Requirements for a Return to Full Employment, 1971-73

by

T. Aldrich Finegan*
Vanderbilt University

July, 1971

*The author is indebted to Miss Cora Olgyay for her skillful computational assistance and to the National Science Foundation for financial support. He alone is responsible for the conclusions and opinions expressed here, and for all errors.
Requirements for a Return to Full Employment, 1971-73

by

T. Aldrich Finegan

I. Introduction

In appraising the current state of the economy, many analysts have stressed that the 1969-70 recession was milder than any of its four postwar predecessors, real GNP having declined only one percent from the third quarter of 1969 (1969-III) to the first quarter of 1970 (1970-I). It has also been pointed out that the average unemployment rate of 6.0 percent during 1971-II is well below the highs recorded in 1949-IV (7.0 percent), 1958-II (7.4 percent), and 1961-II (7.0 percent). Moreover, total civilian employment fell only 377,000 from its 1970-I high to 1970-III — clearly the smallest decline during any postwar slump.

In the light of such comparisons, it has been all too easy to conclude that a return to "full employment" (often defined nowadays as an overall unemployment rate of 4.5 percent\(^1\)) by the latter part of next year, or by mid-1973 at the latest, ought to pose no unusual

\(^1\)Throughout most of the postwar period, economists have typically used an unemployment rate of 4.0 percent as the benchmark for full employment. The increasing tendency to assign a somewhat higher rate to this concept reflects a recognition that a much larger proportion of the total labor force now consists of "secondary workers" (mainly married women), who bear much higher unemployment rates than do married men.
challenge to the economy or to economic policy. For example, in its Annual Report of February 1971, the Council of Economic Advisers states that the rate of growth of output needed to bring unemployment down to the 4 1/2 percent zone by the second quarter of 1972 "would not have to exceed the rates that have been achieved during past periods of economic recovery." 2/

In my opinion, the above conclusion is incorrect -- mainly because it seriously underestimates the probable rate of growth of the full-employment civilian labor force over the next several years. This optimistic assessment also overlooks (1) a number of important differences between earlier recoveries and what can reasonably be expected in the current one and (2) evidence of greater "labor hoarding" by manufacturing firms at the present time than in earlier recovery periods.

In this paper I develop two sets of projections of the full-employment civilian labor force (FECLF) for the period from 1970 to 1974. Based on these projections, I estimate how large an increase in total civilian employment (E) would be required to reduce the overall unemployment rate (UR) to 4.5% between 1971-II and several future periods. I also examine the postwar record on increases in employment and output achieved in previous recovery periods so as to provide a benchmark for appraising the size of the "required" gains in E over the next several years. Finally, the paper tries to estimate (roughly) how large an increase in real GNP would be needed to generate the required increases in employment.

The main conclusion to emerge is that if the two projections of CLF growth are in the right ball park, a return to full-employment (as defined above) by 1972-IV, or even by 1973-IV, will require larger absolute and percentage increases in E than those recorded in any previous postwar recovery — and faster annual rates of growth of E and real GNP than those recorded in the tax-cut expansion of 1964-65.

In the next section I explain how the projections of the FECLF were derived. The projections themselves are discussed in Section III, and the employment growth requirements are analyzed in Section IV. Estimates of how fast real GNP would have to grow in order to generate the required increases in employment are presented in the concluding section.

II. Labor Force Projections: Assumptions and Methods

Projecting the growth of the labor force in future periods is an underdeveloped art; at best it involves a large amount of guesswork, and the projections often turn out rather badly. I can claim no special expertise in this game, but I shall try to make clear the assumptions on which my projections rest.

That portion of labor force growth generated by changes in the size and age distribution of the total population can be predicted with considerable accuracy for several years ahead. All of the projections presented here are based on estimates of the total U.S. population (by age and sex) for July 1 of 1970 through 1974 prepared by the Bureau of the Census. Quarterly population estimates were obtained by interpolation between the figures for the midpoints of each year.

The estimation of future changes in the labor force participation rates (LFPR) for individual age-sex groups is far more hazardous. We have learned quite a lot in the past decade about the effects of general economic conditions on group-specific participation rates, but the commonplace use of time-trend variables in regressions designed to explain changes in LFPR over time is an implicit confession of how little we know about the real causes of the trends themselves. That is the main reason why LFPR projections so often go awry.

In this connection, all of the earlier projections of U.S. participation rates with which I am familiar have seriously underestimated the rise in the rates for females during the years since World War II.\(^4\) The reasons for this chronic underprediction are not clear, but I have been mindful of this fact in developing the estimates presented below.

Given the demonstrated unreliability of LF projections, I have constructed two sets of them -- one based on more conservative assumptions about future trends than the other. But before explaining how they were derived, let me emphasize that both sets pertain to the full-employment civilian labor force (FECLF) -- i.e., they are estimates of how large

the CLF would be (or would have been) each year from 1970 to 1974 if the unemployment rate were (or had been) at or near 4 1/2 percent throughout this period. Since it is well established that (ceteris paribus) the labor force tends to be larger when (and where) labor market conditions are more favorable, the observed CLF will probably fall considerably short of both estimates of the FECLF so long as U remains high.

Indeed, much of the growth of the labor force induced by more favorable employment prospects may not materialize until some time after the overall UR has fallen into the 4-1/2 percent range, particularly if higher rates of joblessness have prevailed for a number of years. At least this was our experience in the 1963-67 boom. Thus there is a possibility that somewhat lower rates of growth of employment than those indicated below might suffice to bring the UR down to 4-1/2 percent for a time, but in that case E would have to continue to grow at a faster than normal rate for several quarters in order to keep the UR in that range.

---


7/ Further evidence that the growth of the labor force is quite sensitive (even in the intermediate run) to general economic conditions is provided by the results of some (as yet unpublished) research of mine on year-to-year changes in a weighted average of female labor force participation rates from 1947 to 1970. The findings show a strong, highly significant, negative relationship between the growth in female participation and the average UR during the period, after other important determinants have been held constant. Prolonged changes in unemployment (those lasting three years or longer) had a stronger effect on female LF growth than year-to-year changes, however.
The high-growth (HG) projections are based on a simple, linear extrapolation of the change in the average annual ratio of civilian labor force to total population (CLF/TP) for each of 16 age-sex groups from 1967 to 1969. Labor markets were exceptionally tight during this period; the UR averaged 3.8 percent in 1967, 3.6 percent in 1968, and 3.5 percent in 1969. A weighted average of female LFPR's for eight age groups (based on 1960 population weights) rose at an average rate of 0.84 points per year between 1967 and 1969, compared to an average increase of 0.57 points per year for the period from 1947 to 1970. In all probability the female LFPR would have grown at a somewhat slower rate from 1967 to 1969 had the UR been closer to 4.5 percent than to 3.6. Thus the HG projections are likely to overestimate somewhat the growth of the FECLF between 1970 and 1974 -- even though past experience with labor force projections suggests this is not easy to do!

The low-growth (LG) projections are based on a much more conservative estimate of the full-employment trend in group participation rates. The key indicator is the annual rate of growth of the CLF/TP ratio for each age-sex group over the four-year period from 1965 to 1969. For the 8 subsets of females and males 16-17, all with rising LFPR's during this period, I projected further increases in each CLF/TP ratio at one-half of the average annual rate of increase during the base period (1965-69). One might defend this procedure on two grounds: (1) that part of the base period growth was an aftermath of the long recession from 1958 to 1964 (i.e., an upsurge augmented by women who had postponed entering the labor force until job opportunities improved), and (2) that by 1969 the participation rates for three female groups (those 18-19,
20-24, and 45-54) had risen above 50 percent and thus might be approaching some sort of "cultural ceiling."

To put the LG projections in perspective, note that the projected rate of growth of the age-standardized female LFPR under these assumptions works out to only 0.43 percentage points per year -- well below the average annual rate for the postwar period (0.57) but somewhat above the average rate for the high-unemployment years from 1958 to 1964 (0.33).

For male groups with declining CLF/TP ratios during the base period, further reductions were projected at 100 percent of the annual rates of decline during that period. Thus, the LG projections are doubly conservative in that up-trends in group CLF/TP ratios are discounted by 50 percent while down-trends are carried forward at face value.

Two final comments concern both sets of projections. First, estimates of the absolute size of the CLF in future periods were secured by multiplying the projected CLF/TP ratio for each age-sex group by the estimated size of that group's TP (derived from Census Bureau data) in the period concerned; group CLF figures were then summed. Only the totals for all males, all females, and all persons are shown in the tables presented here, since the figures for particular groups are not needed for the purpose of this analysis and are subject to larger errors than the aggregated totals.

Second, upward adjustments were made in the projected CLF/TP ratios for younger males to take account of cutbacks (effected and planned) in the size of the Armed Forces (AF). From a level of about 3.5 million men in 1969, the number of men in the AF declined to 3.2 million in 1970 (an annual average) and stood at 2.95 million in 1971-I.
My projections assume further declines to 2.8 million by 1971-IV, to 2.6 million by 1972-IV, and to 2.4 million by 1973-IV, with no further reduction in 1974. Needless to say, these expected cutbacks in the size of AF, so welcome from many vantage points, will increase the amount of growth in civilian employment needed to reduce the U rate to acceptable levels over the next two years.

III. An Analysis of the Projections

Table 1 provides an overview of the two sets of estimates of the full-employment CLF for 1970 through 1974, along with the actual CLF figures for 1969 and 1970. All figures are annual averages.

Perhaps the most interesting point here is that the actual CLF in 1970 was about 250,000 larger than the low-growth projection of the FECLF for that year and only about 60,000 below the high-growth FECLF — despite the sharp rise in unemployment occurring that year. In fact, the 2.5 percent rise in the CLF between 1969 and 1970 was equaled only by the increase between 1968 and 1969; only four other year-to-year increases (those during 1947-48, 1954-55, 1955-56, and 1966-67) were larger than 2.0 percent. Part of the explanation for the continued rapid growth of the CLF in the face of rising unemployment lies, of course, in the faster growth of total population aged 16 and over (TP), which has been growing at 1.7 percent per annum since 1962 and which will continue to grow at this rate through 1974. In contrast, TP rose at an average annual rate of 1.1 percent from 1947 to 1958 and at 1.3 percent from 1958 to 1962. The cutback of 320,000 men by the Armed Forces between 1969 and 1970 also added to the growth of the CLF.
Table I

<table>
<thead>
<tr>
<th>Year</th>
<th>Male</th>
<th>Female</th>
<th>Total</th>
<th>Male Wage Earners</th>
<th>Female Wage Earners</th>
<th>Total Wage Earners</th>
<th>Male Labor Force</th>
<th>Female Labor Force</th>
<th>Total Labor Force</th>
</tr>
</thead>
<tbody>
<tr>
<td>1970</td>
<td>82,715</td>
<td>31,713</td>
<td>51,478</td>
<td>49,661</td>
<td>2,079</td>
<td>51,740</td>
<td>31,783</td>
<td>20,732</td>
<td>52,515</td>
</tr>
<tr>
<td>1971</td>
<td>80,733</td>
<td>32,411</td>
<td>53,322</td>
<td>48,159</td>
<td>2,419</td>
<td>28,578</td>
<td>31,822</td>
<td>21,693</td>
<td>53,515</td>
</tr>
<tr>
<td>1972</td>
<td>79,321</td>
<td>32,733</td>
<td>52,588</td>
<td>47,608</td>
<td>2,733</td>
<td>25,341</td>
<td>31,542</td>
<td>22,191</td>
<td>53,733</td>
</tr>
<tr>
<td>1973</td>
<td>78,221</td>
<td>33,322</td>
<td>54,900</td>
<td>47,200</td>
<td>3,122</td>
<td>22,322</td>
<td>31,444</td>
<td>22,878</td>
<td>54,320</td>
</tr>
<tr>
<td>1974</td>
<td>78,713</td>
<td>34,715</td>
<td>54,000</td>
<td>46,680</td>
<td>3,500</td>
<td>20,500</td>
<td>31,780</td>
<td>23,215</td>
<td>54,995</td>
</tr>
</tbody>
</table>

Source: Actual CLF figures are from the 1971 manpower report of the Department of Labor. Projected CLF figures are explained in Section II of the text.
It does not follow that the actual increase in the CLF from 1969 to 1970 would not have been larger had unemployment remained low throughout the latter year. In fact, the weighted average of female LFPR's rose only 0.68 from 1969 to 1970 compared to a gain of 1.14 between 1968 and 1969. But it does appear that the high-growth projections of the FECLF are much closer to the mark than the low-growth estimates -- certainly for 1970 and probably for 1971 as well.

For the period from 1969 to 1974, the high-growth FECLF rises at about 2.5 percent per year, the low-growth FECLF at 2.2 percent. Over the entire period from 1947 to 1970, the actual CLF rose at an average annual rate just under 1.5 percent; but during the more recent period from 1964 to 1970, marked by faster population growth and more favorable labor market conditions, the annual growth rate has averaged 2.1 percent.

Both projections show the FECLF rising at a faster rate than total population. Were this to happen, the total labor force participation rate (TLFPR), which stood at 61.3 in 1970, would rise. This projected outcome may seem odd to those who have come to think of the TLFPR as an empirical ratio that is trendless. In fact, this ratio rose by 2.4 percentage points from 1947 to 1970, but most of the increase occurred near the end of this period. From 1949 to 1965 the rate hovered near 60 percent -- primarily because the pronounced rise in female rates happened to be offset by declining rates for males under 20 and over 64. Since 1965, however, the latter rates have bottomed out while the ones

8/It is assumed that the CLF grows more than enough to offset any reduction in the size of the Armed Forces.
for women have continued to climb, causing the overall ratio to rise by 1.6 percentage points (or about three-tenths of a point per year). 9/

A continuation of this upward trend into the mid-1970's -- assuming favorable labor market conditions -- seems very credible to me. But I am duty-bound to report that neither the present Council of Economic Advisers nor the specialists on labor force participation in the Bureau of Labor Statistics share this view. Both the Council and the B.L.S. expect the total labor force to grow at about 1 3/4 percent per year in the 1970's -- only a shade faster than the projected rate of growth of the working-age population. 10/

---

9/ The rise in the overall TLFPR since 1965 would have been greater but for a mysterious drop of about .8 of a point in the rate for prime-age males (those aged 25-54). About three-fifths of this drop can be accounted for by a rise in the percentage of these men classified as "unable to work" due to long-term physical or mental illness, but the reasons for this apparent increase in the incidence of chronic disability are as yet unknown.

10/ See the 1971 Economic Report of the President, p. 94, and the U.S. Department of Labor, Bureau of Labor Statistics, "The U.S. Labor Force: Projections to 1985," Special Labor Force Report No. 119 (February 1970). The latter report projects the TLFPR (as a percentage of the total noninstitutional population) at 61.0 in 1975, 61.4 in 1980, and 61.7 in 1985 (as shown in Table A, p. A-4), compared to an actual rate of 61.3 in 1970. The projections presented in this paper imply a rise in the TLFPR of roughly .2 to .4 of a point per year under the LG and HG assumptions, respectively.

The critical difference between the BLS projections and those presented here is the expected increase in female participation. The Bureau estimates that the LFPR for all women 16 and over in the total noninstitutional population will be 43.0 in 1975. I project a rate between 44.7 and 46.2 in 1974. (The actual rate was 39.3 in 1965 and 43.4 in 1970.)
IV. Employment Growth Requirements: 1971-73

Table 2 contains some actual labor force statistics and the projected full-employment estimates of CLF and E for selected quarters. Before we examine the required increases in E, one preliminary comment is in order.

It is evident from the first column of the table that the actual CLF grew at a faster rate between 1969-IV and 1970-IV than during the more recent period from 1970-IV to 1971-II: these two increases, expressed as annual rates of growth, were 2.4 and 1.7 percent, respectively. Evidently the markedly higher unemployment during the last several quarters has retarded entry into the labor force. Nonetheless, the actual CLF in 1971-II was well within the bounds of my projections (i.e., about 475,000 below the high-growth FECLF estimate for that period and 140,000 above the low-growth estimate).\(^{11/}\)

This brings us to the estimates of how much civilian employment (E) must grow between 1971-II and selected future periods in order to bring the overall unemployment rate down to 4.5 percent. These estimates can be expressed as numbers of additional jobs, as percentage increases

---

\(^{11/}\) Throughout this paper, the actual statistics reported for 1971-II are the seasonally-adjusted data for May. The figures for June were not released until after the first draft of the paper was completed; and after examining these figures I am inclined to believe that the half-point drop in the UR between May and June is largely a statistical aberration due to the fact that household survey in June of this year occurred earlier in the month than it normally does. However, none of the essential conclusions of this paper would be altered if the actual figures for 1971-II were used instead, for reported E was actually 260,000 lower in the second quarter of 1971 than in May. It should, however, be kept in mind that the monthly estimates and quarterly averages of the CLF and E, even after seasonal adjustment, are subject to rather large sampling variations.
Projected Full-Employment Labor Force Data and Required Increase in Employment

<table>
<thead>
<tr>
<th>Quarter</th>
<th>CTR</th>
<th>Required Increase in CTR</th>
<th>Growth from 1911-Ⅱ</th>
<th>Absolute Percent Rate of Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>1911</td>
<td>78.4%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1912</td>
<td>78.4%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1913</td>
<td>79.6%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1914</td>
<td>80.2%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1915</td>
<td>80.2%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1916</td>
<td>81.5%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1917</td>
<td>81.5%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1918</td>
<td>82.4%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1919</td>
<td>82.4%</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

in E, or as annual rates of growth of E. Each measure has its uses.

The amount by which E must rise, whether measured in absolute or relative numbers, increases as the target quarter (the quarter full-employment is regained) is pushed farther ahead. This relation simply reflects the well-known fact that employment must grow as fast as the CLF just to prevent unemployment from rising; hence over longer periods more growth in employment is needed for this "holding operation."

In one sense, however, the projected E figures in Table 2 are misleading. It is true that a smaller rise in E will be needed to reach the full-employment target by 1972-IV than a year later (assuming the growth of the FECLF is the same in either case). But if we want E to continue to grow at a rate fast enough to keep the UR at 4 1/2 percent, then the required increase in E for the entire period from 1971-II to 1973-IV ought to be more or less independent of the precise time in that period when full-employment is regained.\footnote{This argument neglects two considerations that could lead to a different conclusion. One is the possibility (discussed earlier) that part of the expansion of the LF may not take place until some time after job opportunities have improved. The second is that some withdrawals from the LF (e.g., retirement decisions) are normally irreversible, so that the longer unemployment remains high, the smaller will be the amount of induced participation when unemployment falls. Both considerations imply that the required increase in E over the longer period will be larger the sooner full employment is restored.} Hence the required increases in E over the longer run (through 1973-IV) are really more important.
Needless to say, we are not indifferent about the time-path of the economy back to full employment. The longer unemployment remains high, the larger the irredeemable loss of real output and the greater the hardship inflicted on the unemployed and their families. On the other hand, too rapid an expansion of aggregate demand may accelerate the rate of inflation and aggravate our balance-of-payments problem.

It is in the context of this policy dilemma that the required growth rates of employment in Table 2 are instructive. They show the annual rate at which E would have to grow (under each projection of the FECLF) to reach the 4.5 percent UR target at different future periods. Acceptance of a more distant time-target permits a lower rate of growth of E. We shall return to these rates shortly.

By far the most important conclusion to emerge from Table 2 is the very large increase in employment that appears to be needed if unemployment is to be down to 4.5 percent by the fourth quarter of 1973. This increase comes to 5.9 million jobs (7.5 percent) under the LG projections and 7.1 million jobs (9.0 percent) under the HG projections. It may come as a shock to learn that increases in E of this magnitude over a 10 quarter period are without precedent during the years since 1947. The largest absolute gain in E recorded during any 10-quarter interval since 1947 occurred between 1967-II and 1969-IV and totaled 4.6 million jobs -- a rise of 6.3 percent. The largest percentage increase achieved over 10 quarters took place between 1954-III and 1957-I -- namely 7.0 percent, or 4.2 million. In fact, one has to go back to the demobilization period
of 1965-67 to find gains in civilian employment of the magnitude (absolute and relative) that appear to be needed over the next two to three years. 13/

This is not to say that the goal in question is unattainable, but extraordinary measures may be needed to attain it. Certainly there is nothing in macro-economics to suggest that an exceptionally large growth of the number of potential jobseekers will automatically call forth a commensurate increase in the number of new jobs.

To put the job expansion requirements of the next several years in better perspective, Table 3 summarizes the changes in civilian employment, Armed Forces, unemployment, and real GNP achieved in earlier periods of economic recovery and in three expansions during which the UR remained relatively stable. For easier comparison, the estimates of required employment growth between 1971-II and the last two target periods have been reproduced from Table 2.

First, a word of explanation on how the historical periods were selected. In the case of previous recoveries, the general criterion was that each period should begin with the quarter immediately preceding the one in which real GNP resumed growing 14/ and should end with the quarter in which the UR stopped falling. Two exceptions to this rule were made. First, in recoveries which saw the UR fall below the 4.0 percent level, the terminal period was the last one in which the UR was 4.0 or higher.

13/ Even if one were to accept the extremely conservative LFPR projections of the Department of Labor (projections which anticipate an overall LFPR in 1975 .3 of a point lower than the actual ratio in 1970), the required increase in E between 1971-II and 1973-IV would still add up to 4.7 million jobs, or an increase of 6.0 percent. Only during the expansions of 1954-57, 1963-67, and 1967-69 can one find 10-quarter periods in which percentage gains of this size were recorded.
14/ Identifying the quarter in which growth actually resumed is sometimes
<table>
<thead>
<tr>
<th>Year</th>
<th>GDP Growth (%)</th>
<th>GDP Per Capita Growth (%)</th>
<th>Real GDP Growth (%)</th>
<th>Real GDP Per Capita Growth (%)</th>
<th>Nominal GDP Growth (%)</th>
<th>Nominal GDP Per Capita Growth (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1959</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1960</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1961</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1962</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1963</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1964</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: The table continues on the next page.

Table 1: Changes in GDP Growth, Nominal GDP Growth, and Real GDP Growth Between 1959-61 and Selected Future Periods.
and expenditures by state and local Governments. 

RDP = real purchase of goods and services by the Federal Government; 

RLDP = real purchase of goods and services by the Federal Government; 

real GNP = real personal consumption expenditures; 

real GNP/GDP = the annual rate of growth of real Gross Domestic Product per person in the labor force; 

GDP = the annual rate of growth of Gross Domestic Product per person in the labor force; 

GDP/GNP = the annual rate of growth of Gross Domestic Product per person in the labor force; 

Symbol: \( \dot{X} \) = the annual rate of growth of \( X \).

The values of this ratio were calculated before the existence of \( \dot{X} \) and \( \dot{X}' \) were found to the nearest.

A period in which \( \dot{X} \) fell to a level between 4.5 and 4.0 percent.

<table>
<thead>
<tr>
<th>Period</th>
<th>( \dot{X} )</th>
<th>( \dot{X}' )</th>
<th>( \dot{X}'' )</th>
</tr>
</thead>
<tbody>
<tr>
<td>1971-11</td>
<td>0.3</td>
<td>0.3</td>
<td>0.3</td>
</tr>
<tr>
<td>1972-12</td>
<td>0.3</td>
<td>0.3</td>
<td>0.3</td>
</tr>
<tr>
<td>1973-11</td>
<td>0.2</td>
<td>0.2</td>
<td>0.2</td>
</tr>
<tr>
<td>1974-11</td>
<td>0.2</td>
<td>0.2</td>
<td>0.2</td>
</tr>
</tbody>
</table>

III. Prolonged Recovery

IV. Permanent Recovery

<table>
<thead>
<tr>
<th>Period</th>
<th>( \dot{X} )</th>
<th>( \dot{X}' )</th>
<th>( \dot{X}'' )</th>
</tr>
</thead>
<tbody>
<tr>
<td>1971-11</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>1972-12</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>1973-11</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>1974-11</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
</tbody>
</table>

TABLE 3 (continued)
I justify this exception on the ground that we are mainly interested here in the behavior of $E$ and other variables at times when the economy was returning to full employment. Second, the period from 1961-I to 1965-IV can be viewed as one long recovery or as two shorter ones with an "unemployment plateau" in the middle; therefore I show the results both ways. (There was, however, no contraction in real GNP prior to the recovery from 1964-I to 1965-IV.)

In the case of the three "other expansions," the criterion was a generally sustained growth of $E$ not accompanied by a pronounced change in the UR. A larger element of discretion was needed in choosing these periods.

Now let us see what light past experience can throw on our projected employment-growth requirements. To recapitulate, it is estimated that to reach a UR of 4.5 percent by 1972-IV, we will require an annual rate of growth of civilian employment ($\dot{E}$) between 3.4 to 4.2 percent per year; to reach this goal a year later will require an $\dot{E}$ between 3.0 and 3.6 percent per year.

A glance down the $\dot{E}$ column in Table 3 shows that employment growth rates of this magnitude (3.0 percent or larger) were recorded in the first three postwar recoveries, and that the growth rate achieved in the last recovery period (1964-I to 1965-IV) was not much below 3.0 percent (i.e., 2.7 percent). On further analysis, however, this record is far from

---

a matter of judgment. For example, I selected 1958-II as the beginning of the 1958-59 recovery despite the fact that a miniscule rise in real GNP (about .4 of one percent) occurred between the first and second quarters of that year.
reassuring with respect to the prospects for a timely encore.

First, the recoveries of 1949-50, 1954-55, and 1958-59 were all propelled by unusually high rates of growth of real investment (I), as shown in the I column of Table 3. Specifically, I grew at the staggering annual rates of 76, 27, and 40 percent, respectively, during these recoveries, and these very large gains in investment undoubtedly go far towards explaining why real GNP also rose at a faster rate during these periods than during subsequent ones.

In striking contrast, real investment outlays rose only 0.8 percent during the first four quarters of the current recovery (1970-I to 1971-I), and the latest government survey of business capital spending plans leaves doubt as to whether real outlays on new plant and equipment will be any larger in 1971 than they were in 1970.\textsuperscript{15} The long-awaited boom in residential housing will, to be sure, cause a substantial rise in total I in the years ahead; but even if real outlays on new homes were to rise by 50 percent over the next two years, that increase (by itself) would raise total I by only 11 percent, or about 5 percent per year. Even the optimistic report of the Council of Economic Advisers in February 1971 anticipated that total real investment (I) would grow no faster than 5 1/2 percent per annum between 1969 and 1975, although a higher growth rate was, of course, expected during the recovery period.\textsuperscript{16}

\textsuperscript{15} The detailed findings of the April-May 1971 survey by the Office of Business Economics and the Securities and Exchange Commission can be found in the Survey of Current Business, June 1971, pp. 13-16.

\textsuperscript{16} The 5 1/2 percent growth rate is based on figures in Table 26, p. 95, of the 1971 Economic Report. The Council did not specify how much growth in real I (or in real GNP) it expected between 1970 and 1971.
Under the stimulus of the investment tax credit passed in 1962 and the reduction in corporate and personal income taxes in 1964, real investment grew at 12 percent per annum during the recovery from 1964-I to 1965-IV -- an impressive rate of growth, to be sure, but lower than in earlier recoveries. I doubt very much that we will be able to match this rate of growth over the next ten quarters.

A second point concerns the relation between employment changes in previous contractions and in the recoveries that followed. Consider the following figures:

<table>
<thead>
<tr>
<th>Contraction</th>
<th>ΔE</th>
<th>Recovery</th>
<th>ΔE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1948-IV to 1949-IV</td>
<td>-1.4%</td>
<td>1949-IV to 1950-IV</td>
<td>3.4%</td>
</tr>
<tr>
<td>1953-II to 1954-II</td>
<td>-2.2</td>
<td>1954-II to 1955-III</td>
<td>4.7</td>
</tr>
<tr>
<td>1957-III to 1958-II</td>
<td>-2.3</td>
<td>1958-II to 1959-II</td>
<td>3.2</td>
</tr>
<tr>
<td>1960-II to 1961-I</td>
<td>-0.5</td>
<td>1961-I to 1962-II</td>
<td>1.3</td>
</tr>
<tr>
<td>1969-III to 1970-I</td>
<td>1.0</td>
<td>1970-I to 1971-II</td>
<td>0.1</td>
</tr>
</tbody>
</table>

With the notable exception of the period from 1964-I to 1965-IV, each recovery in which E expanded rapidly was preceded by a contraction in which E had been substantially cut back. Only a small fall in E preceded the partial recovery of 1961-62, in which E rose by only 1.3 percent. And in the most recent contraction (really a mini-contraction), employment actually rose by one percent -- only to level off during the following five quarters.

17/ Contractions are defined here as periods in which real GNP was falling (except that the third and fourth quarters of 1949, in which output advanced and then fell back, are included in the 1948-49 contraction).
Thus there is a clear, direct relationship between how much E falls in a contraction and how much it rises in the following recovery. This is hardly surprising: when faced with reviving demand of uncertain duration, firms are typically more willing to recall old employees than to hire new ones, especially when training costs are important. In any case, this relationship bodes ill for hopes of a rapid expansion of employment in the next several years. The recovery of 1964-I to 1965-IV is something of an exception to the rule, since it was not immediately preceded by a contraction. (On the contrary, E rose by 3.0 percent between 1962-II and 1964-I.) It is also an instructive exception, in light of the tax cut passed by Congress in 1964.

There is a third reason why the historical record gives little cause for optimism: the three recovery periods with high E-growth rates were all comparatively short (4 or 5 quarters), whereas the projections in this paper suggest the need for a sustained growth in E of 3 to 3 1/2 percent per annum over the next three years. In this connection, the aftermath of most of the earlier recoveries is also unsettling. The 1958-59 upswing ran out of gas with the UR nearing 5.0 percent, and the economy lapsed into a new recession about a year later. A similar fate might have befallen the upsurge from 1949 to 1950 had it not been for the Korean War. Similarly, the maintenance of low unemployment rates for 4 years following the recovery from 1964-I to 1965-IV must be attributed in large measure to the sharp rise in defense spending and the large budgetary deficits occasioned by the Vietnam War.
It is noteworthy that only one postwar recovery -- namely, the one from 1954-II to 1955-III -- was followed by a prolonged period of full employment when the country was not at war. And that period (1955-III to 1957-III) was very unusual in several respects, as Table 3 reveals. For one thing, real GNP rose at only 1.5 percent per year -- little more than half of the average rate for the postwar period (2.7 percent). For another, the growth in employment over this period (1.2 percent per year) was abnormally high relative to the growth in real output but abnormally low for a full employment period. Evidently, only a rare combination of an exceptionally small growth in output per worker and in the size of the labor force kept unemployment from rising during these two years. It would not be wise to count on a period with similar characteristics in the years ahead.

To recapitulate: earlier postwar recoveries that achieved growth rates in employment of the order of magnitude needed in the years ahead followed contractions in which employment had fallen substantially. These early recovery periods were also comparatively short -- fueled by large increases in investment expenditures that could probably not be maintained over a two or three year period under normal peacetime conditions.

To conclude this section, let me discuss two further considerations that do not auger well for a rapid growth of civilian employment (an $\dot{E}$ of 3.0 percent per year or better) over the next three years.

The first point is that a high $\dot{E}$ in the economy as a whole is harder to attain when important sectors of the economy are being forced to reduce the level or rate of growth of employment. In this situation more of the burden for increasing E must fall on fewer sectors. By the same token, displaced workers in declining sectors may find it difficult to find jobs elsewhere.
I do not wish to suggest that we stand on the threshold of a great increase in structural unemployment, but I do submit that structural imbalances in the pattern of employment demand may turn out to be more serious in the early 1970's than they were in the early 1960's, when this issue received so much attention. At least one can identify some of the troublesome sectors.

Defense-related employment is clearly one. Cutbacks in the Armed Forces have been discussed already, but the problems here should be largely transitory, since these reductions will mainly entail a cutback (hopefully to zero) in the number of young men being drafted each year. But the unemployment resulting from cutbacks in the ordnance and aero-space industries is going to be much less tractable, due to the highly specialized skills of many displaced workers and to the regional concentration of these industries. The Department of Labor has estimated that total civilian employment generated by defense expenditures fell by about 700,000 between fiscal 1968 and fiscal 1970, with a further cutback of about 650,000 jobs expected between fiscal 1970 and fiscal 1971.18/

The higher education industry is another trouble spot. The burgeoning financial woes of private colleges and universities and the sharp decline in the number of new teachers being hired by both private and public institutions (at all levels) are too well known to require elaboration or documentation here. And no reversal of these trends can be expected over the next several years.

18/1971 Economic Report of the President, Table 10, p. 44.
A question must also be raised about the prospective growth of employment by state and local governments over the same span of time. During the years from 1955 to 1970, employment in this sector grew at an average rate of 5.0 percent per year -- more than twice as fast as in all nonagricultural establishments (2 1/4 percent per year), so that by 1970 these governments accounted for almost 13 percent of total civilian employment. But in recent years, many of these governments have fallen on hard times, and reports of temporary freezes and even some retrenchment in municipal employment have become commonplace. Over the longer term, the continued growth of employment in this sector is assured, but it would not be surprising if the rate of growth were to decline over the next year or two until federal revenues (in one form or another) have succeeded in alleviating the present financial crisis.

In fact, this decline in employment seems to have begun already. During the first five months of 1971 employment in state and local governments rose at an annual rate of only 2.7 percent, compared with an average of 4.0 percent during the comparable period of 1970.19/

Finally, a comment about employment in manufacturing. Despite a considerable decline in its relative importance during the years since 1947, this sector still accounts for about 27 percent of all wage and salary employment in nonagricultural establishments. Traditionally,

---

19/ The recent passage of the Emergency Employment Act of 1971, which provides funds to state and local governments for the creation of 150,000 new jobs in various public service fields, will certainly bolster the sagging growth of employment in this sector. But observe that 150,000 new jobs is only about one-third of the average year-to-year increase in employment by these governments over the period from 1963 to 1970.
employment in manufacturing has been subject to larger cyclical swings than employment in most other sectors. The prospects, however, for as large a rise in manufacturing employment (relative to the rise in manufacturing output) as we have witnessed in previous recovery periods are dimmed by what appears to be an unusually large amount of "labor hoarding" by manufacturing firms at the present time. This inference is drawn from a comparison over time of figures from the Federal Reserve Board's Index of Capacity Utilization in Manufacturing (ICU) with unemployment statistics for experienced wage and salary workers in manufacturing and for "operatives and kindred workers" (an occupational group heavily concentrated in manufacturing). See Table 4.

The figures in the second column of the table provide a rough measure of total unutilized (or excess) capacity in manufacturing, whereas the unemployment rates may be viewed as rough measures of unutilized (as distinct from underutilized) manpower in this sector.\textsuperscript{20} A glance at the last two columns shows an unmistakable downward trend in the ratio of unemployed manpower to excess capacity. To wit, the unemployment rate among all experienced wage-and-salary workers in manufacturing was about the same in 1954, 1961, and the first quarter of 1971; but the percentage of productive capacity not being used rose from 16.5 to 21.5 to 26.8. Alternatively, the index of excess capacity (X) was about the same in 1958 and 1971-I}

\textsuperscript{20} Ideally, one would like to compare the complement of the ICU index with the unemployment rate for production workers in manufacturing industries, but data for this category are not available. The all-manufacturing UR includes foremen and white-collar workers in the denominator: these workers are virtually immune from layoff, and their share of total manufacturing employment has risen since 1947. Therefore I have also shown the UR for "operatives," most of whom are semi-skilled production workers in manufacturing, but some of whom work elsewhere (e.g., as bus drivers).
TABLE 4

Estimates of Capacity Utilization and Unemployment in Manufacturing in Selected Periods, 1953 to 1971

<table>
<thead>
<tr>
<th>Period</th>
<th>Index of Capacity Utilization (ICU)</th>
<th>100 minus ICU (X)</th>
<th>Unemployment Rates</th>
<th>UR&lt;sub&gt;MFG&lt;/sub&gt;</th>
<th>UR&lt;sub&gt;OP&lt;/sub&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>1953</td>
<td>94.2</td>
<td>5.8</td>
<td>3.1</td>
<td>1/</td>
<td>0.53</td>
</tr>
<tr>
<td>1954</td>
<td>83.5</td>
<td>16.5</td>
<td>7.1</td>
<td>1/</td>
<td>0.43</td>
</tr>
<tr>
<td>1956</td>
<td>87.7</td>
<td>12.3</td>
<td>4.7</td>
<td>1/</td>
<td>0.38</td>
</tr>
<tr>
<td>1957</td>
<td>83.6</td>
<td>16.4</td>
<td>5.1</td>
<td>1/</td>
<td>0.31</td>
</tr>
<tr>
<td>1958</td>
<td>74.0</td>
<td>26.0</td>
<td>9.3</td>
<td>11.0</td>
<td>0.36</td>
</tr>
<tr>
<td>1960</td>
<td>80.6</td>
<td>19.4</td>
<td>6.2</td>
<td>8.0</td>
<td>0.32</td>
</tr>
<tr>
<td>1961</td>
<td>78.5</td>
<td>21.5</td>
<td>7.8</td>
<td>9.6</td>
<td>0.36</td>
</tr>
<tr>
<td>1965</td>
<td>88.5</td>
<td>11.5</td>
<td>4.0</td>
<td>5.5</td>
<td>0.35</td>
</tr>
<tr>
<td>1969</td>
<td>83.7</td>
<td>16.3</td>
<td>3.3</td>
<td>4.4</td>
<td>0.20</td>
</tr>
<tr>
<td>1970</td>
<td>76.6</td>
<td>23.4</td>
<td>5.6</td>
<td>7.1</td>
<td>0.24</td>
</tr>
<tr>
<td>1971-I</td>
<td>73.2</td>
<td>26.8</td>
<td>7.0</td>
<td>8.5</td>
<td>0.26</td>
</tr>
</tbody>
</table>

1/ Not available

(roughly 26 percent), but both unemployment rates were substantially lower in the latter period.

The decline in the UR/X ratio was especially large between 1965 and 1969 -- a period marked by an unusually large increase in total civilian employment relative to the increase in total real output, as we observed in Table 3. Firms must have been planning for large increases in future demand. In the face of the slowdown since 1969-III, the UR/X ratio has risen somewhat, but it is still well below its 1958- and 1961-recession levels.

I interpret the lower ratio of unemployment to excess capacity in manufacturing during the current slump to mean that the ratio of under-utilized (underemployed) labor to excess capacity is higher than in earlier recessions. If so, manufacturing employment is likely to grow at a considerably slower rate (relative to output) over the next year or so than historical experience would lead one to expect.

V. Required Increases in Output

According to the labor force projections presented in the preceding section, civilian employment must grow between 3.0 and 3.6 percent per annum if the overall rate of unemployment is to be brought down to 4 1/2 percent by the end of 1973. What rate of growth of real GDP are we going to need to meet this goal?

This is, alas, an exceedingly difficult question to answer, since the answer will depend partly on the distribution of future increases in aggregate demand across sectors (i.e., between consumption, investment,
and government outlays, and between various sorts of goods, services, and structures). This distribution will, of course, be affected by particular policies adopted by the federal government to stimulate the economy. The answer will also depend on the rate of growth of output per manhour within each sector -- which, in turn, will be affected by the development and diffusion of new technology and by the willingness of firms to expand their work forces in anticipation of future demand. Future changes in hours of work and in the mobility of labor will also play a role. None of these trends is easy to foretell.

I am sure that there are labyrinthine econometric models around which could grind out very precise (and very different) answers to this question -- all depending on what assumptions and functional relations are programmed in. Lacking such a model, I propose instead to take a brief look backward at the relation between relative changes in real output (\(\dot{Q}\)) and employment (\(\dot{E}\)) in earlier recoveries.

Ratios of \(\dot{E}\) to \(\dot{Q}\) were presented earlier in Table 3, but for present purposes the inverse relationship (i.e., the percentage rise in real GNP associated with a one percent rise in employment during each period) is more helpful. The \(\dot{Q}/\dot{E}\) ratio in each previous recovery and in the 1965-69 expansion is shown below:  

<table>
<thead>
<tr>
<th>Period</th>
<th>(\dot{Q}/\dot{E})</th>
</tr>
</thead>
<tbody>
<tr>
<td>1949-IV to 1950-IV</td>
<td>4.3</td>
</tr>
<tr>
<td>1954-II to 1955-III</td>
<td>2.1</td>
</tr>
<tr>
<td>1958-II to 1959-II</td>
<td>2.9</td>
</tr>
<tr>
<td>1961-I to 1962-II</td>
<td>7.2</td>
</tr>
</tbody>
</table>

\[\text{21/ Strictly speaking, the } \dot{Q}/\dot{E} \text{ ratio for any historical period probably depends on some extent on the relative growth of output itself during that period (as well as on all of the other considerations discussed above). One might expect, for example, a higher ratio in a very weak recovery.}\]
1964-I to 1965-IV 2.4
1961-I to 1965-IV 3.4
1965-IV to 1969-III 1.7

The relationship at issue has varied enormously from one recovery to another, ranging all the way from 7.2 in 1961-62 to 2.1 in 1954-55. I believe we should ignore the two highest ratios. Much of the large increase in Q relative to the increase in E during the 1949-50 upswing can be attributed to an expansion of the Armed Forces by half a million men and to a build-up in business inventories spurred by outbreak of the Korean War in June, 1950. The even higher ratio of 7.2 recorded during the partial recovery of 1961-62 is likewise of doubtful applicability, since that period also saw a sizeable increase in the Armed Forces, along with an abnormally large increase in federal expenditures (largely for national defense) and an unusually small increase in consumer expenditures. Moreover, this period ended with a UR of 5.5 percent -- far above the full-employment level.

Now, if one takes a simple average of the Q/E ratios in the four remaining upswings, the figure that emerges is 2.7. It is easy to argue that 2.7 is rather too low to be a plausible estimate of the probable ratio of increased real output to increased employment over the next several years.

First, the long expansion from 1965-IV to 1969-III was a period in which civilian employment grew at an unusually rapid rate relative to

than in a full one, since output normally turns up before employment does. Put differently, if quarterly changes in Q were regressed on quarterly changes in E, the intercept would surely be positive and a curvilinear relation might provide a better fit than a linear one.
output -- in spite of the large increase in military expenditures and an increase of 730,000 in the Armed Forces. It seems likely that some part of the large growth of employment during these years reflected a decision by many firms to expand their work forces beyond the level needed to meet the current demand for goods and services. If the current slump has given rise to second thoughts about the rate of growth of future demand, we might very well see a larger-than-average $\dot{Q}/\dot{E}$ ratio over the next year or so -- especially during the early stage of the recovery.

A review of recent changes in real GNP and E since the third quarter of 1969 only reinforces the above conclusion. Between 1969-III and 1971-I, Q increased by 0.3 percent, E by 0.7 percent. The main point here is not the relative size of these two increments, both of which are extremely small, but rather the absence of any overall decline in employment during six quarters in which the economy was marking time. Hence whatever excess manpower firms may have had at the outset of the 1969-70 recession is presumably still there.

At the same time one can make a rather convincing case that a $\dot{Q}/\dot{E}$ ratio based on selected historical data is likely to be too high, since there has been a secular shift in the distribution of real GNP -- and in the probable distribution of future increases in real GNP -- away from the goods sector to the services sector, where output per man-hour tends to be lower and to advance at a slower rate. Observe in this connection that the $\dot{Q}/\dot{E}$ ratio was only 2.4 during the most recent full recovery (1964-65).
Not knowing which of these two arguments ought to carry greater weight, I am going to make the conservative assumption that the $Q/\dot{E}$ ratio in the coming upswing will be in the neighborhood of 2.5 -- slightly higher than in the recovery of 1964-65, but lower than the mean ratio of 2.7. Thus, if $E$ must grow at a rate between 3.0 and 3.6 percent per annum over the next 2 1/2 years to have "full employment" at the close of 1973, then under this assumption $Q$ would need to grow about 2.5 times as fast, or at a rate between 7.5 and 9.0 percent per annum. As we saw in Table 3, only during the brief upswings of 1949-50, 1954-55, and 1958-59 has real GNP grown at a rate equal to or greater than 8 percent per year. The growth rate in the 1964-I to 1965-IV expansion was considerably lower (6.4 percent).

It is interesting to compare the foregoing, highly tentative estimate of the $Q$ required to reach (and maintain) a UR of 4.5 percent by 1973-IV with the $Q$ yielded by "Okun's Law," a statistical relationship between quarter-to-quarter changes in the (seasonally-adjusted) overall unemployment rate ($\Delta UR$) and quarter-to-quarter percentage changes in real GNP ($\Delta Q$) first reported by Arthur Okun in 1962.\(^{22}\) Regressing $\Delta UR$ on $\Delta Q$ over the period 1947-II through 1960-IV, Okun obtained:

$$\Delta UR = 0.30 - 0.30\Delta Q \quad (r = 0.79).$$

According to this equation, UR will rise by .3 of a point from quarter to quarter (on the average) if real GNP remains constant; if real


\(^{23}\) The Political Economy of Prosperity, p. 135.
GNP rises by one percent per quarter, UR will remain constant; and each additional one percent rise in output will be accompanied by a fall of .3 of a percentage point in UR. Hence the widely-accepted rule of thumb that for each percentage point of unemployment above 4.0 percent, there is an associated loss of real output of about three percent.

Applying the above equation to the hypothetical case in which UR falls from 6.2 to 4.5 percent over 10 quarters (a fall of .17 of a point per quarter), we can solve for the required percentage increase in Q:

\[
\Delta U = 0.30 - 0.30 \Delta Q
\]

\[
-0.17 = 0.30 - 0.30 \Delta Q
\]

\[-0.30 \Delta Q = -0.47
\]

\[\Delta Q = 1.57\% \text{ per quarter}
\]

If Q grows at 1.57% per quarter for ten quarters, the total increase for the period will be 16.9 percent (after compounding), or 6.4 percent per year. This estimate of the required rate of growth of real GNP is somewhat lower than those presented earlier in this section -- namely, 7.5 to 9.0 percent.

In defense of the higher estimates, two points need to be made. First, as noted earlier, the working-age population (those persons 16-64) is now growing at a considerably faster rate than it did during the period covered by Okun's regression (specifically, 1.7 percent per year versus 1.1 percent), and over the next three years the largest percentage increases in this population will occur in the 25-34 year age interval, where male
labor force participation rates are near their peak. Thus the increase in the rate of growth of the population and the change in its age distribution will work together to produce a faster rate of growth of the civilian labor force during the 1970's. (Further cutbacks in the size of the Armed Forces will augment this trend.) And, ceteris paribus, faster LF growth ought to raise the rate at which real GNP must grow to keep the UR from rising.

Finally, there is reason to suspect that the elasticity of the LF with respect to the availability of job opportunities has risen during the postwar period. There has surely been a substantial increase in the fraction of the potential work force (those in the labor force plus those with previous work experience) consisting of married women, young persons in school, and the elderly -- all of whom have more flexibility than heads of families in how much paid work they do and when they do it. At the same time, the spread of supplementary unemployment benefits and the rise in the fraction of households with substantial savings to fall back on must have eased the pressures on wives and youngsters to look for work when the

---

24/ The LFPR of females 25-34 is somewhat lower than the rates for adjacent age intervals, but it has risen about 5 percentage points during the last four years (i.e., from 39.9 in 1966 to 43.0 in 1970).

25/ I attempted to test this expectation by rerunning Okun's regression for the longer period from 1948-II to 1970-IV, but new regression equation turned out to be identical with the old one! Perhaps the faster rate of population growth since 1960, which ought to increase the size of the constant term, has been offset by a shift in the composition of output from less to more labor-intensive sectors.
head of the family becomes unemployed. Both of these trends ought to result in a larger relative expansion of the labor force in the coming recovery than in most earlier ones. In other words, the amount by which employment must grow to reduce the UR by a point should have risen during the postwar period -- and should continue to rise in the years ahead.26/

VI. Epilogue

If the projections presented in this paper are approximately correct, a return to full employment is going to prove a lot harder, and will probably take a good deal longer, than many economists presently believe. Also, there is no assurance that if we succeed in reducing unemployment to the 4 1/2 percent zone, we will be able to keep it there. Our postwar track record during peacetime is certainly not encouraging in this regard -- namely, an average unemployment rate of 5.1 percent, with

26/ There is empirical support for this proposition. I regressed quarter-to-quarter changes in the overall unemployment rate (UR) on quarterly percentage changes in total civilian employment (E) over two periods -- 1948-II to 1961-IV (when TP was growing at about 1.2 percent per annum), and 1962-I to 1970-IV (when TP was growing faster). The results were as follows (with standard errors in parentheses):

\[
\begin{align*}
1948-61: \quad \Delta UR &= 0.18 - 0.57 \Delta E \\
& (0.06) \quad (0.08) \\
\text{\quad } \quad r^2 &= .49 \\
1962-70: \quad \Delta UR &= 0.19 - 0.40 \Delta E \\
& (0.07) \quad (0.11) \\
\text{\quad } \quad r^2 &= .26
\end{align*}
\]

The coefficient for \( \Delta E \) has a smaller negative value in the more recent period, indicating a smaller average reduction in the UR was associated with a one percent rise in E during this period.
unemployment at or below 4 1/2 percent in only 22 out of 64 quarters.\textsuperscript{27} And all but 2 of these 22 quarters came between 1947 and 1957, when the working-age population was growing at a much slower rate than it is today. Thus we face a very real possibility that the 1970's may turn out to be a decade of considerable economic slack, with only occasional periods of full employment.

Seldom is there an easy step in economics from established facts to wise policy, and the leap from projections to recommendations is even more hazardous. There are always other things to consider, and no proposal is value free. Yet the question that this analysis must raise is whether additional measures to stimulate the economy should be taken at this time. In view of the weakness of the current recovery -- virtually no growth in employment and only a 2.3 percent rise in real output from 1970-I to 1971-II\textsuperscript{28}, I would say yes. And I believe that the additional stimulation should come from the fiscal rather than the monetary sector.

Proposals for a more expansionary fiscal policy often get a chilly reception these days because of the widespread fear that such action would promptly accelerate rate of inflation, which is still unacceptably high. I must leave an evaluation of this contention to others who are more knowledgeable about the dynamic aspects of inflation. I will only

\textsuperscript{27} In this tally I count as peacetime the periods from 1947-I through 1950-II and 1953-III through 1965-IV. (In the case of our involvement in Vietnam, any initial period is admittedly arbitrary, and many people would argue that 1965 ought not to be counted as a peacetime year. But from the perspective of the impact of our involvement on the economy, a sharper line can be drawn between 1965 and 1966.)

\textsuperscript{28} Preliminary figures show that real GNP rose at a 3.6 percent annual rate between the first and second quarters of 1971, but this rate of growth (if maintained) can, at best, only prevent the unemployment rate from rising higher.
say that if, at the present time -- with unemployment near 6 percent, with potential output being lost at a rate of 50 to 70 billion dollars per year, and with a growing list of urgent domestic problems that cannot be solved without additional resources -- we cannot increase the rate of economic growth without also increasing the rate of inflation, then it is time for a very hard look at the causes of this inflation and at the proper role of public policy in this area.