not based solely on the model but includes calculations, assessments, and judgments that go beyond econometric modeling.

The analysis does not contain prescriptions or policy recommendations. Instead, it is an objective examination of three possible future economic scenarios for the 1980s. Nevertheless, as will become apparent, the projections presented here have very serious implications for the future conduct of economic policy.

The starting point for the analysis is the baseline case. This is a trendline ten-year projection based on the past long-term trend rate of growth in the U.S. economy. That is, the fundamental assumption in the baseline case is that growth in the economy will continue to slow down as it has in the past. The assumption that growth will average slightly below the past long-term trend rate does not preclude annual variations above or below that rate. But it does assume that, on average, the rate will be a little above 3.0 percent per year. Similarly, other assumptions were made in the baseline case in the areas of productivity, the labor force, energy, and inflation based on the trends of the 1970s.

In the energy area, it was assumed that the price of crude oil will be decontrolled gradually, and that U.S. prices will reach the world level by 1981. It was also assumed that energy prices will increase an average of 10.5 percent annually, in nominal terms,

and that there will be no supply interruptions.

The energy assumption in the baseline case illustrates the importance of understanding the relationship of the results of the analysis to the underlying assumptions in each of the three cases. Obviously, a change in the energy assumptions will profoundly affect projections about the future. But the baseline case shows what the results will be for the economy if prices are increased by 10.5 percent annually, and if there are no supply interruptions.

There are some very serious implications for economic policy in this baseline case. If the long-term trend is continued into the next decade, and assuming some rather favorable developments such as the absence of any oil supply disruptions, unemployment will still be hovering at about 5 percent at the end of the decade, and the Consumer Price Index (CPI) will be increasing at an annual rate of somewhere between 5.5 and 6 percent.

The projections in the pessimistic case are based on different energy assumptions, namely that there will be no growth in oil consumption in the 1980s and that there will be higher petroleum price increases than in the baseline case.

Based on other pessimistic assumptions, the analysis shows that the average annual growth rate could drop to as low as 1.5 percent in the second half of the decade, that the unemployment rate could be around 7 percent, and that inflation could still be in the double-digit zone. One example of the erosion of the standard of living that occurs in the pessimistic case is the fact that the costs of private homes rise relative to the

median family income and become significantly less affordable than at present.

The optimistic case assumes a substantial increase in the rate of capital formation, a substantial upgrading in the skills of the structurally unemployed, improved productivity growth, and a sharp reduction in our dependence upon foreign oil. Under these assumptions the growth rate is significantly higher than the current long-term trend, inflation is reduced to 5 percent or less, and unemployment declines to about 4 percent.

II. THE OUTLOOK FOR THE 1980s

In this section of the staff analysis we present our numerical estimates of the outlook for the 1980s for each of the three scenarios described in Chapter I -- the baseline case, the pessimistic case, and the optimistic case. The assumptions underlying each of these scenarios are explicitly set forth and their consequences analyzed. Detailed discussions of the reasoning behind many of these assumptions are contained in the individual chapters that follow this one.

The DRI model was found to be especially useful in the analysis of the baseline and pessimistic cases, but it was of only limited use in the analysis of the optimistic scenario. In the latter instance, we had to go beyond the DRI model and employ other modes of analysis. The reason for these differences of approach is that the assumptions employed in the baseline and pessimistic cases fall within a "reasonable" range of past developments on the basis of which the relationships internal to the model were estimated; the assumptions used in the optimistic scenario were largely outside the range of experience of the economy in the past and therefore beyond the scope of the model itself.

In line with the different methods of analysis used in our examination of the three scenarios, we proceed, first, to present the results for the baseline and pessimistic scenarios, and then we turn to the optimistic case.

Baseline and Pessimistic Outlook for the 1980s

Like other large-scale econometric models, the current DRI model is ill-equipped to handle the complex set of relationships that determine the supply side of the economy. As a consequence, we cannot use the model to generate a growth path for our potential GNP. We must, therefore, look outside the model for guidance in making a realistic assessment of our potential GNP prospects for the decade ahead. Once we arrive at a projection for our potential GNP growth path, we can use it for the purpose of establishing the upper growth path limits of the model, and therefore of the economy itself.

Because the growth rate of potential GNP can be calculated as the simple sum of the growth rates of (a) the labor force, (b) productivity (defined as output per hour of work), and (c) hours worked, we need to make projections for each of these three series. With respect to labor force growth, we based our analysis on two different labor force growth paths -- the high and the low-growth paths currently projected by the Bureau of Labor Statistics. The high-growth path assumes an average labor force growth of 2.3 percent per year for the period from 1979 to 1984, and an average annual growth rate of 1.4 percent for the remainder of the decade; the low-growth path assumes an annual average growth rate of 1.9 percent from 1979 to 1984, and an annual average growth of 1.1 percent thereafter. The differences in these growth paths arise largely out of differences in the projected paths of labor force participation rates within the economy. Thus, a continuation of the past five-year trend in the labor force participation rates of particular groups, most notably women, would

imply a relatively rapid rate of increase in the growth of the labor force during the decade of the 1980s; a leveling off of labor force participation rates would imply a decidedly lower rate of growth of the labor force.

Despite the marked differences between these two labor force growth paths, both assume a sharp increase in the size of the labor force aged 25 to 44, a decline in the size of the youth labor force, and a significant increase in the number and relative importance of women in the labor force. Additionally, both paths imply that labor force growth will be more rapid in the first half of the decade than the second half. These similarities are largely the by-product of past relatively slow rates of population growth and projected further slow rates of growth in the 1980s. Thus, through the first half of the 1980s, there will be little or no change in the size of the teenage labor force but a marked increase in the labor force group aged 25 to 44, the result of the post-World War II "baby boom." Following 1985, the teenage labor force will decline in size, and since virtually the entire baby boom generation will be in the 25 to 44 age group, the population influence on labor force growth will fall off sharply. Even in the high labor force growth projection, the assumed high increase in the labor force participation rate is not sufficient to offset the slower growth in the working age population. The specific sources of the differences between the high and the low labor force growth paths can be summarized as follows: for the high labor force growth path, it is assumed that female labor force participation rates will continue to rise sharply; that the falloff in the participation rates of white males in the 25

to 44 age group will come to a halt and either remain stable or rise slightly; that nonwhite males will experience an increase in their participation rates; that teenage participation rates will continue to rise sharply; and that the participation rates of persons over the age of 65 will not decline further, the result of modifications in rules affecting the mandatory retirement age. For the low-growth labor force path, on the other hand, it is assumed that the growth of female labor force participation rates will slow dramatically, the result of a reversal in the fertility rates of those of childbearing age; that the participation rates of white males aged 25 to 44 will continue to drift downward slightly; that nonwhite males will experience very little increase in their participation rates; that teenage participation rates will rise at a relatively slower pace; and that the participation rates of persons over the age of 65 will decline at roughly the pace of the 1970s.

We turn next to a consideration of our productivity growth potential for the 1980s. We approach this issue with caution, and for good reason. In the first place, the wide variations in productivity growth rates reported since 1973, and our inability to measure the rate precisely, make any projections difficult. Secondly, there is good reason to believe that our future productivity growth potential will be different depending on the future path of U.S. labor force growth. The reason for this dependency is reasonably straightforward. Statistically, there is a relatively close and direct long-run relationship between productivity growth and the growth of the capital-labor ratio: The higher the growth of the capital-labor ratio, the greater is the growth of productivity.

It should be understood that the high labor force growth path projected in this study will not necessarily be accompanied by a corresponding increase in the rate of capital formation. In the absence of increases in capital formation during periods of rapid labor force growth, the future growth of productivity will be inversely related to labor force growth: a high labor force growth path will be associated with a lower productivity growth path, and conversely. Additionally, insofar as a high rate of growth of the labor force results in a slower improvement in labor quality over time -- due in large measure to the fact that the labor force at any point in time will be somewhat younger, and less well educated and trained -- productivity growth will suffer on this account.

In using the DRI model, we explored two possible productivity growth paths. For each path it was assumed that productivity growth in the latter half of the decade will be more rapid than the first half, reflecting the influence of two forces: (1) as the work force ages and becomes more experienced, it will also become more productive; (2) as labor force growth slows in the second half of the decade, capital will grow relative to labor.

The assumed high-growth path projects a rate of productivity growth of 2.1 percent per year for the period 1979 to 1984 and 2.4 percent for the period 1985 to 1990; the low-growth path assumes a growth rate of 1.5 percent per year for 1979-84 and 2.0 percent for 1985-90. The detailed differences between these two growth paths are summarized in Table II-1. As is apparent, the discrepancies between the two productivity growth paths arise solely because of

differences in the growth of the capital-labor ratio and the rate of improvement in labor quality. The source of these discrepancies can be attributed to the differences assumed earlier in the possible paths of labor force growth.

TABLE II-1

ESTIMATED SOURCES OF LABOR PRODUCTIVITY GROWTH
(Average Annual Rates of Growth)

	High-Growth Path		Low-Growth Path	
	1979-84	1985-90	1979-84	1985-90
Productivity Growth Rate of Growth of (Output per hour of Work)	2.1	2.4	1.5	2.0
<u>Sources of Growth</u>				
Growth of Capital- Labor Ratio	0.5	0.6	0.2	0.4
Advances in Knowledge	0.9	0.9	0.9	0.9
Changes in Labor Quality	1.0	1.2	0.7	1.0
Other*	-0.3	-0.3	-0.3	-0.3

* "Other" category includes changes in the quality of natural resources, economies of scale, and governmental regulations.

source: Joint Economic Committee Staff estimates.

It is possible to achieve greater gains in productivity than are indicated by the model. Both productivity growth paths shown above were derived on the assumption that no new policy initiatives would be taken by Government in the decade of the 1980s for the purpose of raising productivity growth. In our view, it is possible to enhance dramatically our potential GNP growth prospects in the coming decade with a carefully designed program aimed at promoting capital spending and upgrading worker skills. Not only would such an approach raise productivity growth, and therewith our GNP potential, but it would also bring about further improvements in the areas of inflation, employment, and our balance of payments. These outcomes are reflected in our optimistic scenario to be discussed below.

In accordance with past trends, we assume in this study that hours worked will continue to decline at the rate of 0.5 percent per year through the decade of the 1980s. This assumption appears to be noncontroversial.

By summing together these projections of labor force growth, of productivity, and of hours worked, we arrive at our estimate of the potential GNP growth path. Because of the fact that we have assumed two different growth paths each for the labor force and productivity, it would appear that there are several possible GNP paths corresponding to the possible pairwise combinations of the assumed high- and low-growth paths for these two variables. Actually, there is only one potential GNP growth path projected here. For simplicity we assume the proposition that the high productivity growth path is most likely to be associated with the low labor force growth path (and conversely), causing

changes in labor force growth to be largely offset by changes in productivity growth yielding a potential GNP growth rate that is approximately the same for either set of pairwise combinations. This is made clear from the following calculations.

1979 to 1985	1985 to 1990	
2.3%	1.4%	Labor force growth (high)
+ 1.5	+ 2.0	Productivity growth (low)
- 0.5	- 0.5	Percent decline in hours worked
<u>3.3%</u>	<u>2.9%</u>	Potential GNP Growth Rate

1.9%	1.1%	Labor force growth (low)
+ 2.1	+ 2.4	Productivity growth (high)
- 0.5	- 0.5	Percent decline in hours worked
<u>3.5%</u>	<u>3.0%</u>	Potential GNP Growth Rate

The Baseline Case

In this projection we make the following assumptions: (1) a reversal of our productivity slowdown so that productivity in the 1980s advances at a rate substantially in excess of the rates registered in the past few years, though at rates somewhat less than those witnessed in the 1960s and early 1970s; (2) no energy supply interruptions and energy prices increase at a rate only moderately more rapid than the overall inflation rate; (3) actual growth in the economy over the entire decade of the 1980s closely paralleling the trend rate of growth of our potential GNP; (4) moderate food price increases relative to the overall rate of inflation; and (5) a fairly rapid rise in exports in real terms. It should be apparent that although even more optimistic assumptions can be made, as we do below, the assumptions in this baseline projection are relatively optimistic.

As a starting point for this scenario, we assume that our potential GNP will grow at an annual rate of 3.4 percent from 1979 to 1984 and at 3.0 percent from 1985 to 1990.

Policy Assumptions. Having determined our GNP potential for the 1980s, it is now necessary to set forth the policy assumptions that underlie our projections. These assumptions are not policy recommendations; they represent simply our assumptions respecting possible future policy actions.

Tax Policy. Personal income taxes are assumed to be reduced periodically for the purpose of offsetting the increased revenues caused by the fact that inflation pushes taxpayers into higher and higher tax brackets. This assumption is consistent with the pattern of tax reductions enacted in recent years. No other personal income tax changes are assumed. Additionally, since corporations normally get some kind of tax relief along with individuals, we have assumed that the statutory corporate profits tax rate is reduced in 1981 to 45 percent and remains at that level throughout the remainder of the 1980s. With respect to social security taxes, we have assumed that the currently scheduled increases will take effect as planned.

Government Expenditures. Given current sentiments against an enlarged governmental sector, we do not think it is reasonable to expect that government spending for social services will continue to expand as it did in the late 1960s and early 1970s. Further, since the trend projection used in this study moves the economy toward and along our long-term potential growth path, there is no cyclical expenditure growth such as that which occurred as a result of the 1973-75 recession. Thus, for our purposes, we assume that defense plus nondefense spending will grow in real terms at a rate of approximately 1.5 percent per year, with defense expenditures growing slightly more rapidly than nondefense expenditures. Governmental transfers are assumed to grow in real terms at about 4.5 percent per year, consistent with current population trends and current governmental commitments.

Monetary Policy. It is always difficult to foresee Federal Reserve actions. In this study we assume that the Federal Reserve will pursue a stable path of credit growth that will accommodate the GNP growth described earlier without stimulating or restraining it.

Energy. In this study, we have assumed that crude oil prices will be decontrolled over the next few years in line with President Carter's decontrol decision and that U.S. oil prices will reach the world price level by 1981. We have also assumed that the domestic price of oil will increase on average at the rate of 10.5 percent per year with no supply interruptions. Both of these assumptions are consistent with the attainment of the potential GNP growth path projected here.

Food. Food prices depend on governmental policy, foreign demand, and natural events, making any assumption about food prices highly arbitrary. In this study, we have

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TABLE II-2

SUMMARY FOR U.S. ECONOMY: BASELINE CASE

	1980- 1984	1985- 1989
Real GNP (average annual growth rate)	3.6	5.1
Unemployment Rate	6.7	3.5
Consumer Price Index (average annual growth rate)	6.7	5.7
Real Growth in Nonresidential Fixed Investment	4.4	5.2
Real Growth in Total Consumption	3.6	3.6
Average Interest Rate (prime)	10.0	8.1
Real Disposable Income (percent change)	3.6	3.4

As shown by the summary statistics in Table II-2, the economy which results from the combination of these assumptions is reasonably favorable. When viewed in terms of our current economic conditions, real GNP grows about 3.5 percent yearly, and unemployment declines steadily from an average of 6.7 percent in the first half of the decade to 5.1 percent in the last half.

At the same time, the rate of inflation slows during the first half of the decade and remains fairly stable at a 5.7 percent average annual rate of increase in the last half of the decade. While the pattern of a gradual slowdown is encouraging in the early part of the projection, the fact that inflation seems to stabilize at such a high rate is very disappointing. This behavior is the result of a wage-price spiral which feeds on itself. After the initial years when the various price shocks of the past are working their way through the system, the economy settles down to a fairly stable path where inflation is determined largely by wage increases. Since wage increases are determined by past price increases and expected future increases -- both of which are high -- the spiral continues at a high level.

The other measures of economic performance shown in Table II-2 are in line with the basic growth and inflation trends. Real disposable income grows at about the same rate as real GNP since we assumed the fiscal drag of the tax system was eliminated. Interest rates decline as the inflation rate declines and stabilizes. The share of investment in the total economy rises gradually throughout the period.

The Pessimistic Case

In this scenario we assume a worsening energy picture, higher food prices, and slower export growth. Total domestic oil consumption is held at 19 million barrels per day throughout the entire decade of the 1980s. This rate of consumption represents 2 million barrels per day less by 1990 than in our baseline case. It is assumed that the price of imported oil will rise at a rate approximately 20 percent per year faster than the general inflation rate. Since domestic oil prices are decontrolled completely in 1981, this means that domestic energy prices also rise very rapidly.

It is also assumed that wholesale farm prices rise at an average annual rate of 7 to 7.5 percent in contrast to the 6 to 6.5 percent rate of increase assumed in the optimistic scenario. Finally, it is assumed that real exports grow at a rate that is approximately 1 percent less than the rate implied in the baseline outlook (4 percent as opposed to 5 percent).

The combination of all of these forces -- reduced energy consumption, higher energy prices, higher food prices and slower export growth -- it is assumed here, leads to a slower growth in our potential GNP. For the period from 1979-84, potential GNP is assumed to grow at an average rate of 2.5 percent per year; it falls to 2 percent per year in the latter half of the decade. All other assumptions are the same as those used in the baseline scenario.

The details of this pessimistic projection are set forth in Table II-3.

Not surprisingly, real economic growth is dramatically slower than in the optimistic scenario, and inflation is substantially higher. Unemployment remains near 7 percent throughout the period and would rise still higher if growth in the labor force did not slow dramatically in the second half of the decade.

The harmful effect of the extremely high rate of inflation is seen in the business investment statistics. In real terms, nonresidential fixed investment declines in the last half of the decade. As a share of total GNP, it declines dramatically.

The interest rate figures shown in Table II-2 appear unusual in light of the inflation figures. This is because monetary policy has not been tightened in response to the higher inflation rates. It could be argued that the higher inflation would be accompanied by tighter monetary policy and higher interest rates. This would reduce GNP growth even further by reducing investment, especially residential investment. On the other hand, the lack of a policy response to protracted high and rising inflation could lead to a decline in the exchange rate of the dollar and additional inflationary pressures.

TABLE II-3
SUMMARY FOR U.S. ECONOMY:
PESSIMISTIC CASE

	1980- 1984	1985- 1989
Real GNP (average annual growth rate)	2.7	1.5
Unemployment Rate	6.8	6.9
Consumer Price Index (average annual growth rate)	8.7	9.6
Real Growth in Nonresidential Fixed Investment	1.6	-2.5
Real Growth in Total Consumption	2.9	1.6
Average Interest Rate (prime)	10.8	8.9
Real Disposable Income (percent change)	2.7	1.2

The Optimistic Scenario

The outlook even in the baseline case is somewhat disappointing. In the baseline case, the unemployment and inflation goals mandated by the Humphrey-Hawkins Full Employment and Balanced Growth Act of 1978 are not realized as the unemployment rate is projected at just under 5 percent and inflation at about 6 percent in 1989; there is a continued heavy dependence on imported oil; and the state of the housing industry -- as measured by housing starts -- is not much improved over its performance in 1978 despite a larger population with greater housing needs.

A truly optimistic scenario, involving a decidedly better performance in all of these areas -- unemployment, inflation, housing, and energy -- is conceivable under the following assumptions: first, a substantial increase in the rate of capital formation; second, a substantial upgrading in the skills of disadvantaged, unskilled structurally unemployed persons. These assumptions produce an increase in the Nation's productive capacity through an expanded base of capital resources and make possible a reduction in unemployment.

A third assumption in our optimistic case is that the United States sharply reduces its dependence on foreign oil through conservation and by developing and producing alternative sources such as new domestic oil and gas, synfuels, and solar energy.

A sharp rise in investment spending as a percent of GNP can be achieved in several ways, including tax changes that enhance business incentives to invest. This will result in a rise in the capital-labor ratio

and would contribute to greater productivity. In addition, labor productivity can be improved through the implementation of new targeted structural unemployment programs that raise the level of skills among unskilled and semiskilled workers. One effect of the enhancement of worker skills will be to alleviate some of the labor market pressures that have contributed to high and rising inflation rates. The expanded productive potential and productivity gains made possible under the assumptions made in the optimistic case will increase the growth rate, help to bring inflation to 5 percent or less in the next decade, reduce unemployment close to the 4 percent unemployment target, and boost our competitive ability in world markets.

All of these optimistic assumptions also result in a sharp improvement in housing in the 1980s. The housing outlook is further improved in the optimistic case as a result of the assumed increase in the use of variable rate mortgages (VRM) and the elimination of a number of wasteful and duplicative housing regulations.

III. INFLATION

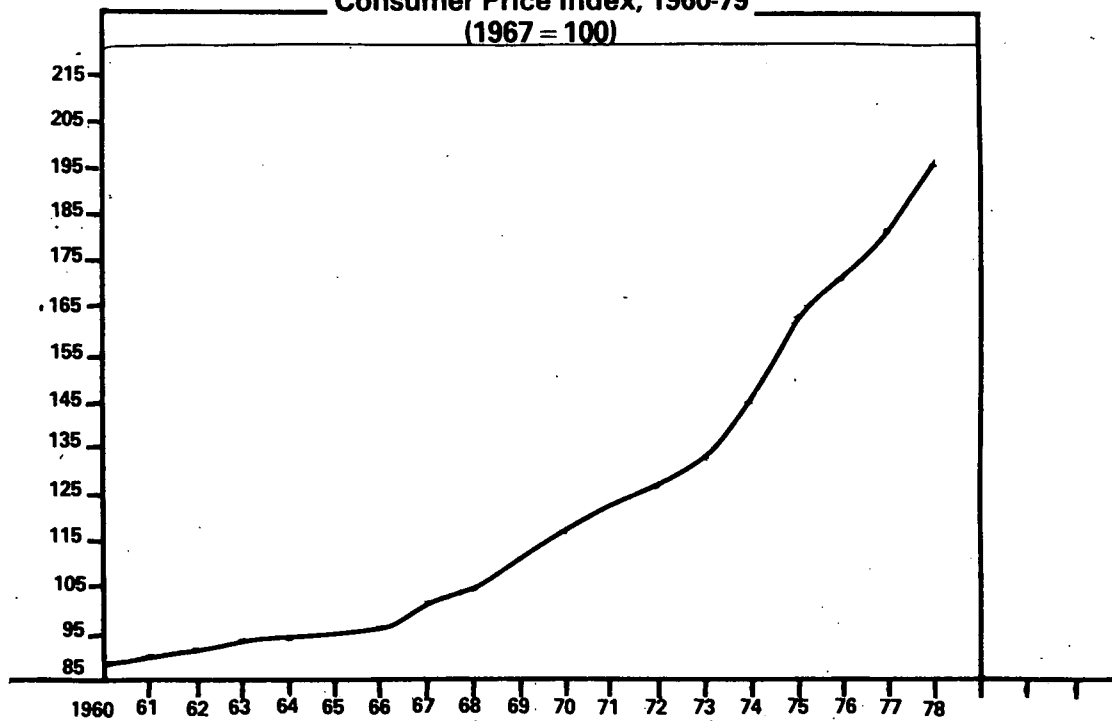
Review

The roots of the current inflation go back to the mid-1960s. Although the economy contained a significant amount of slack during the early 1960s, the Kennedy-Johnson growth policies successfully erased most of the slack by mid-decade. But stepped-up government spending created more demand during the last half of the 1960s than the productive capacity of the economy could accommodate. As a result, prices -- which had been virtually level during the first half of the decade -- began to rise (see Chart III-1). By 1969 the inflation rate hit 5 percent per year.

The policy response of both the outgoing Johnson Administration and the incoming Nixon Administration was to cool the economy. Fiscal restraint was imposed through a 10 percent income tax surcharge and through spending slowdowns that turned the Federal budget from an \$12.2 billion deficit in fiscal 1968 to a \$5.4 billion surplus in fiscal 1969, both measured on a National Income Accounts basis. Monetary policy also became more restrictive in 1969, causing high interest rates and a downturn in housing starts. The result was the first recession in more than nine years. Unemployment shot up from an average 3.5 percent in 1969 to 5.9 percent in 1971, and real GNP fell for the first time since 1960.

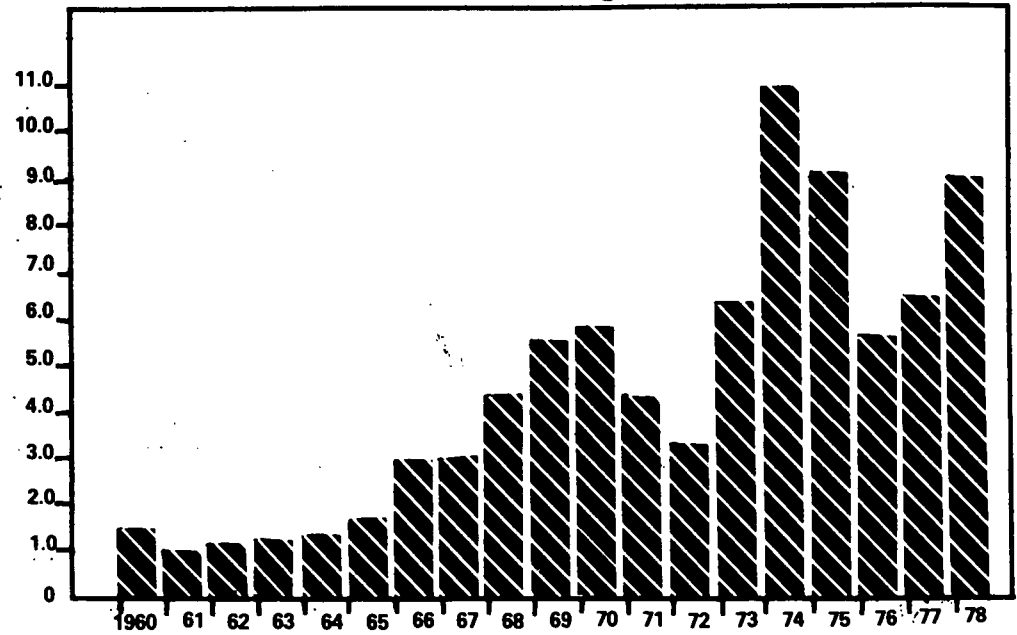
CHART III - 1a

Consumer Price Index, 1960-79
(1967 = 100)



Source: U.S. Department of Labor, Bureau of Labor Statistics

CHART III - 1b
Percent Change in Consumer Price Index, 1960-79
(annual average)



Source: U.S. Department of Labor, Bureau of Labor Statistics

But inflation scarcely budged. In fact, the implicit price deflator for gross national product actually rose faster during the recession year of 1970 than it had during any of the boom years of the 1960s, including 1969. This was quite unexpected as it was widely believed that because the inflation was the result of excess demand it would evaporate as demand eased. But the previous years of large price increases had generated strong cost-push inflationary pressures as workers sought to restore real income declines. Hourly compensation rose, but productivity growth declined sharply. Consequently, unit labor costs increased substantially faster than before, putting upward pressures on prices even as unemployment grew.

The disappointment with conventional anti-inflation policies led the Nixon Administration to impose wage and price controls in August 1971. For a while, especially during 1972, inflation slowed. But instead of combining the controls with other policies to moderate inflation, the Administration and the Federal Reserve used the controls period to pursue expansionary fiscal and monetary policies, thus generating added inflationary pressures. Prices began to mount in uncontrolled sectors (primarily food and fuel). Various groups vigorously opposed the continuation of controls, on the grounds that they were being enforced capriciously and unfairly. The buildup of inflationary pressures in the economy made administration of the controls increasingly difficult, and the controls program was phased out beginning in 1973.

By 1974 inflation had regained its vigor, as Chart III-1 shows, with the Consumer Price Index rising at a double-digit rate for the

first time since the late 1940s. Although some of the acceleration of inflation could be attributed to excess demand pressures and the aftermath of the controls program, much came from special circumstances, such as the 14.5 percent rise in food prices that occurred in both 1973 and 1974 and the fourfold increase in petroleum prices following the 1973 OPEC embargo.

During the period of recovery from the 1973-75 recession, even with the economy experiencing significant slack, prices continued to rise. The exceptionally high unemployment rates that existed after the recession made the use of restrictive monetary and fiscal policies undesirable. In 1976, the Consumer Price Index rose 5.8 percent, but expansionary policies dating back to 1975, a slowdown in productivity growth, and a new round of OPEC price increases helped bring the inflation rate back to double-digit levels by early 1979.

Thus, while the roots of our inflation problem go back to the mid-1960s, a combination of special circumstances and policy measures have contributed to persistent inflation during the 1970s, even in the midst of major recessions.

Framework for Analyzing Inflation

A framework for analyzing and measuring the major sources of inflation was recently developed by Harvard Professor Otto Eckstein and presented to the Joint Economic Committee during an April 30, 1979, hearing. Eckstein disaggregates the rate of inflation during any period into three components: the demand rate of inflation, the shock rate, and the

core rate. Within this framework, the causes of inflation include:

(1) government monetary and fiscal policies, which determine the demand component of the inflation rate;

(2) exogenous factors, such as changes in OPEC petroleum prices or increases in payroll taxes, which contribute to the shock rate of inflation; and

(3) inflationary expectations, which determine the core or underlying rate of inflation by affecting unit labor costs.

This grouping is a useful way of looking at the problem of inflation. Inflation can initially be the result either of stimulative demand policies or of exogenous shocks. If inflation from either of these sources proves to be strong enough or lasts long enough, an inflationary spiral will begin as businesses and workers undertake measures to protect their real incomes. Unless strong actions are undertaken early to reduce the inflation rate, inflationary expectations can be built up that reflect both the inflation of the recent past as well as judgments about further government policies. On the basis of these expectations, workers demand nominal wage increases that meet or exceed expected price increases, thus increasing unit labor costs. The effect of the added costs on prices will depend on the growth of labor productivity. With no productivity improvements, prices move up together with wages, and workers find themselves no better off, thus touching off another round of increased wage demands. The mathematical relationship between the rate of wage and productivity increases largely determines the core rate of inflation.

The history of these three components of inflation during the past two decades is shown in Charts III-2, III-3, III-4, and III-5, which were prepared from the DRI forecasting model. These graphs confirm in broad outline the previous narrative history of inflation. Through the mid-sixties, the graphs show that the core rate of inflation was essentially zero, and both demand and shock sources of inflation were virtually nonexistent. During the last half of the 1960s, demand-induced inflation built up. The core inflation rate turned upward shortly after. The 1969 recession reduced the demand component to zero, and the core rate turned downward. But the food and fuel price shocks, combined with expansionary policies during the period from 1972-74, once again contributed to an increase in the core rate. This was tempered only slightly by the sharp drop in demand during the 1973-75 recession. As Charts III-4 and III-5 show, shocks continued to be a factor throughout the last few years and demand inflation once again threatens.

CHART III - 2
The Core Rate of Inflation (Percent)

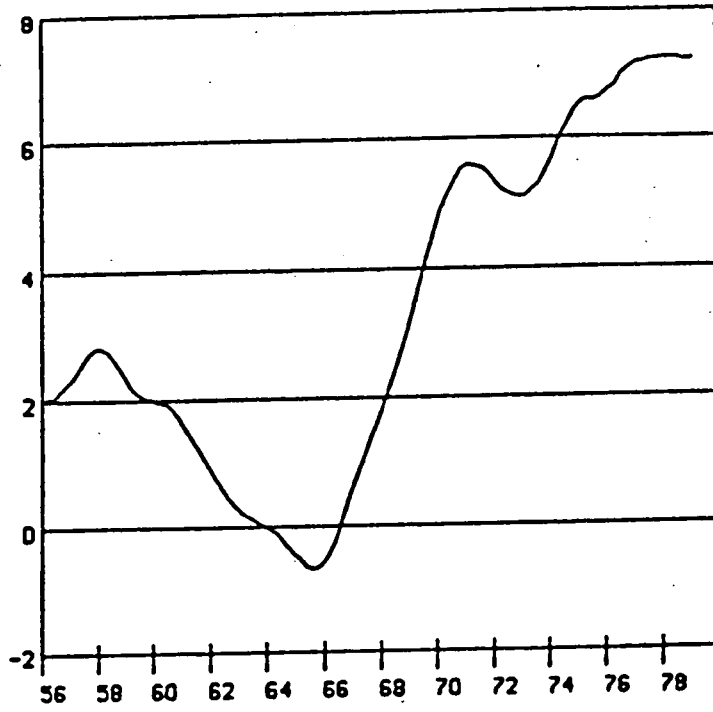


CHART III - 3
The Shock Component of Inflation (Percent)

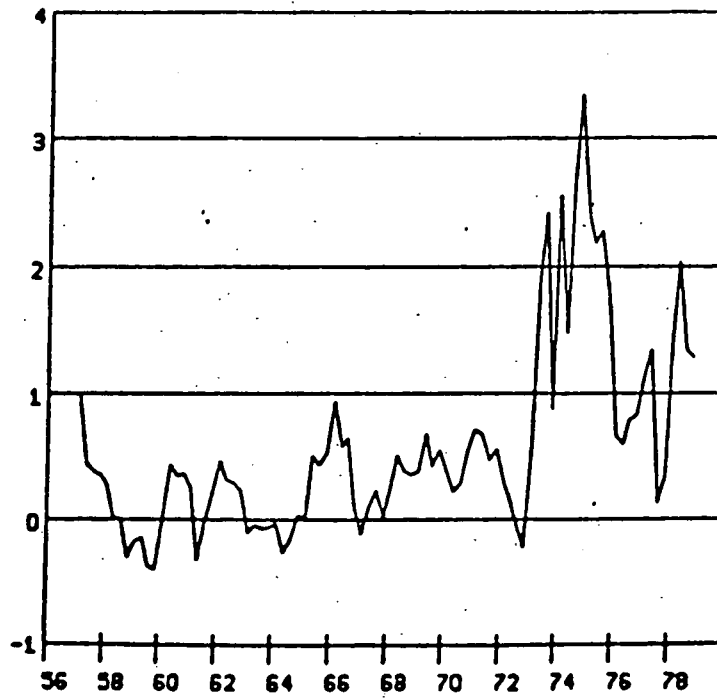


CHART III - 4
The Demand Component of Inflation (Percent)

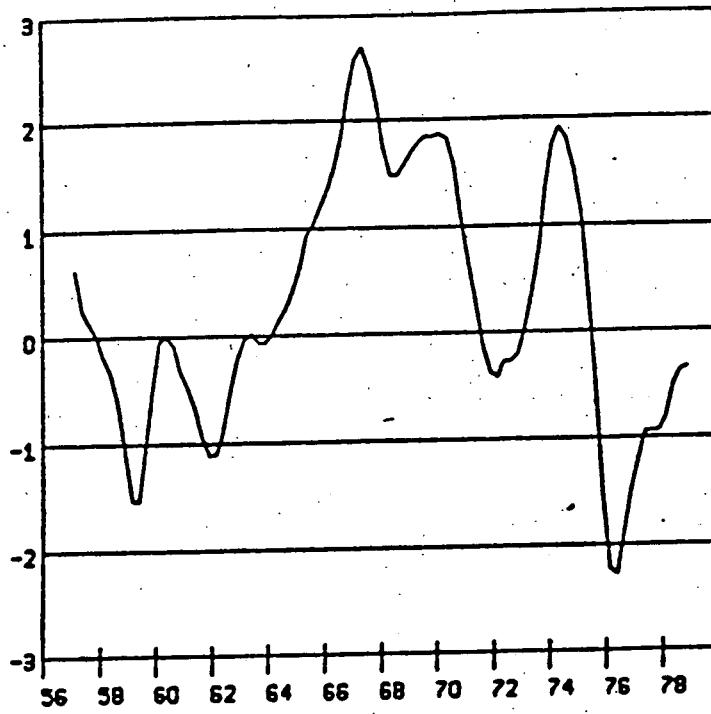
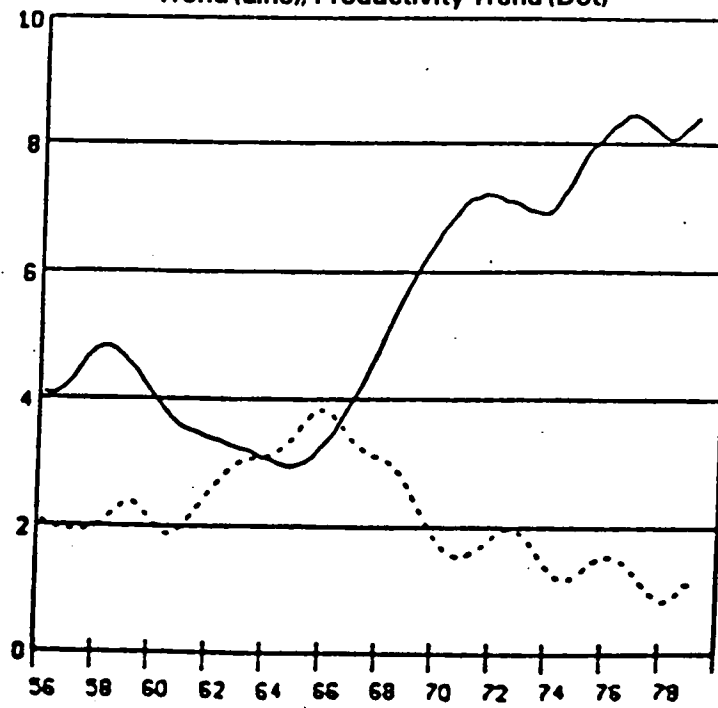


CHART III - 5
The Composition of the Core Rate Wage.
Trend (Line), Productivity Trend (Dot)



Within this framework, it will be very difficult to reduce the core rate of inflation during the 1980s without significant improvements in productivity growth and the rate of capital formation. This would make it possible for businesses to absorb wage gains without having to raise prices as much, thus permitting the wage-price spiral to wind down. In addition, inflation can be reduced if we can avoid major economic shocks and if the Government pursues noninflationary demand policies. Our projections indicate, however, that an improvement in the inflation rate during the 1980s will be highly dependent on our ability to develop policies to improve productivity growth.

Aggregate Demand Policies in the 1980s

There are two main factors that will affect the Government's ability to pursue noninflationary aggregate demand policies during the 1980s.

First, the 1973-75 recession, and the depth of that recession in particular, has created a strong fear of the possible effects of restrictive demand policies. The 1973-75 recession was a major trauma that economic policymakers will not want to repeat. The legacy of this recession will severely limit the use of restrictive fiscal and monetary measures as weapons against inflation.

However, even if the fear of recession causes aggregate demand policies during the 1980s to be relatively stimulative, the policy mix can still contribute significantly to a reduction in inflationary pressures. Because the evidence indicates that an erosion of consumer spending was the prime

culprit in the 1973-75 recession, fiscal policy after the recession aimed at strengthening consumer spending through periodic tax cuts. Since the main policy goal following the 1973-75 recession was to strengthen consumer demand, the need for expanding the productive capacity of the economy was overlooked. Excess capacity during the recession reduced the incentive to make new investments, and nonresidential investment fell to 9.35 percent of GNP in 1976 from 10.7 percent in 1974. The economy in 1979 gradually began to hit capacity constraints, generating new and stronger inflationary pressure, because of the investment shortfall during the initial stages of the recovery. This fall-off of investment has been a major factor in the recent decline in labor productivity as well.

Even if expansionary policies are adopted during the 1980s in order to prevent major economic downturns, a change in the policy mix can help control inflation by providing incentives for individuals and businesses to save and make new investments, thereby expanding the capital stock and productive capacity of the economy. The investment spending would expand demand, just as consumer spending does, but it would also expand the supply side of the economy and thus reduce inflationary pressures.

The second factor that will influence demand policies in the 1980s is concern about Federal deficits. The large Federal deficits from fiscal 1975 through 1980 have been widely seen as one of the causes of inflation. As a result, Congress and the President have been under pressure to cut the deficit and the growth of the Federal Government. In the absence of a major recession, there should be a marked Federal

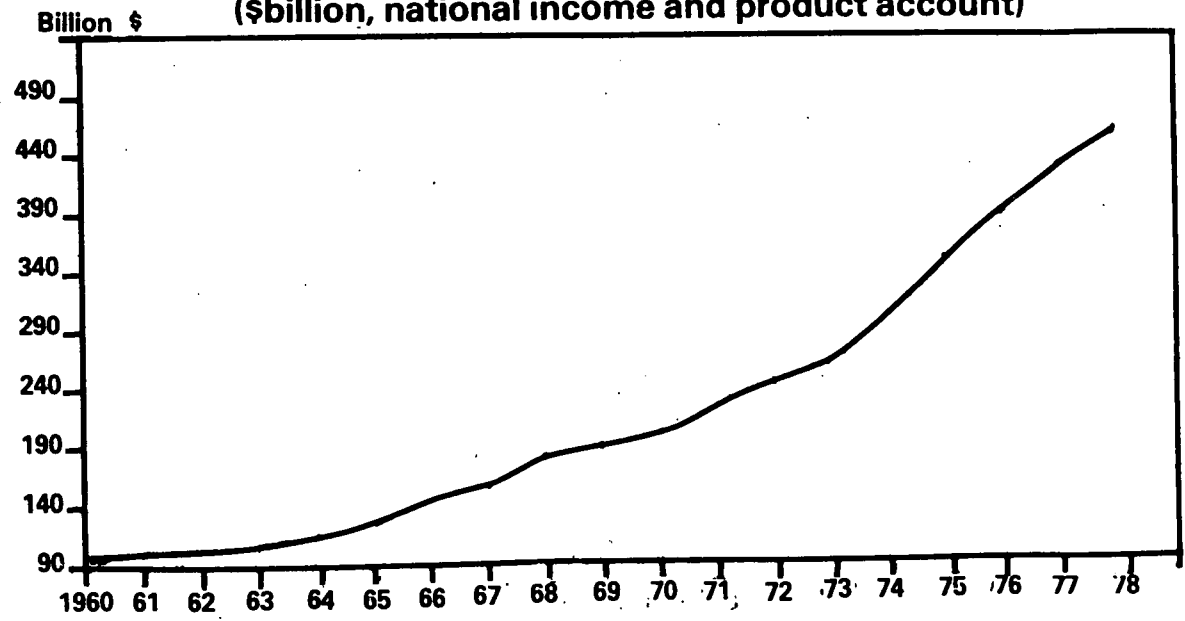
spending slowdown during the 1980s. The growth in Federal spending and Federal spending as a percent of gross national product during the 1960s and 1970s -- along with the Committee's projections for the 1980s -- are presented in Chart III-6.

Because any expansionary bias of aggregate demand policies during the 1980s will likely run headlong into this strong desire to hold down the growth in Federal spending, fiscal policy will likely shift from an emphasis on spending as the major antirecession weapon to even greater emphasis on tax cuts. This could be inflationary unless a larger portion of such future tax cuts works toward generating more savings, business investment, and employment. Consumption-oriented tax cuts will be self-defeating, since additional consumer spending without additional investment will aggravate existing supply constraints and generate more inflation.

The Federal Reserve's announced objective using monetary policy during the 1980s to control inflation through gradual long-term reduction of the growth rates of the monetary aggregates has been clouded by the fact that recent changes in financial institution regulations have created measurement distortions. These distortions increase the difficulty of (1) controlling monetary aggregates and (2) interpreting the economic impact of changes in the aggregates. During the 1970s the bank regulatory agencies instituted a number of changes that increased the liquidity of various financial assets and muddled the lines of what had previously been rather clear definitions of the money supply. These changes included the creation of NOW accounts in New England and New York, share-draft accounts in credit unions, the authorization of automatic transfers from

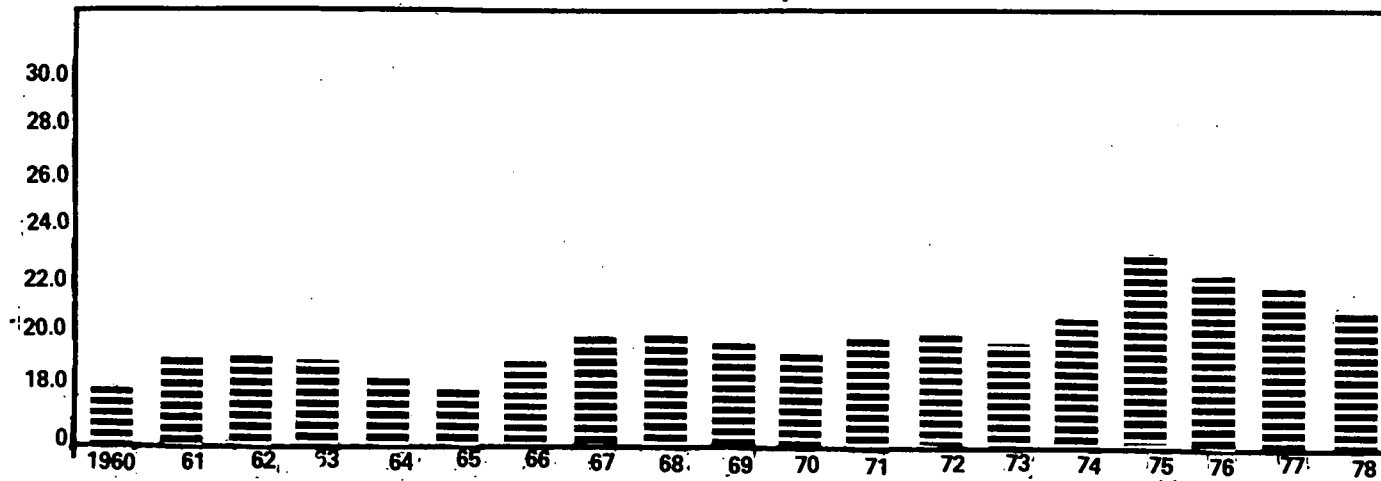
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CHART III - 6a
Federal Government Expenditures, 1960-78
(\$billion, national income and product account)



Source: U.S. Department of Commerce Bureau of Economic Analysis

CHART III - 6b
Federal Expenditures as a Percent of GNP, 1960-78
(percent, national income & product account basis)



Source: U.S. Department of Commerce Bureau of Economic Analysis

saving to checking accounts, the development of six-month savings certificates tied to the Treasury bill rate, and the authorization of savings accounts for businesses in savings and loan banks, among others. As a result, what the traditional definitions of money, such as M1 and M2, now measure is no longer clear.

This measurement problem has tended to confound monetary policy. It has always been difficult to use changes in monetary aggregates to guide the economy. The relationship between the aggregates and real activity has never been too clear at best. Furthermore, the time lag between monetary policy changes and real changes is also a matter of dispute. The ambiguity concerning the future of checking-savings automatic transfer plans, the potential growth of electronic funds transfer systems, and the effort in Congress to extend certain banking functions to nonbank financial institutions all increase the likelihood that the technical problems of monetary policy will not fade, at least during the early part of the 1980s.

The consequence of all these problems is that it makes it more difficult for the Federal Reserve to prescribe any precise course of monetary expansion, whether to control inflation or for any other purpose. Moreover, it is not clear that redefining the aggregates, now in process at the Federal Reserve, will result in a marked improvement. Indeed, some have suggested that the technical problems of monetary control are inherent; that the very efforts of the Federal Reserve to target and control a monetary aggregate induce the innovation of financial instruments not subject to control. Nevertheless, substantial progress has been

made through the monetary policy oversight process in calling the Federal Reserve to account for its policies, thereby familiarizing the Congress and the public with the degree of uncertainty involved. This has given policymakers and policy advisers in all areas of economic policy a much firmer basis of knowledge on which to form judgments and make decisions. Various proposals have been made to provide the Federal Reserve with the authority to rationalize the structure of reserve requirements and more comprehensive authority to collect monetary data than it now possesses, hopefully reducing to some degree the uncertainty surrounding monetary policy.

Exogenous Factors

During the 1970s the American economy was buffeted by major economic shocks that contributed significantly to the high rate of inflation. Shocks are defined as exogenous sources of price increases other than aggregate demand policies. The definition of shocks includes such events as periodic increases in OPEC petroleum prices and changes in world food conditions that affect domestic food prices. It also includes government policies that directly affect business costs and their prices, such as payroll tax and minimum wage increases and the costs of complying with new government regulations. As Chart III-3 shows, the 1960s were relatively free of inflationary shocks. By contrast, shocks were a major source of inflationary pressures during the 1970s, both directly and through the resulting policy responses, especially during the period from 1973-75 when large increases occurred in food and petroleum prices. Petroleum price

increases during 1979 constitute another major inflationary shock.

Because shocks are generally unpredictable, both in terms of whether and when they can occur as well as in terms of their severity, it is very difficult to predict the potential impact shocks may have on the inflation rate during the 1980s. However, the experience of the 1970s indicates that at least some of the kinds of shocks that contributed to inflation during the past decade will continue to generate inflationary pressures during the next.

Shocks and government action that directly raise prices increase the core rate of inflation as they work into the wage-price spiral. If they increase the Consumer Price Index and cut living standards, they raise business labor costs through cost-of-living adjustment clauses and through new wage contracts. If these increases are not offset by productivity increases, they generate higher prices, which in turn generate higher wages. If they directly increase business costs, they cause higher prices which then get worked into the wage-price spiral. In both instances, the core rate of inflation goes up, particularly if policymakers accommodate the increases.

Exogenous price decreases can also occur, reducing the core rate. The best recent example is the deregulation of the air transport industry which increased competition among airlines and reduced fares. The recent decision to permit increased timber harvests in the national forests will help reduce housing costs.

The following is a brief examination of the kinds of exogenous sources of price

increases (and possible decreases) that might occur during the 1980s.

Energy and Petroleum. During the past decade, a number of events occurred that increased energy and petroleum prices and will continue to do so, regardless of the state of the business cycle. Among these were the 1973 OPEC oil embargo, the four fold energy price increase in 1974, the 1978 Iranian revolution with its accompanying oil supply disruption, and the 60 percent oil price increase in the first half of 1979. Other factors affecting energy costs included enactment of mandatory coal conversion, development of strict environmental standards for utilities, and the growing scarcity of uranium. Partially offsetting events included development of new oil sources in the North Sea and the Alaska North Slope, implementation of mandatory automobile fuel efficiency standards, and other household and industrial conservation measures taken in response to rising energy prices and the enactment of tax incentives. The energy outlook for the 1980s is discussed in detail in Chapter VI of this study, below.

To determine the impact of continued petroleum market problems on inflation during the 1980s, we tested the effects of two alternative energy supply assumptions on inflation. In alternative 1, we assumed that there would be a shortfall of oil supplies that would limit domestic consumption to 19 million barrels per day through the decade of the 1980s (a 2 million bpd shortfall by 1989) and that oil prices would rise 20 percent faster each year than the overall rate of inflation. In alternative 2, we assumed that there would be a 5 percent supply disruption in 1984, accompanied by a crude oil price increase during 1984 and 1985 totalling 90

percent. The results of these tests are presented in Table III-1.

TABLE III-1

EFFECT ON ENERGY SUPPLY CHANGES FOR
VARIOUS ASSUMPTIONS ON CONSUMER PRICE INFLATION
(percent changes, annual averages)

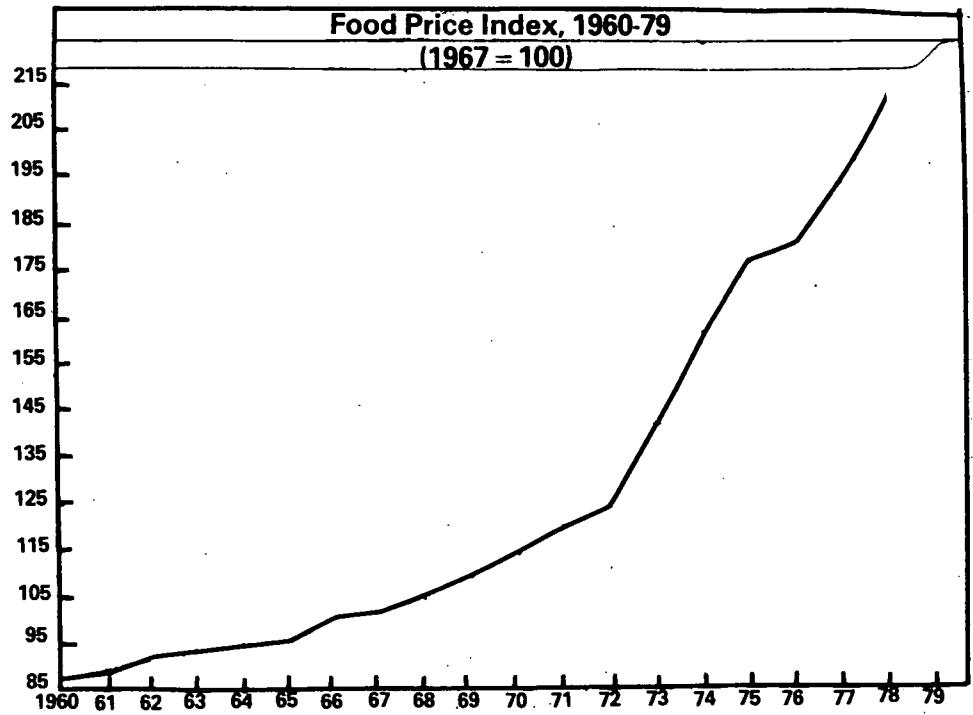
Period	Baseline	Alternative 1	Alternative 2
1980-1984	6.7	8.4	7.2
1985-1989	5.7	8.7	7.2
1980-1989	6.2	8.6	7.2

Food. Despite the fact that the agriculture sector is more productive in the United States than anywhere else in the world, during the 1970s the food sector was hit by several shocks that contributed significantly to inflation. Market distortions resulting from the wage-price controls of 1971-74, world food shortages and the Russian grain purchases of 1972, and beef shortages all caused food prices to leap periodically during the past decade, as Chart III-7 shows. Although food prices turned down occasionally, the overall effect of world food shortages during the 1970s was to increase the Consumer Price Index. However, there is no reason to believe this represents a long-term trend.

If, on the other hand, a world food shortage or famine occurs during the 1980s, or if harvests here fail, or if cattle herds fail to grow, then food prices may continue to contribute to inflation. In addition, shocks from nonagricultural sources could also raise food prices, since farm production costs are influenced by prices of many industrial goods.

Minimum Wage and Payroll Tax Policy. Whenever the Federal Government increases the minimum wage or payroll taxes, business costs rise. Unless these increases are offset by productivity advances, or reduced profits, the additional costs generate price increases or reduced output or both. Since the Federal Government has generally acted to keep the minimum wage at about half the average weekly wage in manufacturing, we can assume that as wages rise during the 1980s in response to inflation, the minimum wage will also rise. Congress has already enacted minimum wage increases which are to take place during the early part of the decade. There are also

CHART III - 7



Source: U.S. Department of Labor, Bureau of Labor Statistics

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scheduled increases in the payroll tax. These will both contribute to inflationary pressures, unless they are offset by productivity improvements.

Government Regulation. During the 1970s, the Federal Government increasingly relied on regulation of the private sector to channel resources toward such public goals as a cleaner environment, safer workplaces, and less hazardous consumer products. Many government regulations, particularly those affecting health, safety, and the environment, have contributed significantly to the overall well-being of the vast majority of American consumers and workers. Although the benefits of most regulatory programs have been substantial, such benefits are difficult to compute accurately, largely because the measurement techniques are still being developed. Among the most important programs enacted or expanded during the decade were those affecting clean air, clean water, hazardous waste disposal, highway and auto safety, strip mining, toxic substances, consumer product safety, credit practices, and equal employment opportunity. A number of programs involved the creation of new Federal agencies, each with the power to issue rules and regulations that concern businesses and individuals in the private sector.

While many of these social regulations have significantly improved our health, safety, and the environment, these benefits have not been without their costs. They have contributed to inflation by raising business costs and reducing productivity.

In almost every instance, the new regulatory programs were designed to achieve social goals through private spending, rather

than through public spending and the budget, the usual source of funds for most previous Federal social programs. Most social regulatory programs simply set standards and require compliance, with those affected incurring such necessary expenses as the purchase of new capital equipment, changes in product specifications, increased operating expenses, increased reporting and recordkeeping requirements, and the costs of regulatory delays. Federal spending for social regulatory programs generally consists only of administrative costs incurred by the regulatory agencies. A few regulatory programs, however, include grants to State and local governments to assist in meeting their compliance costs.

The total cost of Federal regulations is hard to determine, largely because no standard methodology yet exists for measuring regulatory compliance costs, but progress is being made in developing these costs. One study recently performed for the Joint Economic Committee put the nationwide cost of compliance with Federal rules and regulations at about \$100 billion for 1979, a figure that has been widely accepted as a rough estimate. For pollution control programs alone, the Commerce Department calculated that the United States spent \$37.5 billion in 1977, and this is only a part of the total regulatory effort.

These programs will probably continue to expand during the 1980s. Although it is difficult to measure precisely the impact of regulations on inflation, there is no doubt that most regulations add to business costs and then contribute to higher prices.

Price Moderating Factors. There are also exogenous factors that might temper the rate

of inflation. Some of these are beyond the Government's power to control, such as good weather and discovery of new petroleum supplies, plus the development of alternative energy sources.

In many other areas, however, the Government can take policy measures to reduce business costs and prices. One important action would be to cut the growth of unnecessary and ineffective government regulations and their costs. This could be accomplished through a cost-effectiveness provision which would require that Federal agencies adopt regulations which achieve their statutory goals at the least cost. Moving toward a regulatory budget would also help. While a regulatory budget would provide an incentive for agencies to limit the compliance costs of their regulations, it would have other important purposes as well. It would complement the fiscal budget and provide a more accurate picture of the Government's total impact on the economy; it would provide a better balance between regulatory programs and traditional spending programs; and it would enhance the protection of the public's health and safety by requiring that the Federal Government establish priorities in pursuing regulatory objectives. Implementation of such a budget is a long-run prospect, however, because of the difficulty of measuring the benefits and costs of regulation with current data and measurement techniques. Developing the needed methodology would be the first step toward future development of a regulatory budget.

Summary

In both energy and food, shocks may occur during the 1980s that will generate inflationary pressures. In addition, other sources of inflationary shocks may occur that have not been examined, such as higher prices for raw materials other than petroleum, supply disruptions for critical raw materials, enactment of additional Federal regulatory programs, or a wave of protectionism against imports.

The Core Rate of Inflation

The expansionary demand policies and exogenous price shocks of the past decade resulted in a rising core rate of inflation that has shown surprising resiliency, even during periods of recession and high excess capacity. This is shown in Chart III-3 above.

The major potential source of reductions in the core rate of inflation during the 1980s will be improvements in productivity.

Employee compensation accounts for more than 75 percent of national income. This means that the major factor in prices is labor costs per unit of output. This is in turn determined by wages and worker productivity. According to the standard formula, the percentage change in unit labor costs during any period will be equal to the percentage change in hourly wages minus the percentage change in hourly output. Thus, if productivity doesn't improve, any wage increase causes unit labor costs to rise by an equal amount. If profits don't change, prices go up an equal percentage as well, wiping out the wage gain. An improvement in

productivity, however, keeps unit labor costs from rising as much as wages, and prices also will rise less. For each percentage gain in productivity, prices will rise about one percentage point less than wages do.

Even this formula, however, understates the impact of productivity gains on inflation, since it ignores the fact that a cut in today's inflation will reduce inflationary expectations future wage demands. Thus, a 1 percent improvement in productivity may cut inflation in the long run by much more than 1 percent.

During the last half of the 1970s the productivity of the economy grew very slowly, a problem examined in depth in the Joint Economic Committee's 1979 Midyear Review of the Economy. This resulted in a perpetually-deteriorating wage-price spiral. By demanding money wage increases to match expected inflation, workers attempted to achieve real income protection. However, with little or no productivity increase, employers simply shifted the entire increase in unit labor costs onto higher product prices. Since this confirmed the inflationary expectations of workers, it tended to lock wages and prices into an ever-rising spiral.

The wage-price spiral can be broken through productivity increases. Higher productivity would permit the granting of wage increases that would not have to be matched by equal price increases, resulting in real wage gains combined with gradually reduced rates of increase in nominal wages and prices and a reduction in inflationary expectations. If productivity gains exceed desired real wage gains, the wage-price

spiral can gradually wind down and the core rate of inflation can be reduced.

For the reasons discussed in the chapter on Growth and the Outlook, productivity gains in the 1980s will probably be significantly better than those made during the 1970s, although they will not match the large gains made during the 1960s if current policies are maintained. But assuming substantial increases in the accumulation of capital and the application of major technological breakthroughs, greater progress on productivity is possible. Productivity advances can also be made through training programs that improve the skills of workers, particularly those who are structurally unemployed.

Inflation Outlook for the 1980s

Our analysis indicates that inflation will continue to be a major economic problem throughout the decade unless capital formation and productivity improve significantly.

We prepared two projections of inflation during the 1980s in addition to the baseline case, one based on assumptions that are relatively more optimistic and one based on assumptions that are relatively more pessimistic than those used for the baseline case.

The baseline case assumptions are spelled out in detail in the introductory chapter. We assumed that labor force growth and productivity improvements would combine to increase potential GNP about 3.3 to 3.5 percent annually during the first half of the 1980s and about 2.9 to 3.0 percent during the

second half. We also assumed that personal taxes would be reduced annually as needed to offset the impact of inflation; that the corporate tax rate would be cut to 45 percent in 1981; that Federal spending growth will moderate during the 1980s; that monetary policy will accommodate real GNP growth without added stimulus or restraint; and that nominal petroleum prices will rise about 10.5 percent yearly with domestic production being decontrolled according to President Carter's timetable.

For our optimistic inflation projection, we assumed that stepped-up savings and capital formation and other measures to improve productivity would be successful in raising potential GNP above the baseline case by one-half percentage point yearly during the 1980s. For our pessimistic case, we assumed that petroleum supply shortfalls, higher basic food prices, and slower export growth would cut potential GNP below the levels in the baseline case, constricting the supply side of the economy.

Thus, in addition to the baseline case, we have examined the effects on inflation of taking measures to expand the supply side of the economy as well as the effects of factors which might constrict supply.

The results of all three projections are presented in Table III-2.

TABLE III-2
 INFLATION PROJECTIONS 1980-1989
 (percent changes, annual averages)

	Actual		Baseline		Pessimistic		Optimistic	
	1970-74	1975-79	1980-84	1985-89	1980-84	1985-89	1980-84	1985-89
Consumer Price Index	6.1	7.6	6.7	5.7	8.7	9.6	6.5	4.9
Implicit Price Deflator	6.0	7.3	6.7	5.3	7.7	7.3	6.5	4.5
Fixed Weight Price Deflator	6.1	7.5	6.8	5.6	8.0	7.3	6.6	4.7
Producer Price Index	6.8	7.7	6.3	5.4	8.8	9.8	6.1	4.6
	<u>1970-79</u>		<u>1980-89</u>		<u>1980-89</u>		<u>1980-89</u>	
Consumer Price Index	6.9		6.2		9.2		5.7	
Implicit Price Deflator	6.7		6.0		7.5		5.5	
Fixed Wright Price Deflator	6.8		6.2		7.8		5.7	
Producer Price Index	7.2		5.8		9.3		5.4	

According to the baseline long-range trend projection, the Consumer Price Index will likely increase between 6.5 and 7.0 percent annually during the first half of the decade and then ease to an average annual rise of between 5.4 and 5.9 percent during the second half. For the decade as a whole, the Committee foresees an annual increase in the CPI averaging between 5.8 and 6.4 percent. By comparison, consumer prices rose almost 6.9 percent per year during the 1970s. If our baseline projection is borne out by actual circumstances, prices will increase by more than 80 percent and the consumer dollar will lose about 45 percent of its value between 1980 and 1989.

Other price indices are expected to follow a similar trend under the baseline projection, as Table III-2 shows, with prices rising rapidly during the 1980s but not quite as rapidly as they did during the 1970s.

Our optimistic projection shows lower inflation than our baseline case, largely because the more rapid growth of the supply side permits slower growth of costs and more rapid growth in real GNP without producing inflationary capacity bottlenecks. In this projection prices will rise between 6.3 and 6.7 percent during the first half of the 1980s and between 4.7 and 5.2 percent during the second half. During the decade, prices will increase 74 percent overall and the value of the dollar will decline 43 percent, slightly less than in our baseline case, even though real GNP, employment, and real wages are higher.

The pessimistic projection -- involving assumptions concerning potential petroleum shortfalls, higher food prices, slower export growth, and slower growth in potential GNP --

implies much higher inflation during the 1980s than does the optimistic projection. Inflation in this forecast will reach between 8.4 and 8.9 percent yearly during the first half of the decade and between 9.4 and 9.9 percent yearly during the second. Prices will rise about 140 percent during the decade, and the value of the dollar will fall almost 58 percent, even more than it declined.

IV. ENERGY

Review and Outlook for 1979

A variety of factors caused the shortage in gasoline availability in the United States which began during the second quarter of 1979. Tight OPEC petroleum production lids and panic consumer buying prevented a rebuilding of these stocks, which in May reached a four-year low. By the summer of 1979, gasoline prices had risen about one cent per gallon per week since January, following three years of relative price stability. Retail supplies available to general motorists in some areas had been reduced to 80 or 85 percent of June 1978 levels.

Resumption of substantial Iranian exports in the second quarter did not ease petroleum shortages because Saudi Arabia concurrently cut production on April 1 by 1 million barrels a day. At the urging of Administration officials concerned with soaring spot petroleum prices, United States importers generally refrained from seeking replacement supplies in the spot market. This also contributed to dislocations in gasoline availability. While the United States normally acquires one-third of world petroleum exports, in those months it was bearing over one-half of the world's shortfall. Not until early June did the U.S. portion of the continuing world shortfall drop to a more equitable level.

With worldwide petroleum demand at an all-time high, the disruption of Iranian exports and OPEC production caps pushed petroleum and energy prices to record highs in 1979. Originally slated by OPEC to rise 15 percent in 1979, petroleum contract export prices, on a weighted average basis, rose over 50 percent during the first half of 1979, with little buyer resistance evident. On the contrary, buyers have been scrambling for supplies. Led by the new Iranian Government and Iraq, some exporters are now increasingly selling in spot markets with up to 8 percent of world petroleum sales now occurring on that basis. The largest such markets in Rotterdam and Singapore have been the scene of occasional frantic bidding.

Under a complicated three-tier formula, OPEC raised crude petroleum prices an average 16 percent at the June 26-28 OPEC meeting in Geneva to reflect ad hoc member price hikes since March. Further surcharges were legitimized as well, resulting in a range of prices from \$18 per barrel in Saudi Arabia, Qatar, and the United Arab Emirates to \$23.50 per barrel in Nigeria, Algeria, Libya, Ecuador, and Indonesia. This pricing structure brings the weighted average crude oil export price close to \$21.00/barrel. Consequently, the OPEC price increase in the first six months of 1979 matched dollar for dollar the entire price increase during all of 1973.

For the 12 months ending in June 1979, the energy component of the CPI for urban consumers rose 24.8 percent in the United States, with seasonally adjusted increases of 1.5 percent in February, 2.6 percent in March, 3.7 percent in April, 4.2 percent in May, and 5.6 percent in June. Price increases for many industrial fuel oils and

contract coal for utilities have been as high as 50 percent since June 1978. Residential natural gas prices are over 20 percent higher than a year ago. Retail gasoline prices have risen almost 30 percent since January and will average more than \$1 a gallon by the end of the year. These price increases do not fully reflect OPEC price hikes instituted before the June ministerial meeting. For all of 1979, consequently, private analysts are projecting that energy will add at least 1.5 to 2.0 percentage points to the CPI. The impact could well exceed that. Even so, energy prices will still be notably lower here than in most industrialized nations. Gasoline in June, for example, was selling at the equivalent of \$2.35 per gallon in France and \$1.63 per gallon in Great Britain.

The accident at the Three Mile Island nuclear power plant raised new questions about growth prospects for nuclear energy in the next decade.^{1/} The nuclear power industry faces unofficial moratoria by the Nuclear Regulatory Commission on the issuance of new construction permits and on the award of operating licenses for eight new plants (Salem 2, North Anna 2, Sequoyah 1, Diablo Canyon 1, McGuire 1, Watts Bar 1, Zimmer 1 and LaSalle 1). In addition, it confronts the prospect of moratoria from legislatures in Oregon, Connecticut, and Pennsylvania concerned with waste disposal questions. Four other States have recently made decisions that preclude the construction of nuclear power plants in the near future. No nuclear power plants have been ordered in 1979, and the two units ordered in 1978 were deferred indefinitely in January.

^{1/} The Department of Energy's National Energy Plan II released in May projected nuclear energy production to double by 1985 (six quads) and to attain 16 quads in the year 2000.

The major beneficiary of nuclear's limited near-term prospects and skyrocketing world petroleum prices is the natural gas industry, where demand remains very strong. Another beneficiary should be the coal industry. As a major competitor of an increasingly scarce and expensive resource, coal demand and prices should grow. Contract prices, in fact, have risen notably and demand may increase both domestically and abroad. For example, the International Energy Agency (IEA) ministers on May 22 adopted a goal of saving 1.3 million barrels of oil daily by 1985 through a switch to coal. The goal implies a doubling of coal consumption in member nations by the year 2000, and a seven fold boost in coal exports from the United States, Canada, Australia, Mexico, and South Africa. In 1978, the United States earned \$2 billion from the export of coal but spent \$48 billion on petroleum imports.

If specific action follows this IEA policy decision, it will provide a notable spur to the domestic coal industry laboring under some 125 million tons of excess capacity and minimal growth prospects, due in part to air quality standards. The expense of converting industrial and utility boilers without coal burning capability to coal limits market growth to new facilities, especially power plants. But present utility projections of an increase in coal-fired generating capacity to 270 gigawatts in 1987 from 240 gigawatts currently implies an annual growth rate of only 5 or 5.5 percent. Some further growth could result from the final release on May 28 of sulfur emission standards for coal-fired power plants by the Environmental Protection Agency. The standard relaxed a stricter rule proposed last fall but was more stringent than the 33 to 85 percent scrubbing rule advocated by the Department of Energy and the industry.^{2/}

^{2/} The standard retained the existing ceiling of 1.2 pounds of sulfur per million BTUs, but required scrubbing to remove between 70 and 90 percent of the sulfur from stack emissions.

While the coal industry faces weak demand, major supply constraints exist as well. One has been removed, however, with the establishment of a new Federal coal program. Managed by the Interior Department, the program is designed to lift the moratorium on Federal coal leasing imposed in 1971. Up to 1.5 billion tons of Federal coal could be produced under this new program by 1987.^{3/}

^{3/} Leasing targets have already been announced for Federal reserves in Northern Alabama, for the Green River-Hams Fork region (Idaho, Wyoming, Utah, and Colorado), the Powder River region (Montana and Wyoming) and the Uinta-Southwestern Utah region (Utah and Colorado).

For the remainder of 1979, substantial rebuilding of middle distillate (primarily heating oil) inventories here and abroad will exert substantial pressure on world crude petroleum supplies. To attain desired heating oil levels for the 1979-1980 winter in the United States, for example, middle distillate inventories must be increased by over one million barrels per day in July, August and September. Rebuilding these stocks will be facilitated by the recent Saudi decision to increase crude petroleum production by as much as one million barrels daily. However, further increases in spot and OPEC contract prices beyond those affirmed at Geneva in June could occur depending on Saudi production decisions later this year and on continuing stability in Iranian oil fields. The prospects for continued domestic gasoline shortages similarly depends on events in these areas, the continued decline in monitoring, and the need to rebuild middle distillate stocks. Crude imports to the United States in recent weeks have improved to the point where gasoline supplies should not decline further. If the current reduction in auto use continues, these supplies should be sufficient to eliminate gasoline lines and to permit middle distillate inventories to be rebuilt to the targeted 230-240 million barrels by October.

The average \$4 per barrel price hike by OPEC for crude petroleum made in June at Geneva will push gasoline prices up by \$0.9 to \$.11 per gallon by the end of the year, to \$1 per gallon or more. Home heating oil prices will rise as well to \$1 a gallon. The increases will be even larger if Iranian exports decline again or if a renewed round of surcharges and surcharge violations occur similar to that following the March OPEC

pricing meeting. In view of persistent balance of payments deficits by some OPEC nations (Algeria, Ecuador, and Venezuela), such a recurrence is possible even in the absence of further disruptions in Iranian exports.

Destabilizing Forces

Beyond 1979, a number of destabilizing forces exist which raise significant doubts regarding the validity of energy price and supply assumptions in the baseline long-term projection discussed earlier in this study. The baseline case is predicated on uninterrupted energy supplies and a nominal 10.5 percent annual energy price increase. In real terms, this is only a projected energy price rise of between 2.5 percent and 4.5 percent annually -- an optimistic assumption. In the past six years, the energy component of the CPI for urban wage earners in constant dollars has risen 125 percent, or 16 percent a year. This component rose at an annual rate of 43 percent during the first six months of 1979.

The supply availability assumption is an optimistic one, as well. During the past six years, two notable disruptions occurred in OPEC petroleum flows to the United States. In 1973, relatively minor reductions by a handful of producers, totaling less than 5 percent of exports, staggered the industrialized nations and contributed notably to the depth of the ensuing recession. Again last winter, turmoil in Iran resulted in a disruption of petroleum flows to the United States.

A number of factors threaten further near-term turmoil in world energy markets. They include:

- * Possible emergence of the Soviet Union/East European Bloc as a net energy importer. If this occurs, it will initially have a minor impact on world demand for petroleum. More destabilizing could be Soviet efforts to maximize the reliability of its foreign petroleum sources or to disrupt exports to the West through manipulation of one or more exporting nations.
- * Inability of a strong consensus government to emerge in Iran. The age of the Ayatollah Ruhollah Khomeini, the uncertain prospects for the rapid emergence of a consensus leader to replace him, and continuing turmoil in southern oil fields minimize prospects for an uninterrupted flow of Iranian petroleum to world markets in the future.
- * Vulnerability of the world petroleum supply network to disruption by terrorists.
- * The use of petroleum as a political weapon by OPEC. Recent statements by Nigeria related to the United States' role in any Zimbabwe-Rhodesia peace settlement magnify the possible dangers of a politically motivated embargo by OPEC nations. This danger will remain greatest with Persian Gulf exporters until a widely accepted

settlement in the Middle East is attained.

- * Potential for strain in U.S.-Saudi relations. As the only major petroleum producer with readily available substantial excess capacity, Saudi Arabia could ensure stability in petroleum markets for the foreseeable future. It has not done so to avoid isolation from fellow OPEC and especially Arab nations dissatisfied with the U.S.-sponsored Israeli-Egyptian peace treaty. In recent months, it has pursued a narrow path between the demands of fellow Arab OPEC nations and petroleum consuming nations. Saudi Arabia did increase production to moderate petroleum shortfalls from Iran this past winter, and it is increasing production to stabilize prices at the level agreed upon in June by OPEC; it has adopted the most conservative pricing policy in OPEC. Yet, the Saudis reduced production to 8.5 million barrels daily in April from 9.5 million barrels a day in the first quarter, thereby perpetuating tight petroleum markets. A U.S. failure to maintain positive relations with Saudi Arabia could result in permanent domestic and worldwide petroleum shortages and energy inflation. The importance of this action is magnified by the Saudi capability to endure sharp drops in petroleum export volumes which would minimize the efficacy of IEA or other consuming nation programs to conserve petroleum or replace it with synthetic fuels.

Possible Responses

The United States and other petroleum importers, however, are not powerless. Energy productivity and renewable energy production can be increased. Vast deposits of coal exist in oil importing nations, and technology can be developed to extract liquid or gas fuels from coal. Aggressive conventional energy and natural resource evaluation efforts are under way, as well, in Mexico and other developing nations. If successful, the diversification of supply they represent can dilute the capability of OPEC, and especially Saudi Arabia, to tighten world petroleum markets easily. It should be noted, finally, that most petroleum importing nations are accumulating emergency petroleum reserves. And they have developed credible energy shortfall contingency plans.

The United States has the financial and technical capability to insulate its energy needs from the vagaries of OPEC in little more than a decade. An aggressive investment program to increase energy productivity and to produce more domestic oil and gas and fuels from renewable sources would sharply reduce OPEC's demonstrated current ability to dictate petroleum prices and availability. If such a broad program is exercised immediately, the United States would enjoy reduced vulnerability as early as 1985 and substantial energy independence within a decade.

Long-Term Outlook

In order to realistically assess the economy's long-term outlook, four sets of assumptions regarding energy prices and supply were evaluated in addition to the

already-noted baseline case which assumed uninterrupted supplies and real energy price increases of 2.5 to 4.5 percent annually.

Case 1: A six-month energy supply disruption of some 5 percent occurs every five years (1984 in the model). Nominal petroleum prices increase 90 percent over 24 months beginning with the disruption, and domestic coal, and other energy prices rise proportionately.

These events would cause the rate of growth in consumer prices to rise sharply in the year 1985 and to be over 3 percentage points higher in 1986 relative to the baseline projection. By 1988, the surge in consumer prices would have abated.^{4/} Real GNP growth would be cut by half in 1985 and 1986 by the import disruptions but would return to near baseline trend level by 1988. Unemployment would be increased and would remain about 1 percentage point higher than it would otherwise be in the baseline case throughout the second half of the decade. Consequently, real disposable income growth would be reduced by almost 25 percent in 1985 and by about 60 percent the following year, with associated sharp reductions occurring, as well, in housing starts and consumption. The level of aggregate real GNP would be about 3 percent lower than the baseline case in the latter part of the decade.

4/ In this and the following three cases, it is assumed that domestic petroleum prices are decontrolled in 1981 as proposed by the Administration.

Case 2: An energy supply disruption of 10 percent in 1984 is assumed in this projection, with other assumptions identical to those in Case 1.

Results differ little from Case 1. Real disposable income would be fractionally lower and unemployment is fractionally higher by 1986, compared to Case 1.

Case 3: A domestic lid of 19 million barrels per day on petroleum supply is assumed to exist in Case 3. This is slightly above the 1979 consumption level and is assumed to persist throughout the 1980s, resulting in a progressive shortfall rising to two million barrels daily by 1990 compared to the baseline case. Imported petroleum prices are optimistically assumed to rise 20 percent annually in real terms. This is only two-thirds the actual 30 percent annual rise in world crude real prices over the past six and one-half years, January 1973 (\$2.59/bbl) to July 1979 (\$21/bbl).

This worst-case scenario assumes the United States adheres to the petroleum import ceiling agreed upon at the Tokyo Summit while not concurrently initiating any programs to spur production of conventional oil and gas, synfuels, or other alternatives.

This case results in a progressively larger slowdown of economic growth as the shortage of petroleum grows throughout the next decade. Consumer prices would be from 1.0 to 2.0 percentage points above the baseline trend in 1981, and they would increase further in later years. Real disposable income growth would be reduced by almost half by the mid-decade, with the trend

continuing downward thereafter. The decline in growth of real disposable income and employment would substantially reduce car sales, housing starts, consumption, and savings. In turn, growth in nonresidential fixed investment -- the key factor yielding productivity gains and higher real per capita income -- would fall virtually to zero in the last half of the 80s. Nonresidential construction would experience negative growth during most of the 1980s.

Growth in real GNP would be cut about one-third relative to the baseline projection beginning in the early 1980s. The growth of real GNP over the period 1979-1990 would be about 25 percent lower than the baseline case. The Federal deficit would soar as the relatively slow growth in GNP prevented tax receipts from keeping pace with expenditures. By 1990 the Government's and the trade deficit would be dramatically higher than in the baseline case. The bloated government deficit would be difficult to reduce with the economy teetering on the brink of a depression throughout the decade.

Case 4: No energy supply disruptions occur and nominal OPEC price increases do not exceed the rate of inflation.

This optimistic scenario could result from domestic programs to raise conventional energy output, energy productivity, substantial energy production from coal and renewable sources, or from atypical stability within OPEC. The growth in consumer prices in Case 4 is cut sharply below that projected in the earlier cases, with the growth rate holding at a moderate 6 percent or less beyond 1983. This relative price stability would be accompanied by a real GNP growth of

3 percent or more throughout the decade, peaking at a robust 5 percent in 1984.

Unemployment in Case 4 would increase to more than 7 percent in 1980 but then would decline steadily to below 5 percent over the entire second half of the decade. Consequently, real disposable income grows at rates between 4 and 5 percent from 1981 through 1988 -- more than one-half percentage point above rates projected in the baseline case and over double the rates projected in the worst Case 3. Housing starts, savings rates, and investment growth would all be more robust than projected in the baseline case. Real GNP would grow slightly more than 50 percent during the decade in Case 4 compared to a growth of 46 percent in the baseline scenario and only 31 percent in Case 3.

In summary, these projections reveal that the domestic economy can recover relatively quickly from energy curtailments of modest size and duration. For example, the disruptions evaluated in both Case 1 and Case 2 would reduce growth by one-half in the following several years, but the economy would return to its long-term growth path within three years.

The economy would be disrupted much more severely and fundamentally by a scenario resembling Case 3 in which massive savings and investment funds are drained off by soaring energy prices. Unfortunately, in view of OPEC behavior since 1973, the petroleum price assumption in Case 3 cannot be ruled out.

The Case 3 scenario, in the absence of compensatory Federal policies, would result in a marked slowing in the growth of capital

investment in the 1980s as savings is increasingly deflected to energy consumption. The already dismal productivity growth of the American economy in recent years would worsen, accompanied by declining real per capita disposable incomes.

A number of Federal programs including improved energy productivity, synfuels, and more conventional and renewable energy production can reduce the damaging leverage currently exerted by OPEC on U.S. energy prices and supply. If successful, such programs could yield a situation similar to Case 4 where GNP, employment, and investments are robust in the 1980s. Such a scenario is possible. But it will require a national program which is forceful and energetic enough to create a credible prospect for substantial reductions in petroleum imports during the next decade.

V. EMPLOYMENT

The Past Decade

A brief summary of the changes in the population and the labor force status during the past decade helps to place in perspective their anticipated movements over the next ten years. Population growth declined from a rate of 1.7 percent annually at the peak of the baby boom in the 1950s, to the current level of 0.8 percent -- equivalent to the historically low rate of the 1930s.

The labor force has grown at a rapid 2.6 percent annual rate during the 1970s. In the past three years, it has grown at an annual rate of 2.7 percent, well over the long-term trend. This is explained by the entrance into the labor market of the post-World War II baby boom generation and the increasing proportion of women and teenaged entrants.

Since the 1973-75 recession, nearly 12 million additional persons, more than half of whom were women, have found jobs. Total employment increased from 84.8 million in 1975 to 96.4 million by the second quarter of 1979. Of the 7 million new female workers, nearly half were married, resulting in growing numbers of multiple-earner families. Because of the large labor force increases, the unemployment rate did not drop significantly below 6 percent after reaching 9.1 percent during the 1973-1975 recession. However, many analysts were surprised by the slight decline in unemployment from 1978

through mid-1979 in view of the moderate and slowing economic growth rates.

Population Changes in the
Decade of the 1980s

Because persons who normally would enter the labor force in the next decade are already five years old, the working age population figures through 1990 are fairly certain. Assumptions made about fertility, migration and the life expectancy of the present population affect the Census projections. For the decade under consideration, the most important assumptions concern fertility and migration flows. In the case of fertility, the main question concerns the number of children born to women of the baby boom generation who now are entering their main childbearing years.

The downward trend in the fertility rate is expected to continue. Although there is speculation that there may be a new baby boom in the 1980s, so far there is no evidence that the lower fertility rate assumptions are invalid. Children born in the 1980s will still be too young to participate in the labor market by the end of the decade, but they could affect labor force participation rates of their parents and the demand for part-time work or flexible work arrangements.

Although legal migration into the United States is well documented, the large and increasing number of illegal aliens or "undocumented workers" results in a high degree of uncertainty over the validity of official estimates. According to an estimate by the Social Security Administration, approximately 3.9 million illegal aliens age 18 to 44 years were in the United States in 1973, and most of these were working.^{1/}

^{1/} Testimony of David S. North in June 1978 in hearings before the Special Study on Economic Change, Joint Economic Committee.

This number is now six years old and regarded as conservative by many. These additional residents probably will not cause extensive revision of the population figures when the 1980 and 1985 Census results are in, but the number of aliens may well affect regional and entry-level labor markets. In addition, these undocumented workers may compete directly with youth for low-wage level jobs throughout the next ten years.

In brief, the movements of the population in the 1980s are as follows: assuming only a slight increase in the fertility rate, the population growth of persons 16 and over ranges from 1.4 percent in 1980 to 1.0 percent in 1985 and drifts downward to 0.6 percent in 1990. Of course, these aggregate figures mask varying trends for groups within the population. In contrast to the slight downward drift and stabilization of the population age 18 to 64 years, the teenage population age 16 to 19 years decreases sharply through 1984, tapers off through 1987, and again falls off sharply through 1990. The largest proportion of the population will be in the prime age worker category (age 25 to 44) rather than in the teenage or young adult category as was the case in the 1970s.

Labor Force Participation in the 1980s

Because of the slowdown in the growth of population in the past two decades, the growth of the labor force also is expected to decelerate throughout the 1980s. Under both high and low growth projections, additions to the labor force will be about 2 million per year until 1983, compared with annual labor force growth of 2.3 million in the 1970s.

Several nondemographic factors will influence changes in the labor force in the future as they have in the past. Probably the most important is the rate of economic growth; others include changing social mores, changes in the occupational and industrial mix, and even general price stability.

One can ask why the slowdown in the potential workforce over the next decade is particularly significant in terms of employment and unemployment trends. The main reason can be seen in the employment situation of the past four years when there were tremendous increases in the labor supply. If the pace of new entrants had grown more slowly, and the employment gains had remained the same, there would have been substantial reductions in the unemployment rate.

TABLE V-1
LABOR FORCE PARTICIPATION RATES
(Civilian)

	1970	1975	1979:1
Male	79.7	77.9	78.3
Female	43.3	46.3	50.8
Teenagers	49.9	54.1	58.8
65 and Over	16.9	13.8	13.3

Women in the Labor Force

The increases in the labor force over the past five years have been dominated by the increasing participation of women workers. The female participation rate increased from 46.3 percent in 1975 to 50.8 percent in 1979. Most experts expect growth in these participation rates to continue through the next decade. The Bureau of Labor Statistics projects the growth in the female proportion of the work force to nearly 46 percent by 1990. This implies that the participation rate for women will increase almost 10 percentage points during the next decade. (This projection assumes that the labor force entrance of women of childbearing age will not be reduced by a significant increase in the birth rate.)

The impetus for labor force growth for female workers is a result of several factors. These include: (a) changing attitudes on the role of women in the work force, (b) changing patterns of household formation, family income, and fertility, (c) increased attachment of women to the labor force, (d) increased financial incentives, and (e) growth in job opportunities, especially in the service and trade sector. These factors will continue to be influential in the 1980s.

Participation rates for black and other minority women in the labor force traditionally have been greater than for their white counterparts. Over the past ten years, however, the gap between these two groups has been narrowing considerably and there is reason to believe that this trend will continue. This convergence in participation rates is especially apparent for women under 35 years of age. Because of

their much higher participation rates since 1968, younger white women for the first time are now at rates slightly higher than younger minority women. Experts believe that the most likely outcome is for eventual parity in the participation rates for both white and minority women.

Men in the Labor Force

The labor force outlook for adult men, however, is quite different from that for women. The participation rate for men declined during the past ten years, although the level of participation is and will remain substantially higher than the rate for women. However, male participation is expected to reverse its declining trend and regain or even exceed slightly the participation rate set in the early 1970s.

This description of the aggregate male participation rate does not reflect the behavior of males classified by different age/race breakdowns. The white male participation rate will increase because the 25 to 44 year cohort, which has the highest participation rate, will increase in size due to the aging of the baby boom generation. The decline in rates for white male workers 45 to 54 years of age is expected to continue until the baby boom generation reaches this age bracket, but that does not happen until well after 1990.

In contrast to the black-white female ratio, the participation rates for black men historically have been lower than that for white men. In the past decade, black male rates for men under age 35 actually declined at the same time the white male rate for the same age group was rising. For workers over

age 35, the decline in black participation was greater than that for white male workers. Some of the decline was due simply to the large growth in the working age population of black men and the fact that the labor market was slow in absorbing the greater labor supply. Other reasons include low levels of education and training and racial discrimination against this group.

An extrapolation of past labor market trends would suggest that the gap between black and white labor force participation will widen rather than narrow. However, the gap could narrow if it is assumed that existing and new structural unemployment programs are implemented.

Youth in the Labor Force

Because the teenage population will decline dramatically over the decade, their proportion of the labor force will shrink. This is not true for the black youth component, which will be rising slightly in the next decade. Even though the participation rate of teenagers may well increase for several reasons, it still is not expected to offset the population decline. Consequently, the teenage labor force will decline.

There is likely to be a demand for entry-level workers in fast-growing industries that offer relatively low wage rates. For example, the mushrooming of the service industries offers employment opportunities for teenage workers even with lower levels of experience. Because there will be fewer youth in the next decade, there will be more job opportunities for them assuming moderate and steady economic growth. The perception

of increased job availability could result in a higher labor force participation rate for this group.

The Aging Population

The population 65 years and over is expected to increase until 2000, but at a declining rate as the relatively small birth cohorts of the 1920s and 1930s reach age 65. It is not until after the turn of the century that the post-war baby boom generation will start to reach retirement age.

Participation rates of persons 65 and over declined in the 1970s, but the Bureau of Labor Statistics projects that the rate will not decline any further through 1988, reflecting the temporary effects of the recent legislation raising the minimum age of mandatory retirement to 70 in the private sector and eliminating it altogether for Federal workers.

Summary of the Population and Labor Force Movement

The participation rate for women will continue to rise in the 1980s. The rate for men is expected to increase slightly, a reversal of the trend during the 1970s.

A much larger proportion of the workers than in the past decade will be in the prime age worker category when they customarily exhibit a high rate of labor force attachment. These workers will have completed most of their formal education, and have had several years of labor market, job, and training experience. In short, there will be a very large labor pool of mature,

well-educated and potentially very productive workers. Because the decline in the youth population will offset the higher participation rates expected for this group, the competitive pressure for jobs among teenagers will lessen considerably. These changes should make it easier for future new workers to find jobs.

For the decade of the 1980s, therefore, the ratio of nonworkers to workers in the entire population should become considerably smaller in size. This "economic dependency ratio," as it is called, stood at 117.8 in 1977, which means that there were 117.8 nonworkers for every 100 workers in the population. Assuming steady economic growth, this ratio could fall into the low '90s by 1985 and in the mid '80s by 1990. This means workers will be supporting fewer dependents, and, thus, a higher standard of living will be theoretically possible for the population as a whole.

Depending on the differences in the projected labor force participation rates, labor force growth could follow either a high or a low growth path. The high growth path assumes an annual average growth rate of 2.3 percent for the first half of the decade and a 1.4 percent rate for the second half. The low-growth path projects a 1.9 percent annual average rate between 1979-1984, and 1.1 percent for the remaining period. If lower labor force growth occurs, this will result in a more unfavorable economic dependency ratio.

The "Baby Boom" Generation

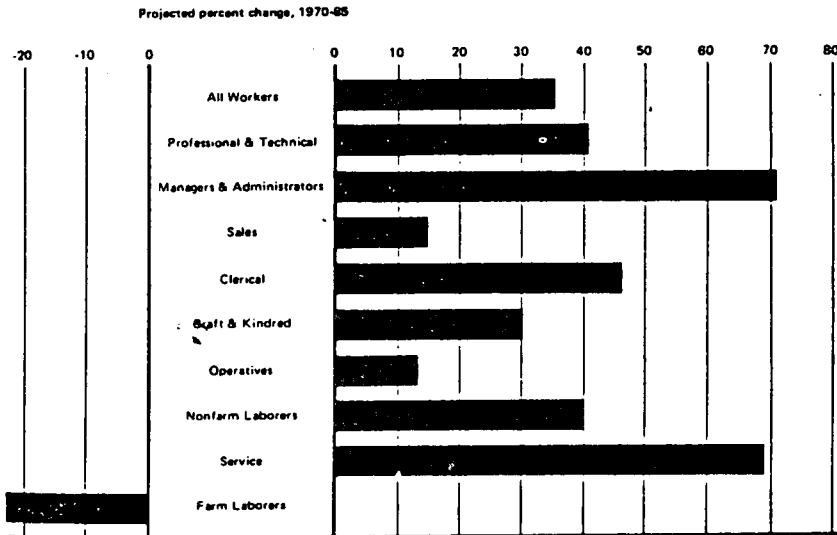
The most characteristic feature of the population in the next decade is that it will be growing older. The median age of the population will rise from 27.9 years in 1970, to 30.0 years in 1979, to 32.8 years in 1990. The implications of this trend for employment in the 1980s are as follows:

(1) Education: The workforce will be much better educated than in the past. The Bureau of Labor Statistics (BLS) estimates that the proportion of workers with less than four years of high school has declined from 50 percent at the end of the 1950 decade to only 26 percent last year. The proportion of workers with at least four years of college reached 17 percent last year, while another 17 percent had from one to three years of college. Higher education levels increase the probabilities for a multiple career lifetime. The sharp two-thirds increase in the number of persons 35 years and older enrolled in college during the 1970s was partly a consequence of the increased number of women entering the labor force and seeking additional education. This trend is likely to continue into the next decade.

(2) Work in the 1980 Decade: Through the mid-decade, BLS projects increased employment opportunities in the service, clerical, managerial, and administration, professional, and technical occupations through 1985. White-collar employment will continue to increase faster than blue-collar employment, but farm occupations will decline.

CHART V - 1

Projected Employment Growth of Occupations Through the Mid-1980s



Sources: 1977 Employment and Training Report of the President, Table E-9, page 259, and 1970 Census of Population.

The workers from the baby boom generation will be entering the lower to mid-management levels. Because the preceding generation of workers is much smaller, relatively few senior managers will be overseeing many lower to mid-level employees. Increased friction and job dissatisfaction could result from this larger supply of mid-level workers pushing against the small number of senior management positions occupied by older workers. Rapid escalation to top management will be the exception rather than the rule in the next decade. Thus, earnings may be held down because of decreased job mobility, underemployment, and increased competition for fewer positions.

(3) Household Formation and Income: Fundamental changes in the composition and the number of households also have occurred during the 1970s. According to Bureau of Census Data, between March 1971 and March 1978, the proportion of households with husband-wife families declined from 69.4 to 62.3 percent; families with no spouse present increased from 11.1 to 12.7 percent of households; and unrelated individuals increased from 19.6 to 25.1 percent of households. Thus the average number of persons per household declined from 3.11 in March 1971 to 2.81 in March 1978. Husband-wife households, which are a relatively high income group, are now a smaller proportion of all households. This trend along with smaller household size has created downward pressure on the median household income although per capita income, by contrast, has shown a significant increase in real terms since 1970. The increase of per capita income is due primarily to the increase of women in the workforce. One possible offset to the more slowly growing household income

is the increase of multiple earner households.

Employment and Unemployment Trends

The baseline projection shows steady progress in reducing the unemployment rate from 7.0 percent in 1980 to just under 5.0 percent at the end of the decade. Although the unemployment rate for married males drops to nearly 2 percent, the rates fall only to 12 percent for teenagers, 8-1/2 percent for minorities, and about 6 percent for women.

Given the previous description of the labor force, one would expect fewer labor force entrants and thus an easier path to full employment. But even in the baseline case, where unemployment is expected to fall below 5 percent by the end of the decade, certain groups such as minority teenagers and minority women may continue to experience high rates of joblessness.

Assuming high economic growth, the demographic changes favor reduced unemployment. With a smaller number of youths entering the labor force in the next decade, the total unemployment rate would decline about four-tenths of a percentage point, because there will be fewer persons with a higher incidence of unemployment.

The greater number of women in the labor force has meant more entrants with less experience, higher turnover rates, and some initial difficulty in finding the first job. All these characteristics have tended to push the unemployment rate somewhat higher than it would have been otherwise. However, in the next decade, more women workers will be in the prime age worker groups, will have had

more job experience, will have completed most of their education, and will have acquired a certain level of job skills.

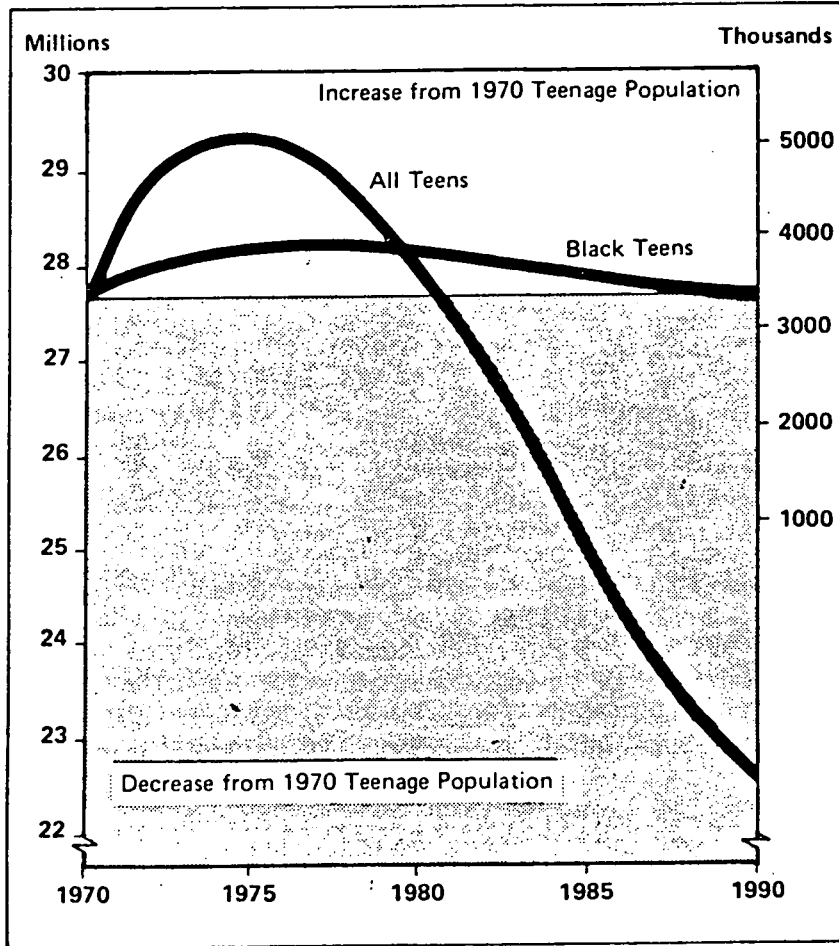
Again in the baseline case, certain groups will not realize the benefits of an overall reduction in unemployment. The employment situation for black and other minority youth in the next decade depends on their successful transition from employment in more slowly growing occupations to ones of faster growth. At the outset of the 1970s, 44 percent of black youth were concentrated in slow-growth, blue-collar industries compared to 36 percent of white youth. The Bureau of Labor Statistics predicts that employment in white-collar and service worker occupations should increase by 22 percent by 1985 while employment in blue-collar occupations is due to increase only 17 percent. Thus jobs in the white-collar industries are expected to continue to increase at a faster rate than jobs in the blue collar industries in the next decade. There is no evidence to date that black youths will be moving into white-collar jobs in the 1980s any faster than they did in the 1970s. This is in sharp contrast to the situation with respect to white teenagers. In addition, jobs require varying degrees of skill and some jobs inherently are more upwardly mobile than others. If present trends continue, black teenagers are likely to be restricted to the less mobile "dead-end" types of jobs.

Until 1985 there will be a large proportion of young adults (20 to 24 years) in the population. As a result, minorities are likely to suffer a double disadvantage: displacement of black teenagers by young adults in the lower skilled, entry level jobs and a disproportionately high black teenage unemployment level. The latter occurs

because the black teenage population will decrease much less rapidly than the white teenage population. Illegal aliens will also be competing for the lower skilled, entry level jobs.

CHART V - 2

Relative Population Increase of Black and All Teenagers,
1970-1990



Source: Garth L. Mangum, *Employability, Employment, and Income*.

Under our pessimistic assumptions of low economic growth and high inflation, unemployment rises above 7 percent toward the end of the decade. As might be expected, the unemployment rates for teenagers, minorities, and women are significantly worse than in the baseline projection.

However, full employment can be achieved in the next decade under more optimistic assumptions. It will be recalled that in the baseline case the unemployment rate is reduced below 5.0 percent by the end of the 1980s. This result is consistent with the potentially favorable demographic shifts.

Additional reductions in unemployment without an increase in inflation are possible through improvements in productivity and in the capital-labor ratio. It has been observed that earlier periods of high productivity growth were accompanied by slower labor force growth and, conversely, that high labor force growth has been accompanied by low productivity growth. Because a falling capital-labor ratio is consistent with a rapidly growing labor force, some economists conclude fallaciously that improvements in productivity will not be accompanied by a reduction in unemployment.

The fallacy in this reasoning lies in the assumption that high productivity growth must be accompanied by slower labor force growth. But there is no reason why this must be so. If the rate of capital accumulation is accelerated and if programs are designed to counter structural unemployment problems by upgrading jobs skills through training programs, improvements in productivity should follow. Moreover, an increase in labor force growth could also result. If, for example, workers are shifted from the unskilled to the

skilled category, discouraged workers and others would likely enter the labor market as formerly unskilled workers left their jobs for better ones. An increase in the supply of skilled employees would also encourage business expansion. Assuming steady economic growth, the unemployment rate could decline to about 4 percent by 1989 through this approach.

VI. HOUSING

Overview

The 1970s was a decade of skyrocketing housing and home construction costs. Between 1967 and 1979 the Consumer Price Index for all items rose by 116 percent, while the CPI for homeownership increased by 160 percent. The average value of single family housing sites and single family unit construction costs rose sharply in the four-year period ending in 1978.

While this chapter discusses housing prospects in general, it should be emphasized that in recent years 40 percent of homebuyers were purchasing their first homes as distinguished from those who already owned homes. The available data covering 1976 to 1978 indicates that this share has been gradually declining. If housing prices continue to rise faster than income, it will become increasingly difficult for individuals and families to buy their first homes.

The decade opened with total sales of 2.1 million single family homes in 1970. A total of 485,000 new homes sold for a median price of \$23,400, and the median price of the 1,612,000 existing homes sold was \$23,000. By 1978, the median price of existing homes had increased to \$48,700, and the median new home price had escalated to \$55,700 -- increases of 111 percent and 138 percent respectively. Yet in 1978, a total of 817,000 new and 3,905,000 existing homes were

sold, despite an average mortgage interest rate of 9.54 percent.

Total starts in 1978 were just over 2 million compared to an average annual rate of 1.74 million for 1970 to 1977, despite the fact that at the start of 1978 the housing industry appeared to be facing the type of economic conditions which, in the past, have resulted in a downturn in sales and construction. Record interest rates which resulted from efforts of the Federal Reserve Board to cope with inflation and strengthen the U.S. dollar abroad were expected to lead to an outflow of funds from savings and loan associations -- the Nation's major mortgage lenders. This did not occur and, in fact, the housing sector remained strong. The strength of the housing sector resulted from: (1) the introduction of money market certificates at mortgage institutions which enabled these institutions to remain competitive for deposit funds; (2) the shifting towards longer term deposits at savings and loan associations which reduced deposit outflows; (3) the increase in investment in mortgages through the secondary market; (4) the increase in borrowing by savings institutions; and (5) the effects of rising market values of houses relative to inflation on the investment decisions of consumers.

This latter point is attested to by comparing the income required to purchase a home and the median household income of the population in 1978. While the Census Bureau's data is not yet available for 1978, our best estimate is that median household income was about \$15,000. The income required to purchase an existing home was approximately \$21,000, and the income required to purchase a new home was

approximately \$23,000, assuming a 20 percent down payment, a 30-year mortgage, and 30 percent of annual income devoted to housing. Yet, single family home sales remained brisk, largely due to the increasing value of existing homes which many purchasers already owned and sold to acquire another, more expensive home.

Housing starts for the first six months of 1979 have averaged 1,726,000 units annually, a total which lags behind the starts for the same period in 1978 by 10 percent. If the national economy should experience a downturn in the coming months, this reduction in housing starts may continue and in fact increase throughout the year.

Multifamily Housing

During the years 1967 to 1979 the CPI for rental residential units increased by 75 percent, rising considerably slower than the rate of inflation. Lagging rents have been but one of a number of factors which have discouraged the building of new rental units. In each year from 1970 to 1973, multifamily units (2 or more units) accounted for approximately 44 percent of all private housing starts. Over the past four years, 1975 to 1978, multifamily starts have been less than 30 percent of all starts. Although multiunit building construction has increased steadily from the low rates of 1975, it is still only 56 percent of the peak building rates attained in 1972.

Although multifamily unit construction is on the upsurge, it should be noted that this is partly the result of tremendous subsidization. Data on subsidized multifamily housing is available for five or

more units only. A total of 414,400 public and private multifamily units were started in 1977. In the same year, 127,250 Federally subsidized units were started, 31 percent of the total multifamily units. Similarly in 1978, of the 462,000 total multifamily units constructed, 43 percent were Federally subsidized.

In addition to lagging rent increases, unsubsidized multifamily construction has been dampened by land zoning, which has precluded multifamily housing, and by soaring inflation. Operating costs have escalated dramatically and the fear of the imposition of rent controls has had a stifling effect upon the willingness of the lender and builder to become involved in multifamily construction. Finally, largely as a result of the above factors, high interest rates have discouraged multifamily construction in recent years.

The supply and demand of new housing units is determined by an interrelated network of economic and noneconomic factors. In the short run the housing market is strongly affected by the business cycle -- the availability and cost of credit, income levels, and price. The long-run housing market is determined largely by demographic factors such as the growth of population and household formation. Long-run housing supply is also influenced by the housing vacancy and replacement rates and second home ownership. There will be four major demographic trends influencing housing in the future: (1) the Nation's population will be concentrated in the 25 to 44 group; (2) men and women are remaining single longer and maintaining single individual households; (3) there is an increased tendency for women to outlive men; and (4) the population is declining in the Nation's metropolitan areas.

These factors will combine to influence the number, type, and location of housing units in the next decade. The concentration of population in the 25 to 44 age group appears likely to result in a pressure on the market for more units capable of accommodating families with young children. The combination of more people remaining single and more widows will probably impose a strain on the market for efficiency and one-bedroom units, presumably rentals, as single young adults and older widows compete for such units. Finally, the decline in the population of many metropolitan areas seems to indicate a need for a halt to growth in some local housing markets, although this trend could well be reversed by the energy shortage.

The number of households whose head are 24 years of age and under are expected to increase from 6.6 million in 1980 to 6.9 million in 1985 and then to decrease again to 6.6 million in 1990. The households headed by individuals 25 to 44 years of age will experience the most rapid growth -- from 32.3 million in 1980 to 38.4 million in 1985 and 43.5 million in 1990.

The greatest demand pressure on the housing sector will occur from the 25 to 44 age cohort, as the bulk of the post-World War II baby boom generation moves into adult age brackets. The 65-and-over household category will also grow rapidly -- from 16.1 million in 1980 to 18.0 million in 1985 and 20.0 million in 1990. The total net new households formed annually will average 1.7 million between 1980 and 1985 and 1.6 million between 1985 and 1990.

This projection of household formation and population growth remains constant in the Committee's baseline, optimistic, and pessimistic projections.

Other Factors Affecting the Supply, Demand and Cost of Housing in the Next Decade

Regulation Q

Changes in Regulation Q that will help small savers obtain a higher rate of return on their deposits were announced on May 30, 1979. The change which went into effect on July 1 for all Federally insured commercial banks, savings and loan associations, and mutual savings banks will increase the maximum interest that commercial banks and thrift institutions may pay on passbook savings accounts. It is anticipated that the result of this change will be an increase in deposits at thrift institutions, with a commensurate increase in the availability of mortgage funds. The higher rates of interest to be paid on the passbook account, however, will more than likely make mortgage money more expensive.

Alternative Mortgage Instruments (AMIS)

On December 14, 1978, the Federal Home Loan Bank Board (FHLBB) issued final regulations which allow Federally chartered savings associations to offer certain alternative mortgage instruments. This permits savings associations to make mortgage loans other than the standard fixed interest rate, level payment, fully amortizing type. The three new AMIs are:

* The variable rate mortgage (VRM) which allows interest rates to be changed periodically after the mortgage is in effect.

* The graduated mortgage payment (GMP) which allows for lower monthly payments in the early years of the loan with monthly payments rising annually to higher levels in later years when, presumably, the homeowner can better afford them.

* The reverse annuity mortgage (RAMs) which are brokered annuities for elderly persons whose mortgage has been largely or totally paid off. The lender, with the house as collateral, buys an annuity from a life insurance company for the homeowner and the annuity is then paid monthly to the homeowner. Upon the death of the homeowner, the mortgage loan used to obtain the annuity is repaid through probate. This enables the elderly homeowner to live rent free and also receive a cash income by converting invested wealth into an annuity.

The extent to which these and other AMIs proliferate and are utilized may well affect

the demand for and availability of single family homes, particularly as lending becomes more tailored to the needs of individual segments of the population.

Housing Regulations

Land Regulation

Growing environmental land use regulation and excessive development and construction standards have contributed significantly to the soaring costs of housing, as have the additional costs imposed upon developers by local governments throughout the Nation confronted by fiscal problems.

Regulation by all levels of government has become a major cost factor which the President's Task Force on Housing Costs, in its final report to the Department of Housing and Urban Development (HUD) last year, labeled "a serious crisis" in housing. Expanding and often unduly burdensome government regulations have become direct and important factors contributing not only to site and construction costs, but to the growing cost of financing, land development, infrastructure amenities, and occupancy costs. In a large number of instances the standards set for the size and type of lots; street, sidewalk, and driveway dimensions and paving requirements; and sewer and water system pipes and hookup charges exceed practical requirements and thus unnecessarily add to the cost of housing.

The General Accounting Office (GAO) performed a survey of 87 communities throughout the Nation and reported last year that potential savings that could be achieved through less restrictive requirements for street and site-related facilities ranged as high as \$2,655 per house. The median potential savings per house for the entire survey was \$1,295.^{2/}

^{1/} "Why Are New House Prices So High, How Are They Influenced By Government Regulations, And Can Prices Be Reduced?" GAO Report to the Congress, May 11, 1978, p. 51.

In its report last year on housing costs, the GAO noted that many builders, although they are not required to do so by local building codes, elect to utilize more expensive materials and construction techniques. The Agency estimated that the median potential savings through voluntary use of less expensive materials and techniques and through modification of building codes to eliminate needless restrictions was \$1,700 per house for all 87 communities surveyed for the report.

Some 10,000 jurisdictions throughout the country now have building codes used to regulate construction, electrical, plumbing, heating, mechanical, energy, fire, safety, maintenance, rehabilitation, and fire prevention systems. To a significant degree, these codes are uncoordinated and lack uniformity.

Further, housing experts have found that housing costs increase in those communities which have either in part or in whole adopted their own codes, as opposed to a model code.

As indicated above, the median potential savings that could be achieved through land use regulations and building code reforms and through the voluntary use of less expensive building materials and methods is approximately 5 percent of the total cost of the median price new house in 1978 -- approximately \$3,000. Absent any change in this percentage, by 1988, when the median price of a new house in our baseline projection is expected to be about \$125,000, reform of regulations and the voluntary use of less expensive materials and methods could produce median savings of over \$6,000 per house.

If \$6,000 were saved per home constructed in 1988, almost \$10 billion in homeowner costs could be averted.

Achieving these savings will depend upon the initiative of HUD and also on the demand for lower cost housing. To date, home sales have been strong without implementation of these cost-saving procedures, thus builders have had little incentive to innovate.

Housing Projections for the 1980s

The Baseline Case

The baseline projections indicate an average annual inflation rate of 6.5 percent, an increase in deposits in savings and loan associations of about 165 percent by 1988, and an average annual mortgage interest rate of nearly 10.0 percent. Mortgage interest rates are projected to peak in 1979 at about 11 percent and decrease each year until 1988 when the rate is projected to be about 9 percent. The combination of rapid household formation in the 25 to 44 age group, growth in mortgage payments averaging almost 11 percent per year as well as strong growth in saving and loan deposits -- the major sources of new funds to financial institutions and for financing housing mortgages -- and falling interest rates are likely to produce an unprecedented number of annual housing starts throughout most of the decade.

Housing starts projected in 1979 total 1,700,000, the lowest annual production rate in the projection. Of these, 1.2 million are projected to be single family and .5 million multifamily (2 or more units), of which .2 million are projected to be government subsidized. Housing starts should peak in

1985 with 2.5 million units and decline to 2.4 million by 1989. Total starts are projected to average 2.2 million units annually; single family units are projected to average 1.5 million per year and .7 million multifamily units are projected. Of that, government-assisted units are projected to average .2 million annually.

An increase in median household income of about 117 percent is projected during the next decade. Median income for the total population is projected to increase from about \$15,000 in 1978 to about \$32,600 in 1988. The inordinately rapid escalation of housing prices in recent years -- for both new and existing homes -- has put the prospect of homeownership out of the reach of a large number of Americans. Projected further rapid price increases in the years ahead could exacerbate this problem further still. Thus, the question that is foremost is the affordability of housing in the 1980s.

The concept of affordability is somewhat elusive and ill-defined. If a person purchases a home and is willing and able to make the required payments, in an absolute sense, the home is affordable even if homeownership costs consume 50 to 60 percent of that person's income. Devoting such a large proportion of one's income to expenditures for housing undoubtedly imposes severe constraints on spending for other items, but the free and voluntary choice implied by that decision suggests that it is affordable; it simply means that, for some time at least, one is "house poor." However, even though one may choose to be "house poor," he may be, and often is, constrained from purchasing a home by the requirements of institutional lenders. In the absence of significant amounts of wealth, lenders have

in the past been reluctant to make mortgage commitments when the annualized payments for principal, interest, taxes and insurance exceed 25 to 30 percent of the borrower's annual income. Although this restriction has eased somewhat, particularly with the introduction of alternative mortgage instruments, we have adopted a slight variation of this criterion as our working definition of affordability. Thus, if the annualized principal, interest, tax, insurance, and maintenance expenditures (including utilities) on a house exceed 30 percent of yearly income, that house is said to be unaffordable. It should be noted that maintenance and utility expenditures have been included to provide a more comprehensive view of affordability.

The following section on the future affordability of housing is analyzed by (1) comparing the projected change in income to the projected change in housing costs and (2) by comparing the income necessary to afford homeownership relative to the projected median income of households. The analysis considers the purchase of new as well as existing units. However, it does not consider the increased purchasing power of households which are already homeowners, despite the fact that these represent the majority of American households. Nor does it consider the increasing tax benefits from interest deductions as inflation pushes taxpayers into higher brackets.

In recent years over 40 percent of homebuyers were purchasing their first home. Approximately four times as many homebuyers bought existing homes as new homes. The costs of both existing and new homes are projected to increase by an average of almost 90 percent between 1978 and 1985, and by

almost 130 percent between 1978 and 1988. The increase in the monthly cost of housing is thus projected to exceed the projected increase in the median household income. This would indicate that housing -- both new and existing -- should be somewhat less affordable in 1988 than it was in 1978 for households purchasing their first homes (see Tables VI-1 and VI-2).

TABLE VI-1

PROJECTED INCREASES IN MEDIAN HOUSEHOLD INCOME AND
THE COST OF PURCHASING A FIRST HOME
(1977-1988)

	Baseline Projection	Optimistic Projection	Pessimistic Projection
Percentage Increase in Cost of Purchasing a First Home <u>1/</u>	120-130	105-115	165-175
Percentage Increase in Median Household Income	117	120	140

1/ This estimate uses the cost of new homes. In some cases, existing homes increase at a slightly different rate, but these differences are not great. The estimates assume that insurance, taxes, maintenance, utilities, and other costs associated with homeownership (excluding mortgage costs) rise somewhat faster than the cost of repaying a mortgage. The mortgage cost estimates assume a 20 percent down payment and a 30-year repayment period. Interest rates are consistent with the monetary policy discussed in Chapter II.

Source: Estimates were compiled by the Joint Economic Committee staff using data collected from a variety of sources, including the Insurance Information Institute, Bureau of the Census, and the econometric projections.

TABLE VI-2

PROJECTED COST OF PURCHASING A NEW HOME
AND MEDIAN HOUSEHOLD INCOME

(1988)

	Baseline Projection	Optimistic Projection	Pessimistic Projection
Annual New Home Cost <u>1/</u> Annual Payments <u>2/</u>	\$15,960	\$15,000	\$19,080
Median Household Income	\$32,600	\$33,000	\$36,000

1/ This estimate uses the cost of new homes. In some cases, existing homes increase at a slightly different rate, but these differences are not great. The estimates assume that insurance, taxes, maintenance, utilities, and other costs associated with homeownership (excluding mortgage costs) rise somewhat faster than the cost of repaying a mortgage. The mortgage cost estimates assume a 20 percent down payment and a 30-year repayment period. Interest rates are consistent with the monetary policy discussed in Chapter II.

2/ Annual payment includes taxes, utilities, insurance, maintenance, and mortgage payments.

Source: Estimates were compiled by the Joint Economic Committee staff using data collected from a variety of sources, including the Insurance Information Institute, Bureau of the Census, and the econometric projections.

In the next decade, the income needed to purchase a new home is expected to be significantly above the median income for the total population. The income required to purchase a new home is expected to exceed the median household income by over 60 percent in 1988. Even for an existing home, the income needed will exceed the projected median income by about 45 percent in 1988 -- as compared to roughly a 40 percent income-need-to-median-income gap in 1978. While this appears to be a dismal prospect for future homeowners, several factors may mitigate the severity of this projection.

First, according to the data, the income needed to purchase a first home in 1978 was 53 percent above the median household income of the Nation. Yet even in 1978, new home sales reached a near record number -- approximately 817,000 units -- almost 30 percent more new units than were sold in 1976. Likewise, existing home sales were also high -- 3,905,000 compared to 3,002,000 in 1976. Because housing values have been rising faster than the rate of inflation, an investment in housing has been increasingly attractive as a hedge against inflation. And while initially many households are finding it necessary to allocate more than the standard 25 percent of their incomes to meet their housing costs, this action is prompted by the recognition that because their incomes are likely to rise faster than their housing maintenance and operation costs, ultimately the percentage of income expended on housing will decrease. The mortgage interest tax deduction is a further inducement to use homeownership as a hedge against inflation.

Second, about two-thirds of American households already own homes, and even if

they were to move, could rely on the equity from their present home and not merely on their income to make another home purchase. This fact is very significant and should not be overlooked when considering housing affordability. Whether a household can afford to purchase a home is often dependent upon whether or not it already owns a home.

Further, the median sales price of existing homes has typically been lower than for new homes, requiring proportionately lower income needs. There is no reason to believe this relationship between the median selling price of new and existing homes or the propensity to purchase existing homes will be reversed in the 80s.

The households headed by individuals 25 to 34 years old have typically constituted the greatest percentage of homebuyers, despite the fact that the median income of this group was considerably below the income needed for home ownership in 1978, if housing costs represent 30 percent of annual income. It seems likely, though it is undocumented, that many such households have access to "hidden assets" -- gifts or loans from parents for a down payment. There is no evidence to suggest that a change will occur in the homeownership patterns of this cohort.

In this regard, lenders have recently used innovative mortgage instruments to make loans to households who may not have qualified under conventional mortgages. Eligibility under the Graduated Payment Mortgage (GPM) (discussed earlier) is determined on the basis of affordability of the first year's payments -- the lowest in the repayment period. Its limitations notwithstanding, this does permit somewhat lower income households to qualify for homeownership.

Lenders, in certain instances, are also approving loans to households where the cost-to-income ratio exceeds, sometimes significantly, the 25 percent standard. Again, this enables otherwise ineligible households to qualify for a mortgage loan.

While these factors are important in considering the complex question of housing affordability, they do not alter the fact that according to our baseline projection, homes for first-time purchasers will be less affordable in 1988 than they were in 1978.

Our baseline projections further indicate that private homeownership will likely be unattainable by low-to-moderate income households. These households will become increasingly reliant on subsidized programs. According to the projections, housing costs will increase more rapidly than the rate of income growth, and the differential between income needs and median income will increase.

The affordability question aside, the attractiveness of housing as an investment has and will continue to affect other sectors. For instance, the attractiveness of housing as an investment may have contributed to reduced investment in other areas, most notably the stock market. During periods of high inflation, investors tend to prefer physical assets, such as real estate and housing, to financial assets, such as stocks and bonds, because of uncertainties about future rates of return. The impact of reductions in investment in plant and equipment have direct and significant consequences for American productivity. In addition, the increased expenditures for housing costs on an annual basis affect the distribution of funds throughout the economy. According to the Consumer Expenditure Survey

of the Bureau of Labor Statistics, in 1972 to 1973 the percentage of before-tax income spent on housing and utilities by a homeowner was about 22 percent. As this proportion increases, trade-offs are inevitable. Presumably, personal savings will be reduced first and will have ramifications through the credit market and the various sectors dependent upon it. Ultimately, however, homeowners expending increased proportions of their income on housing will be required to make sacrifices in other essential and nonessential purchases in order to adjust to the constraints of their personal budgets. These adjustments will undoubtedly be felt throughout the national economy.

The Optimistic Case

Under our more optimistic assumptions, GNP is projected to grow more rapidly than in the baseline forecast -- by an average of between 3.5 and 4.0 percent per year -- and inflation will decline throughout the decade to under 5 percent. Deposits in savings and loan associations are expected to grow by about 175 percent between 1979 and 1988, and mortgage interest rates are expected to peak in 1979 and decrease each succeeding year. By the middle of the decade, they should be below 9 percent and remain there through the close of the decade. If inflation declines to below 5 percent and remains at that level as the projection indicates, it seems likely that mortgage interest rates will fall considerably below 9 percent. This analysis, however, is based on a 9 percent mortgage interest rate.

As a result of these favorable conditions, housing starts should average approximately 2.3 million units annually. Of these,

approximately 1.6 million are expected to be single family units and 700,000 to be structures with two or more units; approximately 200,000 of the multifamily units are projected to be Federally subsidized.

Median household income is projected to increase by almost 120 percent over the decade, from \$15,000 in 1978 to about \$33,000 in 1988.

The cost of owning both a new and existing home is expected to increase by approximately 115 percent during the 1980s. Thus, the rate of increase in the cost of owning a home is roughly equal to the increase in the median income. Both new and existing homes should therefore be as affordable as they were in 1978 and possibly even more affordable.

If housing costs represent 30 percent of income, and assuming a 20 percent down payment and a 30-year mortgage, new homeowners would require an annual income of about \$50,000 and purchasers of existing homes, an annual income of \$45,000 by the end of the decade. For a new home, income needs will exceed the median income of the total population by roughly 50 percent and for an existing home by 35 percent. The difference between the income needed and the projected median income is reduced somewhat from the baseline forecast but is still significant.

The Pessimistic Case

In our pessimistic scenario, the inflation rate runs between 9 and 10 percent annually, deposits at savings and loan associations increase by about 145 percent by the end of the decade, and mortgage interest rates

average 10 percent per year. As in the baseline forecast, the mortgage interest rates are expected to peak in 1979 at almost 11 percent and decrease each year thereafter, but at a lesser rate than in the baseline projection. By 1988 the mortgage interest rate is expected to decline to about 9 percent. Mortgage repayments in this scenario fall far short of baseline projections -- averaging about 8 percent per year through the forecast horizon.

As a result of these more restrictive conditions, total housing starts annually are expected to fall below the baseline forecast, averaging 1.9 million units. It should be noted that relative to demographic pressure which will be exerted on the housing market in the 1980s, this 1.9 million units is not the large number it would be under present circumstances. Single family units are projected to average 1.3 million annually and multifamily units (2 or more units) .6 million per year. Of these government-assisted units will comprise .2 million annually through 1988. Total starts are expected to peak in 1984 with about 2.0 million units and to fall to about 1.8 million by 1988.

The median income will increase approximately 140 percent from \$15,000 in 1978 to about \$36,000 in 1988. The total cost of owning and operating existing and new homes is projected to increase by over 170 percent between 1978 and 1988, roughly 30 percent above the projected increase in the median income. Homeownership should therefore be even more unaffordable than it is today or than it would be under the baseline and optimistic projections. Thus the energy shortage assumed in the model will result in an escalation of the high cost of

housing which we are presently experiencing. Again, it should be noted that this does not apply to current homeowners, who will experience an increase in real wealth as their property appreciates.

Under the Committee's pessimistic forecast, the cost of a new home will be 20 percent higher in 1988 than in the same year under our baseline projection. Household median income is expected to exceed the baseline projection by 9 percent. Thus the affordability gap will increase significantly from the trend projection by 1988. By 1985, new homes will be least affordable in the forecast horizon, with required income exceeding the projected median income by almost 90 percent. By 1988, required income to purchase a new home will exceed the median income by approximately 75 percent -- a 15 percent deterioration from the baseline and 20 percent over the income-need-to-median-income gap in 1978.

For existing homes, a similar trend will occur. 1985 should witness income needs exceeding the median income by about 60 percent, as compared to 45 percent in the baseline, and 40 percent in 1978. By 1988, the gap will narrow slightly to 55 percent -- about 10 percent higher than the baseline affordability gap for 1988, and 15 percent above the 1978 affordability gap.

Multifamily Housing

The projections of multifamily housing starts (2+ units) range between almost .8 million annually in the optimistic scenario, to .7 million annually in the baseline projection, to .6 million in the more pessimistic scenario. Of these, almost .5 million will be nongovernment-assisted starts in the baseline forecast, and .4 million will be nongovernmentassisted starts in the pessimistic projection.

This analysis assumes that the vast majority of government-assisted starts in the 1980s will be private rather than publicly owned units. Between 1970 and 1978 private multifamily units constituted approximately 35 percent of all private starts. This trend would remain constant in the optimistic projection and would drop to about 30 percent under the baseline and pessimistic projections.

Under our baseline projection, annual multifamily starts in the 1980s will average almost 10 percent above the 633,000 average annual private multifamily starts between 1970 and 1978. Our pessimistic projection expects average annual starts to approximate the 1970 and 1978 annual average multifamily starts. Under our most optimistic assumptions, while multifamily starts annually in the 1980s are expected to exceed the average annual rate in the years 1970 to 1978 by about 25 percent, they are expected to fall about 25 percent short of the 1,048,000 multifamily units started in the peak year, 1972.

Of the 800,000 multifamily units projected annually under the optimistic projection, approximately 200,000 are expected to be

government subsidized, the same annual rate projected in the baseline and pessimistic scenarios.

Under our most optimistic projection, 25 percent of the multifamily starts will be government-assisted. This proportion is expected to increase to almost 30 percent in the baseline projection, and to about one-third in the pessimistic projection.

While Federally subsidized units have increased as a share of the total in recent years, the absolute numbers have fallen far short of the ten-year goal set by Congress in 1968 of providing 6 million Federally subsidized units for the poor. During the same period, Congress has intended that 20 million private units be constructed. While the private housing industry responded by providing over 17 million units, or 85 percent of the goal, the Federal Government provided only 2.7 million of the new or rehabilitated units for the low-income group -- 45 percent of the ten-year goal.

Government-Assisted Units

The Section 8 Program, the newest concept in government housing subsidies, focuses on the demand rather than the supply of rental housing. Under Section 8, HUD through local public agencies, makes subsidy payments to owners of rental housing units on behalf of low- and moderate-income tenants. The tenants pay 15 to 25 percent of their income, with HUD supplementing the difference at the fair market value. This is designed to stimulate new rental construction as well as to provide subsidies for renters in already existing housing.

In recent years, Section 8 has been the dominant form of Federally subsidized housing. In 1977 and 1978, Section 8 units have comprised over 85 percent and 90 percent respectively of all HUD-subsidized starts. For 1979, the Section 8 starts are expected to comprise about 85 percent of all HUD starts and almost 75 percent of all Federally subsidized starts.

At least for the early part of the 1980s, it seems likely that the Section 8 program will continue to be the most active in terms of new Federally assisted housing starts. This program is not without its problems, however. The program is enormously costly, and it does not address the operating cost problem.

In an effort to overcome these problems, in the future we may witness changes in Federal housing programs to make them more effective. However, it seems unlikely that this will occur before the middle of the next decade.