

# Sources of secular increases in the unemployment rate, 1969–82

*Progressively higher rates of joblessness suggest a strong structural component in today's unemployment; the influx of women and young workers was an important factor early in the study period, while later years show a decline in the employment picture for prime-age men*

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Since the late 1960's, the unemployment rate at the peak of economic expansions as well as at recession troughs has tended to rise over time. Was this upward drift primarily a result of the inflationary price shocks and macroeconomic turbulence of the 1970's, or were microeconomic labor market forces at work as well? What role did the strains associated with the absorption of a rapidly growing, young, and inexperienced labor force play? And, finally, what contribution did structural unemployment among adults make to this secular rise?

The relative importance of these and other contributing forces are the subject of debate among economists and are clearly of considerable importance for economic policy.<sup>1</sup> If, for example, the rising trend in the unemployment rate stemmed primarily from demographic factors, macroeconomic policy alone—if correctly administered—could reverse the trend in the coming decade as the labor force growth rate slows and the “baby boom” generation matures. However, if structural unemployment among adults was a major contributor, macroeconomic policy alone will not produce unemployment rates comparable with those of the 1960's—a rising economic tide will not raise all labor force boats.

This article examines in some detail the composition of peak-to-peak and trough-to-trough changes in the unemployment rate over the 1969–82 period. A statistical profile of the labor force segments that nudged the unemployment rate progressively higher over this period can provide some insight as to the relative importance of demographic and other factors in generating the upward trend and help us interpret the labor market experience of the 1970's.<sup>2</sup>

The first part of the article provides a brief discussion of cyclical and noncyclical components of unemployment. Subsequent parts examine demographic, occupational, industrial, and other sources of secular changes in the unemployment rate using data from the Current Population Survey. A concluding part highlights the major trends in the composition of the unemployment rate changes and provides a tentative interpretation of the findings in light of the questions posed above.

## **Cyclical vs. noncyclical unemployment**

Economists typically distinguish two broad components of aggregate unemployment—cyclical and noncyclical. Cyclical unemployment derives from fluctuations in aggregate demand and will decline in the course of an expansion. Noncyclical unemployment is considerably more tenacious, however, and persists even in the face of economic growth.

There are two major sources of noncyclical unemployment. The first is frictional unemployment, which is of a

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transitory nature and results from voluntary job turnover and mobility into and out of labor markets. Of more concern from a policy viewpoint is structural unemployment, which arises from more fundamental skill or locational mismatches between supply and demand in the labor market, and is associated with prolonged periods of unemployment, sub-employment, and withdrawal from the labor force.<sup>3</sup>

In practice, we cannot precisely estimate changes in these three types of unemployment between any two points in time. Nevertheless, it is possible to minimize the effect of cyclical factors by comparing the level and composition of unemployment during similar phases of business cycles, which is the approach employed in the following sections.

### Secular trends

The secular rise in the unemployment rate is readily seen in table 1.<sup>4</sup> The unemployment rate at the trough of the 1969–70 recession averaged 5.8 percent of the labor force. It rose to 8.3 percent in the 1973–75 recession, dipped to 7.5 percent during the brief 1980 recession, and then climbed sharply to 10.6 percent during the 1981–82 downturn. The net increase over the 12-year period ended December 1982 thus totaled 4.8 percent of the labor force.

A similar upward trend is apparent in expansion peaks. Starting from 3.6 percent of the labor force at the peak of the long 1961–69 expansion, the unemployment rate climbed by more than a percentage point in each of the next three expansions to reach 7.4 percent by third-quarter 1981. The net 12-year increase in the unemployment rate between the third quarters of 1969 and 1981 amounted to 3.8 percent of the labor force.

### Demographic factors

Considerable attention has been devoted to demographic factors—in particular, the increased flow of youth and women into the labor force during the 1970's—as a possible cause of the rising rate of unemployment. To examine the role of demographic shifts in the labor force, trough-to-trough and

peak-to-peak breakdowns of sources of the rising unemployment rate by age and sex are presented in table 2.<sup>5</sup> The first column of the table shows the percentage-point change in the overall unemployment rate, and the remaining columns, the percentage contribution of each demographic group to that change. For example, reading across the first row, we find that youth (ages 16 to 24) accounted for 43.1 percent, or 1.1 percentage points, of the 2.5-percentage-point increase in the unemployment rate between the fourth quarter of 1970 and first quarter 1982. The table also shows the percent of the labor force accounted for by each of the demographic groups at the beginning and end of the 12-year intervals under consideration.

Youth have made a disproportionate and substantial contribution to the secular increase in the rate of unemployment, but their contribution has declined over time. While young workers made up just 21.9 percent of the labor force in fourth-quarter 1970, they accounted for 43.1 percent of the increase in unemployment between the 1970 and 1975 troughs. If we skip over the brief 1980 recession and compare the 1973–75 and 1981–82 recessions, we find that the youth contribution drops to 16 percent. Overall, youth accounted for 29.2 percent of the trough-to-trough increase in the unemployment rate over the 12-year period.

The downward trend in the youth contribution stands out clearly in the peak-to-peak comparisons as well. While making up just over one-fifth of the labor force, they accounted for 58.0 percent of the increase in unemployment between expansion peaks in 1969 and 1973. Their contribution fell sharply to 33.6 percent and 30.5 percent over the 1973–79 and 1979–81 peak-to-peak intervals.

What explains the declining youth contribution? The youth component may be broken down into two parts, one reflecting a rising unemployment rate among youth, and a second stemming from changes in youth's share of the total labor force. Such a decomposition is presented in table 3. The first column of this table shows the total contribution of youth to the change in the unemployment rate. The next two columns decompose this contribution into a part due to rising unemployment among youth, and part due to changing weight of youth in the labor force. A positive value in the "Weight" column means that the youth labor force was growing faster than the total labor force; hence, its share of the labor force was rising. A negative term indicates a slower relative rate of growth.

A comparison of the second and third columns of table 3 clearly shows that the negative trend in the youth contribution to the overall unemployment rate is attributable to changes in the rate of growth in the number of young workers relative to increase in the adult labor force. Comparing the 1969–70 and 1973–75 recessions, we find that the rising youth share of the labor force by itself accounted for 30.9 percent of the increase in the unemployment rate. Between 1975 and 1982, however, the youth share component was –12.9 percent, meaning that a declining youth share of the

**Table 1. Average unemployment rates at business cycle peaks and troughs, and peak-to-peak and trough-to-trough changes, 1969–82**

Peak quarter	Unemployment rate	Percentage-point change, peak-to-peak	Trough quarter	Unemployment rate	Percentage-point change, trough-to-trough
1969: III . . . .	3.6	—	1970: IV . . . .	5.8	—
1973: III . . . .	4.8	1.2	1975: I . . . .	8.3	2.5
1979: IV . . . .	6.0	1.2	1980: III . . . .	7.5	–0.8
1981: III . . . .	7.4	1.4	1982: IV . . . .	10.6	3.1
Change, 1969: III to 1981: III . . . .	—	3.8	Change, 1970: IV to 1982: IV . . . .	—	4.8

Source: *Labor Force Statistics Derived from the Current Population Survey: A Databook*, Vol. II, Bulletin 2096 (Bureau of Labor Statistics, 1982); and *Employment and Earnings*, April 1983.

**Table 2. Demographic sources of the rising unemployment rate, 1969–82**

Period	Percentage-point change in the unemployment rate	Percent contribution of group to change in unemployment rate—						
		Total	Age 16 to 24	Age 25 to 54		Age 55 to 64		Age 65 and over
			Both sexes	Men	Women	Men	Women	Both sexes
<b>Trough-to-trough</b>								
1970: IV to 1975: I	2.5	100.0	43.1	27.6	24.6	1.3	3.2	0.2
Percent of 1970: IV labor force	—	100.0	21.9	38.7	22.0	8.5	5.1	3.8
1975: I to 1980: III	-0.8	100.0	65.0	-30.1	26.9	11.8	16.6	9.8
1980: III to 1982: IV	3.1	100.0	24.3	41.8	16.2	7.0	3.0	7.7
1975: I to 1982: IV	2.3	100.0	16.0	56.7	23.6	4.6	.2	-1.1
1970: IV to 1982: IV	4.8	100.0	29.2	42.4	24.1	3.0	1.7	-0.5
Percent of 1982: IV labor force	—	100.0	22.1	36.7	27.5	6.5	4.4	2.7
<b>Peak-to-peak</b>								
1969: III to 1973: III	1.2	100.0	58.0	20.7	16.3	2.2	1.0	1.9
Percent of 1969: III labor force	—	100.0	21.0	39.3	21.9	8.7	5.2	4.0
1973: III to 1979: IV	1.2	100.0	33.6	36.8	31.2	.3	.9	-2.2
1979: IV to 1981: III	1.4	100.0	30.5	40.5	23.1	3.8	2.4	-0.5
1969: III to 1981: III	3.8	100.0	40.3	33.0	23.3	2.6	1.5	-0.2
Percent of 1981: III labor force	—	100.0	23.0	36.4	26.8	6.6	4.4	2.8

NOTE: Due to rounding, sums of individual items may not equal totals.

SOURCE: Seasonally adjusted labor force data are from *Labor Force Statistics*; and *Employment and Earnings*, April 1983. Certain fourth-quarter 1982 labor force data were provided by the Office of Employment and Unemployment Statistics, Bureau of Labor Statistics.

labor force was acting to lower the overall unemployment rate.

The downward trend in the youth weight component also stands out clearly in the peak-to-peak comparisons in the lower portion of the table. The rising youth labor force weight accounted for 19.9 percent of the increase in the unemployment rate between the 1969 and 1973 peaks. The weight contribution fell to 1.6 percent over the 1973–79 interval, and became negative (-8.8 percent) during the final 1979–81 period.

Throughout the 1970's and early 1980's, however, the unemployment rate among youth was increasing sharply, thus producing the large positive effects shown in the second column of table 3. When added to the youth weight effects, these intragroup effects were sufficiently large to produce the positive net youth contributions shown in the first col-

umn, even when the youth weight components were negative.

If the secular rise in the unemployment rate in the early 1970's was primarily a youth unemployment problem, by the late 1970's and early 1980's it was increasingly a prime-age male problem. Prime-age men and women (ages 25–54) accounted for 27.6 percent and 24.6 percent, respectively, of the increase in the unemployment rate between 1970 and 1975, with workers over the age of 55 contributing the remaining 4.7 percent. While the contribution of prime-age women remained relatively stable between 1975 and 1982, the prime-age male contribution rose sharply. Although prime-age men made up just 36.7 percent of the 1982 labor force, they had accounted for 56.7 percent of the increase in the unemployment rate between 1975 and 1982.

Peak-to-peak comparisons also show a rising contribution by prime-age men. Their share of the unemployment rate increase grew from 20.7 percent over the 1969–73 interval to 36.8 percent and 40.5 percent during the 1973–79 and 1979–81 peak-to-peak intervals.

In sum, the demographic sources of the secular rise in the unemployment rate have not been constant. Youth made the largest and most disproportionate contribution in the early 1970's. As the surge of young entrants into the labor force abated in the late 1970's and early 1980's, however, the youth contribution declined sharply. Prime-age women have made a substantial but not disproportionate contribution to the increase, and while their share of the labor force rose, their contribution to the rising rate of unemployment did not. The decline in the youth contribution was matched by an equally sharp rise in the contribution of prime-age

**Table 3. Contribution of youth to rising noncyclical unemployment, 1969–82**

Period	Percent contribution—		
	Total	Due to rising youth unemployment	Due to changing youth labor force weight
<b>Trough-to-trough</b>			
1970: IV to 1975: I	43.1	12.2	30.9
1975: I to 1980: III	65.0	46.6	18.4
1980: III to 1982: IV	24.3	31.4	-7.1
1975: I to 1982: IV	16.0	28.9	-12.9
1970: IV to 1982: IV	29.2	28.6	.6
<b>Peak-to-peak</b>			
1969: III to 1973: III	58.0	38.1	19.9
1973: III to 1979: IV	33.6	32.0	1.6
1979: IV to 1981: III	30.5	39.3	-8.8
1969: III to 1981: III	40.3	35.9	4.5

**Table 4. Change in the unemployment rate by reason for unemployment, 1969-82**

Period	Percentage-point change in the unemployment rate	Percent contribution by—				
		Total	Job losers	Job leavers	Re-entrants	New entrants
<b>Trough-to-trough</b>						
1970: IV to 1975: I	2.5	100.0	72.5	5.6	14.5	7.4
1975: I to 1980: III	-0.8	100.0	63.1	1.1	36.4	-0.6
1980: III to 1982: IV	3.1	100.0	79.8	-3.7	14.1	9.7
1975: I to 1982: IV	2.3	100.0	82.3	-4.4	10.8	11.3
1970: IV to 1982: IV	4.8	100.0	77.8	.2	12.5	9.5
<b>Peak-to-peak</b>						
1969: III to 1973: III	1.2	100.0	50.7	15.4	21.4	12.3
1973: III to 1979: IV	1.2	100.0	71.6	4.9	17.5	6.0
1979: IV to 1981: III	1.4	100.0	77.6	1.9	13.0	7.6
1969: III to 1981: III	3.8	100.0	67.2	7.1	17.1	8.6

NOTE: Due to rounding, sums of individual items may not equal totals.

men, who, by the late 1970's, had replaced young workers as the most important factor in secular growth in the unemployment rate.

### Reasons for unemployment

How did workers contributing to the 12-year rise in the unemployment rate become unemployed? The Bureau of Labor Statistics classifies unemployed workers according to four mutually exclusive categories: job losers; job leavers; new entrants; and reentrants. This allows us to decompose the secular rise in the unemployment rate by reasons for unemployment, and in so doing, gauge the importance of involuntary job loss in explaining the upward trend.

Table 4 is similar to table 2, except that changes in the unemployment rate are decomposed by reason for unemployment rather than by demographic characteristics. Both the peak-to-peak and trough-to-trough measures suggest that

the preponderant reason for the rising unemployment rate was involuntary job loss. Job losers accounted for 77.8 percent of the increase in the unemployment rate between the 1970 and 1982 recession troughs, and 67.2 percent of the increase between the 1969 and 1981 expansion peaks.

Involuntary job loss has also tended to increase in importance over time. Job losers accounted for 72.5 percent of the increase in the unemployment rate between the 1970 and 1975 recession troughs. However, their share increased to 82.3 percent between 1975 and 1982. An upward trend also emerges in peak-to-peak comparisons. Job losers accounted for 50.7 percent of the increase in the unemployment rate between the 1969 and 1973 peaks, but this proportion rose to 71.6 percent and 77.6 percent, respectively, over the 1973-79 and 1979-81 peak-to-peak intervals.

Voluntary job leavers, by contrast, have played a small and declining role in the secular rise in the unemployment rate. Job leavers accounted for 5.6 percent of the increase in the unemployment rate between 1970 and 1975, but made a negative contribution (-4.4 percent) to the change between the 1975 and 1982 recession troughs.<sup>6</sup> The contribution of voluntary job leavers to peak-to-peak increases in the unemployment rate is somewhat larger, but the negative trend is even more pronounced. Job leavers accounted for 15.4 percent of the increase between the 1969 and 1973 peaks, but only 1.9 percent of the increase from 1979 to 1981.

Reentrants and new entrants, many of whom are youth and women, have made a notable contribution to the changes in the unemployment rate. Reentrants and new entrants accounted for 14.5 percent and 7.4 percent, respectively, of the increase in the unemployment rate between the 1970 and 1975 troughs. The reentrants' share fell slightly to 10.8 percent over the 1975-82 interval, while the new entrant share rose to 11.3 percent. The combined contribution of

**Table 5. Occupational sources of the rising unemployment rate, 1969-82**

Period	Percentage-point change in unemployment rate	Percent contribution by—									
		White-collar					Blue-collar				Service
		Total	Professional	Managerial	Sales	Clerical	Total	Craftworkers	Operatives	Laborers	Total
<b>Trough-to-trough</b>											
1970: IV to 1975: I	2.5	22.5	4.0	5.0	2.6	10.9	50.8	17.1	23.6	10.1	14.7
Percent of 1970: IV labor force	—	47.3	13.7	10.2	6.2	17.2	35.7	12.8	17.9	5.0	12.5
1975: I to 1980: III	-0.8	38.3	6.4	2.3	15.6	14.0	40.9	5.6	31.5	3.8	24.9
1980: III to 1982: IV	3.1	28.6	6.7	5.2	4.6	12.1	42.8	15.2	19.6	8.0	21.1
1975: I to 1982: IV	2.3	26.0	6.7	5.8	1.9	11.6	43.3	17.6	16.7	9.0	20.1
1970: IV to 1982: IV	4.8	24.5	5.4	5.5	2.3	11.3	47.0	17.3	20.2	9.5	17.4
Percent of 1982: IV labor force	—	51.3	16.0	11.0	6.4	17.9	31.0	12.3	13.6	5.1	14.0
<b>Peak-to-peak</b>											
1969: III to 1973: III	1.2	30.6	8.4	3.5	4.5	14.2	43.6	20.3	14.1	9.2	17.3
Percent of 1969: III labor force	—	46.6	13.4	9.9	6.0	17.3	36.5	12.9	18.8	4.8	12.3
1973: III to 1979: IV	1.2	23.8	6.7	7.3	4	9.4	48.4	11.2	24.5	12.7	14.7
1979: IV to 1981: III	-1.4	28.4	3.7	5.4	4.7	14.6	44.7	19.1	18.0	7.6	17.2
1969: III to 1981: III	3.8	27.6	6.1	5.3	3.3	12.9	45.5	17.3	18.6	9.6	16.5
Percent of 1981: III labor force	—	50.7	15.6	10.9	6.2	18.0	27.6	12.6	14.5	5.0	13.5

NOTE: The sum of white-collar, blue-collar, and service contributions represents the contribution of experienced civilian workers to the percentage-point change in the unemployment rate and is therefore less than 100 percent, the difference being the contribution of unemployed workers lacking civilian work experience.

**Table 6. Industrial sources of the rising unemployment rate, 1969-82**

Period	Percentage-point change in the unemployment rate	Percent contribution by—							
		Agriculture	Construction	Mining	Manufacturing	Transportation and public utilities	Retail trade	Finance and services	Government
<b>Trough-to-trough</b>									
1970: IV to 1975: I	2.5	0.9	10.8	0.8	28.2	4.0	19.3	13.4	8.1
Percent of 1970: IV labor force	—	1.5	4.7	.6	25.6	5.5	16.8	19.3	15.5
1975: I to 1980: III	-0.8	-3.2	2.0	-5.5	77.6	.1	19.0	5.1	-9.4
1980: III to 1982: IV	3.1	2.7	9.0	3.7	29.8	4.0	20.5	18.4	3.0
1975: I to 1982: IV	2.3	4.1	10.7	5.9	18.1	5.0	20.9	21.6	6.0
1970: IV to 1982: IV	4.8	2.5	10.7	3.3	23.2	4.5	20.1	17.5	7.1
Percent of 1982: IV labor force	—	1.7	4.7	1.0	20.2	5.2	18.9	23.8	14.7
<b>Peak-to-peak</b>									
1969: III to 1973: III	1.2	-0.2	13.1	.2	12.6	2.7	28.9	17.6	12.1
Percent of 1969: III labor force	—	1.5	4.6	.6	26.8	5.6	16.1	18.9	15.1
1973: III to 1979: IV	1.2	5.0	7.7	2.3	28.5	6.5	11.4	18.0	13.4
1979: IV to 1981: III	1.4	1.4	15.9	1.6	16.9	.8	23.8	19.5	6.6
1969: III to 1981: III	3.8	2.0	12.5	1.3	19.1	3.1	21.7	18.4	10.5
Percent of 1981: III labor force	—	1.5	4.8	1.1	21.3	5.3	18.5	22.7	15.0

NOTE: Because data are for experienced private wage and salary workers only, industry detail does not sum to 100 percent.

the two groups, however, remained fairly stable.

Thus, involuntary job loss has been the major source of the secular rise in the rate of unemployment. Moreover, it has tended to increase in importance over time. New entrants and reentrants have also played an important role, with a combined contribution of 20 to 30 percent, while voluntary job turnover has played a very small and declining role.

### Occupation and industry

To what extent is the secular increase in the unemployment rate associated with particular occupations or industries? In table 5, the increase in the unemployment rate is decomposed by broad occupational classes. White-collar workers, who made up 51.3 percent of the labor force in fourth-quarter 1982, accounted for 24.5 percent of the increase in the unemployment rate between the 1970 and 1982 recession troughs. Service workers were 14.0 percent of the 1982 labor force, but accounted for a slightly larger 17.4 percent of the increase in the unemployment rate. The group bearing the largest and most disproportionate share of the increased rate of unemployment, however, was blue-collar workers. By fourth-quarter 1982, their share of the labor force had declined to 31.0 percent, but they accounted for 47.0 percent of the increase in the unemployment rate over the 12-year interval.

Broadly similar results obtain in examining peak-to-peak changes in the unemployment rate. White-collar workers made up a slightly larger 27.6 percent of the increase in the rate between the third quarters of 1969 and 1981. The blue-collar and service contributions were slightly smaller—45.5 and 16.5 percent, respectively.

An industrial decomposition of the changing unemployment rate is presented in table 6. Workers in mining, man-

ufacturing, and construction together accounted for 25.9 percent of the labor force in fourth-quarter 1982, but contributed 37.2 percent of the 12-year increase in the unemployment rate. Those in retail trade, finance, and services made up 42.7 percent of the 1982 labor force, and 37.6 percent of the secular change in the unemployment rate. Government workers accounted for 14.7 and 7.1 percent of the labor force and the change in the unemployment rate, respectively.

Peak-to-peak comparisons yield broadly similar results. Over the 12-year interval from third-quarter 1969 to third-quarter 1981, mining, manufacturing, and construction accounted for a somewhat smaller 32.9 percent of the increase in the unemployment rate. The contribution of retail trade, finance, and services was also slightly less (40.1 percent), while government's share remained virtually unchanged at 15.0 percent.

### The duration of unemployment

To what extent is the secular increase in the rate of unemployment associated with long-term unemployment? Has there been a substantial increase in "hard-core" long-term unemployment, or does the higher unemployment rate simply result from a greater frequency of short spells of unemployment? A secular rise in the unemployment rate generated by unemployment spells of progressively longer duration may, for example, signal increasing structural unemployment problems in the labor market.

The average unemployment rate in any quarter is the product of: a) the percent of the labor force experiencing a spell of unemployment (*I*); b) the average number of spells per unemployed worker (*N*); and c) the average duration of an unemployment spell in weeks as a fraction of a quarter

**Table 7. The contribution of unemployment duration to the rising unemployment rate, 1969-82**

Period	Unemployment rate		Unemployment duration	
	Rate	Index	Mean weeks	Index
<b>Trough quarter</b>				
1970: IV .....	5.8	100	9.3	100
1975: I .....	8.3	143	16.2	174
1980: III .....	7.5	129	13.4	144
1982: IV .....	10.6	183	17.5	188
Change, 1970: IV to 1982: IV	4.8	83	8.2	88
<b>Peak quarter</b>				
1969: III .....	3.6	100	7.9	100
1973: III .....	4.8	133	9.6	122
1979: IV .....	6.0	167	10.6	134
1981: III .....	7.4	206	14.0	177
Change, 1969: III to 1981: III	3.8	106	6.1	77

year ( $D/13$ ):

$$(1) \quad \dot{u} = iN(D/13)$$

Taking the natural log of both sides of equation (1) and differentiating with respect to time yields:

$$(2) \quad \dot{\dot{u}} = \dot{i} + \dot{N} + \dot{D}$$

where the dotted variables denote proportionate rates of change. Thus, the proportionate contribution of duration to a change in the unemployment rate is  $(\dot{D}/\dot{u})$ .<sup>7</sup>

Unfortunately, data are not available on the average duration of a completed spell of unemployment. However, there are estimates of the average duration of unemployment among workers who are currently unemployed—that is, the average duration of an unemployment spell in progress. There is considerable debate as to whether the latter statistic overstates or understates the average duration of a completed unemployment spell.<sup>8</sup> For our purposes, however, the direction of a bias is irrelevant, so long as the bias remained a relatively stable fraction of the true value during the last 12 years. If this is the case, then proportionate increases in the duration of unemployment in progress imply equivalent increases in the duration of completed unemployment spells.

Table 7 presents proportionate changes in the unemployment rate and the duration of unemployment. Over the 12 years between the 1970 and 1982 troughs, the unemployment rate rose by 83 percent. Over the same interval, the

average duration of unemployment increased by 88 percent, from 9.3 to 17.5 weeks. Thus, extended unemployment duration would seem to account for the entire increase in the unemployment rate over the period. Over the peak-to-peak interval from 1969 to 1981, the unemployment rate and duration rose by 106 percent and 77 percent, respectively. Extended duration thus accounted for approximately 70 percent of the peak-to-peak increase in the unemployment rate.

The evidence in table 7 suggests that the secular increase in the unemployment rate is not due to a larger fraction of the labor force experiencing relatively brief spells of unemployment, but rather to a relatively stable fraction of the labor force experiencing substantially longer periods of unemployment.

WHAT DOES THIS STATISTICAL portrait tell us about the rising unemployment rate? Clearly, frictional, and perhaps structural, factors associated with the increased flow of youth and women into the labor force during the study period did contribute to the higher unemployment rate. Youth accounted for a large and disproportionate share of the increase in the unemployment rate at the beginning of the period, while new entrants and reentrants to the labor force made a steady contribution of 20 to 30 percent in peak-to-peak and trough-to-trough increases in the unemployment rate.

The large contribution of prime-age men, blue-collar workers, and job losers, as well as the sharp increase in the duration of unemployment, suggest that rising structural unemployment in traditional segments of the labor force may also have played a significant role. This composition of rising unemployment is also consistent with higher cyclical unemployment, however, if aggregate demand became progressively more slack between peaks and between troughs over the study period. The across-the-board industrial and occupational contributions to the rising unemployment rate certainly suggest a slackening of aggregate demand. But whatever the exact mix of structural and cyclical factors, the secular rise in the unemployment rate since 1969 seems to have been generated by more than just labor market adjustment problems associated with a rapidly growing labor force. □

—FOOTNOTES—

<sup>1</sup>Recent studies which have examined the unemployment experience during the 1970's include: Martin Neil Baily, ed., *Workers, Jobs and Inflation* (Washington, The Brookings Institution, 1982); James L. Medoff, "Imbalance, Wage Growth and Productivity in the 1970's," *Brookings Papers on Economic Activity*, vol. 1, 1983, pp. 87-128; David M. Lilien, "Sectoral Shifts and Cyclical Unemployment," *Journal of Political Economy*, August 1982, pp. 777-93; and Robert W. Bednarzik, "Layoffs and permanent job loss: workers' traits and cyclical patterns," *Monthly Labor Review*, September 1983, pp. 3-12.

<sup>2</sup>Because the focus of this article is on changes in the structure of unemployment during the 1970's and early 1980's, the period of analysis begins with the expansion peak in the third quarter of 1969. It might be argued, however, that the unemployment rate in the late 1960's was ar-

tificially low due to the Vietnam War. As is shown below, the secular upward trend in the unemployment rate remains whether one begins with the 1969 or 1973 peak, or the 1970 trough. In any event, the long interval between 1969 and 1982 will be broken into peak-to-peak and trough-to-trough subintervals, thus providing a moving benchmark for the analysis.

<sup>3</sup>A third source of noncyclical unemployment is seasonal unemployment, which, as the name suggests, is associated with regular seasonal labor market adjustments. Examples include youth entry into the labor force in May and withdrawal in August, and winter layoffs in construction. Because this study uses only seasonally adjusted labor force data, the effect of such factors has been minimized.

<sup>4</sup>In this article, the term "secular" rather than "noncyclical" is used to denote peak-to-peak or trough-to-trough changes in the unemployment

rate because it is possible that such changes include a cyclical component, if the state of aggregate demand differs from one peak or trough to another.

<sup>5</sup>In computing the sources of rising unemployment, the following identity was used:

$$(u_2 - u_1) = \sum_i \theta_{i2}(u_{i2} - u_{i1}) + \sum_i u_{i1}(\theta_{i2} - \theta_{i1})$$

where  $\theta_i$  and  $u_i$  denote the labor force weight and unemployment rate of the  $i$ th group. The proportionate contribution of the  $i$ th group to the change in the unemployment rate is:

$$\frac{\theta_{i2}(u_{i2} - u_{i1})}{(u_2 - u_1)} + \frac{u_{i1}(\theta_{i2} - \theta_{i1})}{(u_2 - u_1)}$$

The first term is the effect of a changing intragroup unemployment rate, and the second term, the effect of shifting labor force weights.

<sup>6</sup>A negative contribution implies that unemployed job leavers as a percent of the labor force fell between the 1973-75 and 1981-82 recessions. In fact, the absolute number of voluntary job leavers fell over this period—from 902,000 (1975) to 808,000 (1982).

<sup>7</sup>Equation (1) is best understood by considering a simple example. Suppose the average unemployment rate in a quarter is 10 percent and the labor force is 100 million. This means there are 130 million weeks of unemployment to be distributed among the labor force. If 10 percent of the labor force experiences one spell of unemployment during the quarter, then the average duration of the spell must be 13 weeks. If 20 percent of the population experiences one spell, the average duration must be 6.5 weeks. For further discussion, see Richard B. Freeman, *Labor Economics*, 2nd Ed. (Englewood Cliffs, New Jersey, Prentice-Hall, 1979), pp. 112-14.

<sup>8</sup>Because every unemployed worker's *completed* duration of unemployment will at least be as long as his or her *in-progress* duration at the time of the Current Population Survey interview, average in-progress duration will *underestimate* average completed duration. On the other hand, the tendency to "oversample" long-term unemployed will impart a bias in the opposite direction. For example, over the course of a year, a worker unemployed for 6 months will be six times as likely to be sampled as a worker unemployed for 1 month. A lively literature has developed around these matters, much of which is cited in Norman Bowers, "Probing the issues of unemployment duration," *Monthly Labor Review*, July 1980, pp. 23-32.

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### Geoffrey Moore wins Shiskin Award

The fifth annual Julius Shiskin Award for Economic Statistics was presented June 12, 1984 to Dr. Geoffrey H. Moore "for his research in measurement and analysis of business cycles." The award was presented at the Washington Statistical Society Annual Dinner along with an honorarium of \$250.

The Award Program is designed to honor unusually original and important contributions in the development of economic statistics or in the use of economic statistics in interpreting the economy. Participating organizations in the program are the Bureau of Labor Statistics, Bureau of Census, Bureau of Economic Analysis, Office of Federal Statistical Policy and Standards, National Bureau of Economic Research, National Association of Business Economists, and the Washington Statistical Society, all of which Mr. Shiskin was associated with in his long and fruitful career.

Previous winners of the Award were Estella Dagum of Statistics Canada, James Bonnen for his work chairing the President's Reorganization Project for the Federal Statistical System, Edward Denison for his work at the Bureau of Economic Analysis and the Brookings Institution, and Beatrice Vaccara for her contributions at the Bureau of Industrial Economics.

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