THE CHAIRMAN OF THE
COUNCIL OF ECONOMIC ADVISERS
WASHINGTON

March 14, 1978

MEMORANDUM FOR THE PRESIDENT

FROM: Charlie Schultze CLS

SUBJECT: Background on Inflation

Developments of the past 4 or 5 months have led to some worsening of the outlook for inflation in 1978, as I indicated to you orally about a week ago. The time is growing short for action to improve the chances that the anti-inflation program announced in January will show some results this year. Your economic advisers are therefore preparing a list of steps that might be taken. A memo will come to you within the next several days on the worsened outlook for inflation in 1978 and on options to implement the anti-inflation program. This paper is designed to provide you with some broad background on the nature of the current inflation problem.

What Starts a New Inflation?

The forces that initiate an increase in the rate of inflation fall into two broad categories:

- The classic problem of inflation arises from excess aggregate demand. When unemployment and unused plant capacity are large, fairly rapid increases in the demand for goods and services (on the part of consumers, businessmen, and governments) result mainly in putting idle labor and capital resources back to work. But once the nation is producing at its "potential," further large increases in demand give rise to inflationary pressures. Labor markets are tight, and the attempt by business firms to continue large-scale hiring leads to accelerated wage increases. Strains on industrial capacity add to costs, which can easily be passed on. Shortages develop. With the demand for goods and services outrunning productive capacity, business firms find they can raise prices to increase their profit margins, without fear that competitors with capacity to spare will undercut them.

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- A variety of supply shocks, such as food shortages or an OPEC oil price boost, may also increase costs and prices and give rise to an acceleration of inflation. The impact of supply shocks on the inflation rate will be greatest in periods of high employment, when it is easier for business firms to pass on the higher costs and for labor to raise wages in order to keep up with the cost-of-living. But supply shocks will tend to push up prices even in periods of substantial economic slack.

The recent inflationary period has its distant origins in the inflationary means used to finance the Vietnam War. From 1965 through 1969, the economy was operating continuously with real output above the nation's productive potential (see Chart 1). Unemployment during this period stayed below 4 percent, and was as low as 3-1/2 percent in late 1968 and early 1969. The result was a classic case of excess demand inflation. Increases in wage rates and prices both began to move up in late 1965 and continued to rise over the next three years (Table 1). By 1969, consumer prices were rising at around 6 percent a year, compared with 2 percent in 1965. Average wage rates, which were increasing at around 3-1/2 percent a year in 1965, were rising at a 6-1/2 percent rate by 1969.

Table 1

Changes in Wage Rates and Prices, December to December

(Percent)

	Average Hourly Earnings	Consumer Prices
1965	3.4	1.9
1966	4.9	3.4
1967	5.3	3.0
1968	6.8	4.7
1969	6.5	6.1
1970	6.7	5.5

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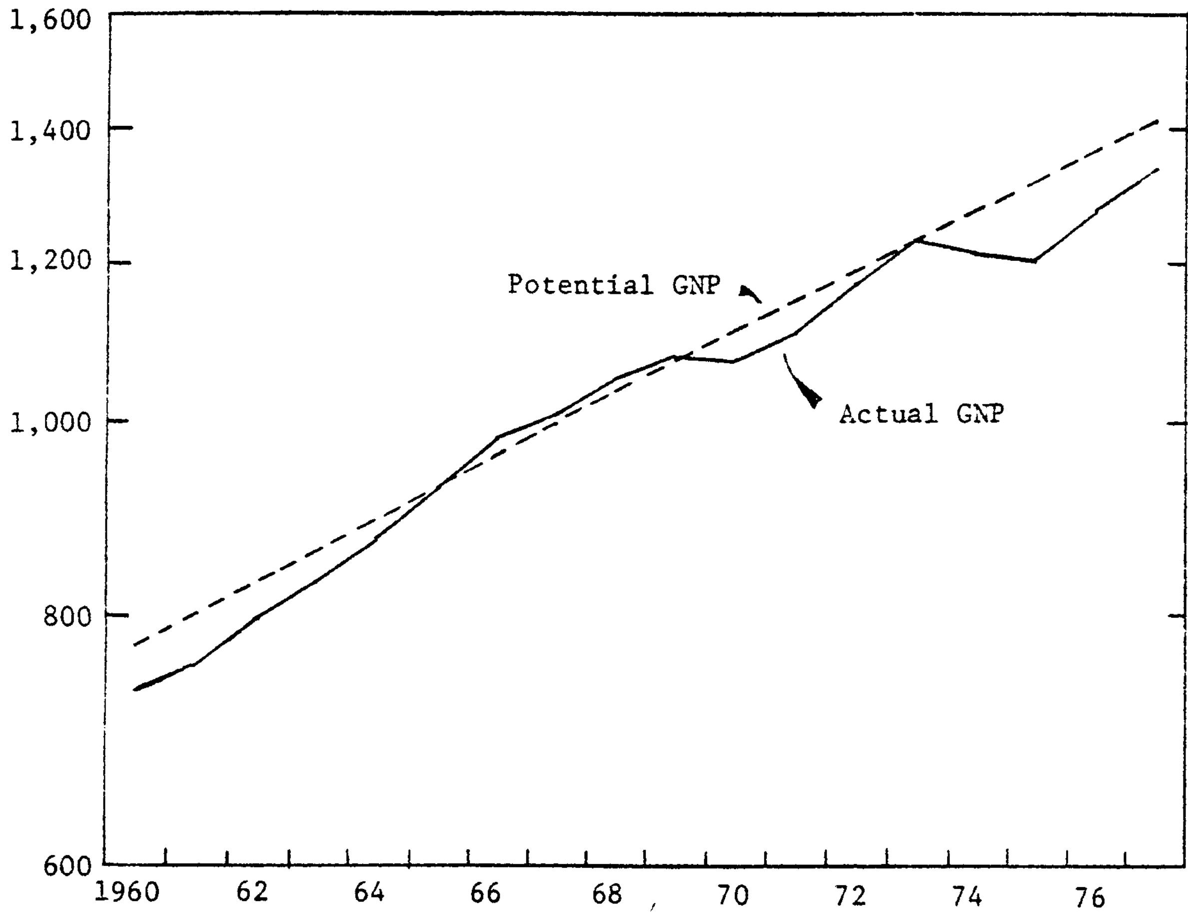
Chart 1

Actual and Potential GNP



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Excess demand also was a contributing factor to a renewed heating up of inflation in 1973. The rate of inflation had moderated substantially during the latter half of 1971 and 1972, when mandatory price and wage controls were in effect. In 1972, however, both monetary and fiscal policies were highly expansive, and real output grew strongly. By 1973, real GNP reached its potential level (Chart 1) and the unemployment rate was down to around 4-3/4 percent. As the controls on wages and prices were relaxed during the course of 1973, inflationary pressures intensified.

A larger part of the 1973-74 acceleration of inflation, however, stemmed from supply shocks. The special factors that influenced prices in those two years were of unprecedented severity for a peace time period.

- Retail food prices rose more than 30 percent in two years, largely as a consequence of poor world-wide harvests of major grain crops.
- The OPEC oil price increase drove up energy prices paid by consumers 40 percent in two years.
- An economic boom in all industrial countries simultaneously created major scarcities of critical industrial materials.
- The fall of almost 15 percent in the value of the dollar in exchange markets from mid-1971 to mid-1973 on a bilateral trade-weighted basis raised import prices substantially.
- The phasing out and removal of wage and price controls in late 1973 and early 1974 led to an explosion of industrial commodity prices at the wholesale level.

What Perpetuates Inflation, Once Started?

Removal of the initiating forces of inflation does not, unfortunately, mean that inflation comes to an end. Once underway, an inflationary process becomes deeply embedded in the structure of wage, cost, and price increases, and develops a momentum of its own. Unwinding from a prolonged inflation is extremely difficult.

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If the rate of wage increases tapered off quickly as unemployment rose, and if business firms' pricing policies reflected the state of product markets, inflation could be quickly brought under control. A short period of slow growth, with moderate increases in unemployment and idle capacity and a weakening of markets for business sales, would rapidly halt inflation.

Unfortunately, in modern economies, the behavior of prices, and especially wages, is not very sensitive to modest and short-lived periods of economic slack. Once an inflation has been underway for awhile, workers and employers behave as if it will continue. Wages increase in response to past price increases and in the expectation that future inflation will make it possible to pass on the higher wages into higher prices. The pattern is only modestly influenced by the existence of high unemployment and excess capacity. It therefore is very difficult to use the traditional tools of monetary and fiscal policy to bring inflation to a halt once it has begun in earnest.

Recent experience in two recessions illustrates the problem. In 1969, both monetary and fiscal policies moved sharply toward restraint in an effort to break the back of the excess demand inflation of 1965-69. The shift in monetary policy was particularly harsh. The annual growth rate of M_1 dropped from 8 percent in the second half of 1968 to less than 3 percent in the last half of 1969. Interest rates skyrocketed, and sources of housing finance dried up. The result was a recession that began late in 1969 and continued throughout 1970. Unemployment rose from 3-1/2 percent to 6 percent.

Elimination of the excess demand, however, had no effect on the rate of inflation. The rise in the CPI did slow temporarily, due to a decline in mortgage interest rates, but the underlying forces pushing up costs and prices were not affected. Wage rates continued to rise as fast in 1970 as they had in 1969 (Table 1).

The failure of wage and price increases to moderate during 1970 occasioned widespread surprise and commentary. The Nixon Administration, you may remember, advocated a policy of gradualism in dealing with inflation -- in the expectation that prices and wages would eventually respond to high unemployment and excess capacity. In the summer of 1971, this expectation was abandoned, and wage and price controls were imposed.

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Experience since 1974 has been similar. During the first half of 1975, the rate of inflation did moderate substantially from the hectic pace of the previous two years. By around mid-year 1975, price increases were down to the 6 to 6-1/2 percent range. The recession of 1974-75 was much more severe than the recession of 1970, and it did have some tempering influence on wage and price behavior. But the moderation of inflation in early 1975 stemmed mainly from the termination of the special factors pushing up prices and wages in 1973-74. The late 1973 OPEC oil price increase had largely worked its way through the economic system; food supplies improved; the worldwide commodity boom ended; and catch-up increases in prices and wages after the removal of controls came to an end.

Since mid-1975, the economy has been operating with a substantial degree of slack. Excess capacity in manufacturing has been widespread -- the rate of capacity utilization has yet to rise above 83 percent. And the unemployment rate has only recently declined to below 6-1/2 percent. But, apart from erratic movements in fuel and food prices, the inflation rate has stubbornly persisted at a 6 to 6-1/2 percent rate.

Until very recently, there has been little or no evidence that inflationary pressures were accelerating, but neither has there been evidence of a slowing of wage and price increases. Since the middle of 1975, total compensation (wages plus fringes) per hour worked in the nonfarm business sector has been rising at an annual rate of about 8-1/2 percent (Table 2). The long-term trend of productivity gains is now around 2 percent. The long-term trend of unit labor costs since mid-1975 has thus been rising at about a 6-1/2 percent rate, and this has determined the underlying trend of consumer prices.

The continuation of inflation in the range of 6 to 6-1/2 percent since mid-1975, it should be noted, is <u>not</u> due to the size of the Federal deficit. And it is <u>not</u> due to excessive increases in supplies of money and credit. Monetary and fiscal policies <u>do</u> have an important bearing on prices, but that effect is <u>indirect</u> -- that is, they affected prices by changing the balance between aggregate demand and supply. If monetary and fiscal policies since 1975 had been less expansive, aggregate demand would have

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Table 2

Costs and Prices
Annual Rate of Change

(Percent)

	Compensation per hour private nonfarm sector	Trend of unit labor costs 1/	Consumer prices, excluding food and fuel
1975 2nd half	6.6	4.6	6.1
1976 1st half	9.8	7.8	7.0
2nd half	8.5	6.5	6.1
1977 1st half	9.6	7.6	6.7
2nd half	7.5	5.5	5.9
Mid-1975 through year-end 1977	8.4	6.4	6.4

1/ Based on 2 percent trend of productivity.

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grown more slowly. Perhaps some modest decline in the inflation rate would have occurred had unemployment been kept at a 7 or 7-1/2 percent rate. The principal result, however, would have been to constrain the growth of output and employment rather than to reduce the rate of inflation. Inflation has continued at around a 6 to 6-1/2 percent rate not because aggregate demand has grown too rapidly, but because the momentum of inflation is so strong.

Why is the Momentum Strong?

Many years ago, price and wage increases could be counted on to moderate significantly in response to slack in labor and product markets. That is no longer the case. Prices and wages are relatively inflexible in a downward direction, so that economic slack no longer leads to a significant moderation of inflation.

The result is that each new bout of inflation tends to set a higher floor under the average rate of rise in wages and prices. Each new round of inflation starts from a higher base, and the rate of inflation tends to drift upward over long periods of time (Chart 2).

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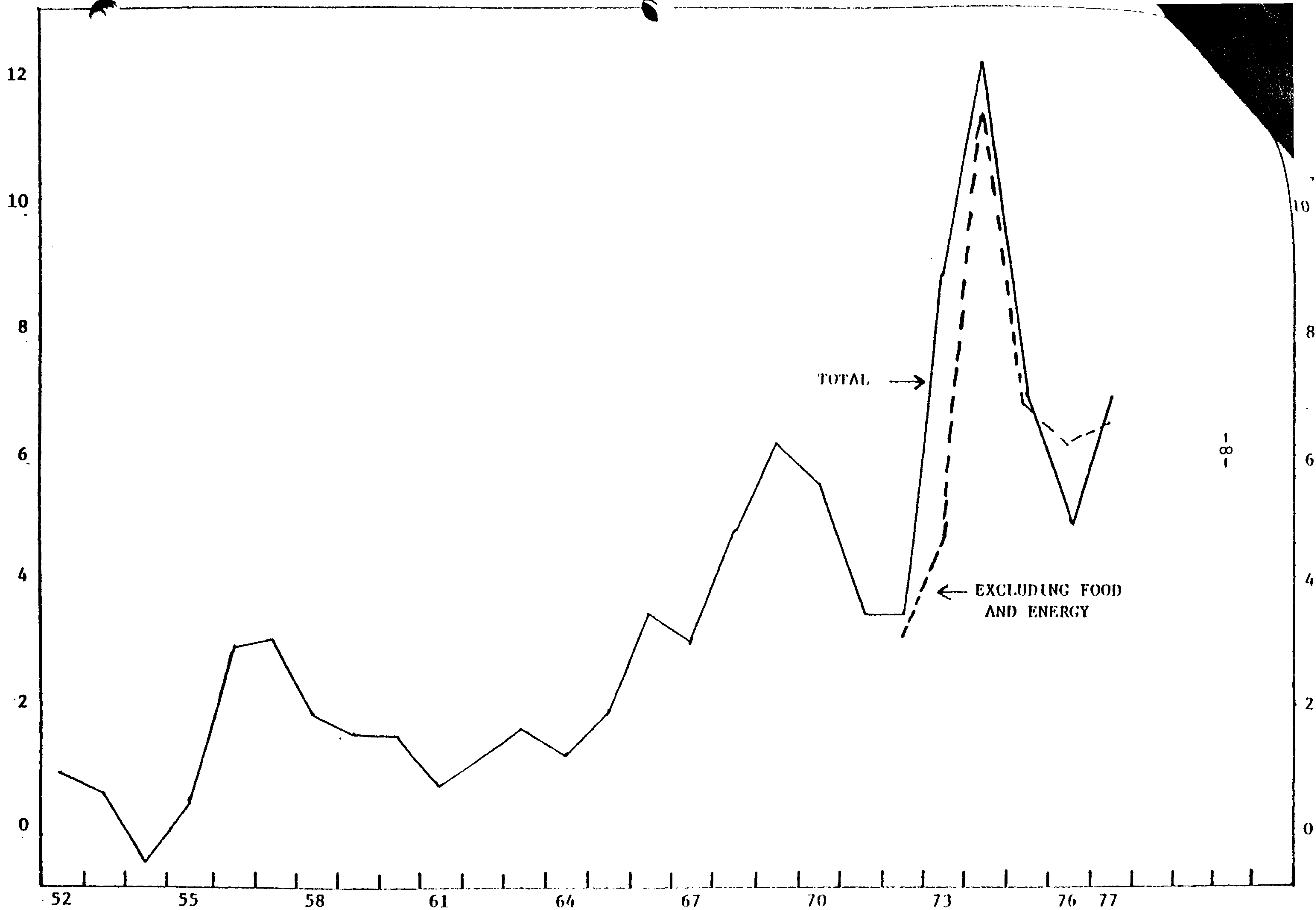

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The factors that lead to downward inflexibility of wages and prices are many and varied. For example:

- Price competition is limited in many sectors of the economy. Competition tends to focus on other strategies than pricing, such as advertising and variations in services.

- Wage rate settlements in heavily unionized industries are notoriously unresponsive to changes in the rate of unemployment. In 1977, for example, the steel industry was in great difficulty and imports were growing rapidly; but the contract signed with the steel workers gave wage and fringe benefit gains averaging about 9-1/2 percent a year for three years, even though productivity has been rising only about 1-1/4 percent per year in the industry.

- Union wage contracts are typically signed for 3-year periods and the majority contain formal escalator clauses. The ongoing rate of wage change thus depends heavily on prior conditions in labor markets and on the current rate of inflation, rather than on the balance between demand and supply for labor. Moreover, the size of contracts signed by one major union often tends to influence contracts signed by others. One union leader can't be seen as "weaker" than another.

- Many firms in nonunionized industries pursue long-range wage policies designed to maintain a stable labor force. Hence, they do not take advantage of a temporary surplus of job applicants to reduce wage increases significantly.

There is some evidence that the unresponsiveness of wages and prices to economic slack may have become worse during the postwar period. Table 3 shows wage and price developments during postwar business cycles. Deceleration of wages and prices -- particularly of wages -- has been <u>less and less evident in each succeeding economic contraction</u>. The table exaggerates the problem, since there were strong outside forces pushing up prices and wages prior to the 1948-49 recession and again during the recent recession.

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Table 3

Cycle	Average hourly earnings index, manufacturing[1]			Consumer price index			Unemployment rate, wage [illegible] salary workers in manufactur[illegible]		
	At cyclical peak	2 quarters after recession trough	Change	At cyclical peak	2 quarters after recession trough	Change	At cyclical peak	2 quarters after recession trough	Change
	Percent change from 4 quarters earlier						4-quarter average		
1948-49	9.1	1.9	-7.2	4.5	-0.6	-5.1	4.2	8.2	4.0
1953-54	5.8	2.4	-3.4	.9	-.6	-1.5	2.8	7.1	4.2
1957-58	5.0	3.6	-1.4	3.5	1.9	-1.6	4.6	9.3	4.7
1960-61	3.1	2.6	-.5	1.8	1.2	-.6	5.8	8.0	2.2
1969-70	6.0	6.8	.8	5.8	4.4	-1.4	3.3	6.7	3.4
1973-75	6.6	9.5	2.9	8.4	8.7	.3	4.3	10.4	6.1

1/ Adjusted for overtime and interindustry shifts.

Source: Department of Labor, Bureau of Labor Statistics.

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But some reduction in the degree of downward flexibility of wages and prices -- particularly wages -- evidently has occurred.

The reasons for this reduced downward flexibility of wages and prices are not clear, but several factors may be involved.

- Formal escalator clauses in union wage contracts have become much more widespread.
- Expectations of continued inflation have also become more widespread. This may have stiffened the resistance of workers to accept smaller wage increases, even during periods of high unemployment, while weakening the reluctance of business firms to negotiate contracts that will require price increases.
- Better protection against income losses during recessions -- because of more liberal unemployment insurance benefits and other income-maintenance programs -- may have blunted the effects of high unemployment on wage rates. Unemployed workers, with better income protection, are not so prone to accept work paying less than they earned in their last job.
- Employment in government, nonprofit establishments, and regulated industries (utilities, communications, and commercial transportation) has grown as a proportion of total employment. Wage rate determination in those sectors is affected relatively little by the overall rate of unemployment.

From time to time, proposals have been set forth to deal with the problem of inflation by reducing the sources of wage and price inflexibility. Such proposals typically involve massive change in the structure of economic institutions -- breaking up labor unions, repealing the Davis-Bacon Act, abolishing the minimum wage law, breaking up large firms, and so on. Whether such steps would actually succeed in reducing wage and price inflexibility is a controversial issue. What is _not_ controversial is the fact that radical steps in this direction are far beyond the boundaries of political

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feasibility. Government actions to deal with inflation must accept the existing degree of wage and price inflexibility as a difficult fact of life.

Long-Range Prospects for Inflation

Unless we can find ways to unwind from the 6 to 6-1/2 percent inflation that is the legacy of the past, the outlook for inflation over the longer run is not good.

- Government actions (payroll taxes, an energy program, steps to achieve environmental and safety objectives) are adding to costs, and will continue to do so. With a major effort we can moderate some of these effects, but cost-raising actions will undoubtedly continue.

- Supply shocks that we cannot now foresee are much more likely to increase costs and prices than to reduce them.

- As we regain high levels of employment and production, the risks will increase that tightening labor and product markets will result in an acceleration of wage and price increases. In recent years, nonunion wages have grown substantially less than union wages; as unemployment is reduced, some catch-up can be expected.

How much room we have to reduce unemployment and excess capacity further before wages and prices begin to respond to a tightening of markets is particularly difficult to assess.

The overall capacity utilization rate in manufacturing is still relatively low -- about 83 percent. If our economic forecast for 1978 and 1979 is realized, this rate will rise to a range of 87 to 88 percent by late 1979. Capacity constraints are not likely to become a serious source of price pressures during this period, however, in part because of the availability of ample capacity abroad. There will be a longer-range capacity problem if business investment does not rise strongly over the next few years, but that problem is likely to be encountered in 1980 and beyond.

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As we move toward lower rates of unemployment, increasing labor market tightness will, at some point or other, lead to an acceleration in the rate of advance in wages. We cannot be sure at what point that will happen. A decade ago, wages did not begin moving up until the unemployment rate fell to around 4 percent or so. But changes in the demographic characteristics of the labor force -- in particular, the increased proportion of the work force consisting of teenagers -- and other factors have raised considerably the rate of unemployment consistent with a stable rate of wage increase. The availability of more generous unemployment insurance, and such income supports as food stamps, may have raised the level of unemployment at which wage increases begin to accelerate. (As explained earlier, workers can be more choosy about the jobs and wages they will accept.) In 1973, wage rates began to accelerate when the unemployment rate was around 5 percent. Extensive studies done by CEA staff and by academic economists yield a wide range of estimates of what the critical unemployment rate might be at the present time. It is probably in the general neighborhood of 5-1/2 percent, but we cannot be sure where the critical point is.

Effective and well-targeted programs to reduce structural unemployment -- especially among minorities -- can reduce the overall unemployment level at which inflation begins to accelerate. To the extent that such policies can direct hiring by business and government toward those groups who suffer from very high unemployment rates -- rather than toward groups already in short supply -- upward wage and price pressures would be eased. The private employment initiative now being developed is our attempt to do this. But we cannot be sure how effective it will be.

There is some evidence -- tentative and as yet inconclusive -- that a small acceleration in wage rates is already underway. A year ago, increases in average hourly earnings (excluding fringes) were running at an annual rate of around 7 percent. Now the rate of increase appears to be about 7-1/2 percent.

Forthcoming Memo

Shortly you will be receiving a memo from your economic advisers which

- o revises the inflation outlook for 1978

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- suggests some specific steps that might be taken by the Federal Government, both to deal directly with the inflation problem and to give greater credibility to our voluntary program for decelerating inflation in the private sector.

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