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# An Experience-Weighted Measure of Employment and Unemployment Durations 

By George A. Akerlof and Brian G. M. Main*

Kim Clark and Lawrence Summers (1979) have recently established that while most unemployment spells are quite short, most time spent in unemployment is spent in spells of longer than average duration. This apparent paradox is due to the fact that the most common measure of the average length of a spell of unemployment is an average of all spell lengths terminating in a given period, herein labeled $S_{T W}$. In this measure, all spells are given the same weighting irrespective of the amount of unemployment for which they account. Weighting each spell by its length would result in an experience-weighted measure, herein labeled $S_{E W}$, which would reflect the length of spell in which a typical week of unemployment is spent and, hence, avoid the Clark and Summers paradox.

Our paper motivates this alternative measure, $S_{E W}$, and observes that in the steady state a reasonable measure of this experi-ence-weighted spell duration is twice the official Bureau of Labor Statistics (BLS) average duration of uncompleted spells, herein labeled $T$. When this approach is applied to employment statistics, in the form of job tenures, a sharp contrast is found between the average length of a job as reflected in turnover statistics or the terminationsweighted spell length, $S_{T W}$, and as measured by the experience-weighted average job dura-

[^0]tion, $S_{E W}$. It appears that although the average job is of short duration, most employment is spent in jobs of longer than average duration.

The fact that both employment and unemployment fall in spells of considerably greater length than is indicated by examination of turnover statistics, is of considerable import to the standing of what has come to be known as the "new view" of the labor market. (See Martin Feldstein; Robert Hall; George Perry.) In this view the labor market is full of movement with both employment and unemployment occurring in relatively brief spells. That there is a lot of movement is a fact reflected in labor market turnover statistics. As our empirical work will show, however, it is erroneous to take these turnover statistics which reflect average movement through certain states to reflect the average experience of persons in these states. In both employment and unemployment there appears to be much more permanence than the new view allows. In our view, for most purposes, the existence of many short spells of employment or unemployment is of little relevance if these spells in the aggregate contribute relatively little, respectively, to total employment or total unemployment. This appears in fact to be the case since employment-years and unemployment-weeks are in spells which are on average quite long.

Section I will explain theoretically and by analogy the meaning of the various measures of average spell lengths and present some facts about their relationship to each other. Section II displays estimates both of the length of the average completed spell and of the experience-weighted completed spell length for various populations for job tenures and unemployment durations. Section III contains some concluding remarks pertaining to the ramifications of these results on labor market policy.

## I. Three Different Measures of Spell Length

## A. Three Statistics Defined and Explained with Use of a Diagram

The different measures of durations statistics can be most easily explained by reference to Figure 1 (which is adapted from a similar diagram by Stephen Salant). Let the horizontal lines in Figure 1 represent the periods during which persons (labeled on the vertical axis) are unemployed. (An exactly analogous figure could be drawn for job tenures.)

Now consider three possible measures of unemployment duration. The first measure is the one commonly reported. Suppose that at date $t_{0}$ a poll is taken which records how long the persons who are unemployed at $t_{0}$ have been out of work. In terms of the diagram, Person 1 has been out of work for a length of time $T_{1}$, Person 2 for a length of time $T_{2}$, Person 5 for a length of time $T_{5}$, and Person 6 for a length of time $T_{6}$. Persons 3 and 4 are not out of work, and therefore their unemployment durations are not recorded in the sample. An average computed from the durations out of work of those unemployed at time of interview would thus be

$$
T=\left(T_{1}+T_{2}+T_{5}+T_{6}\right) / 4
$$

This statistic $T$ corresponds to the official statistics on mean duration of unemployment reported by the BLS.

There is at least one sense in which this statistic is lacking. The times $T_{1}, T_{2}, T_{5}$, and $T_{6}$ do not report the completed length of the spells of persons $1,2,5$, and 6 , respectively, but only the length of their interrupted spell, which is for each person an obviously shorter phenomenon. In terms of the diagram, the average completed length of unemployment spells of the currently unemployed is

$$
S_{E W}=\left(S_{1}+S_{2}+S_{5}+S_{6}\right) / 4 .
$$

$S$ is Salant's notation for completed length of spell. The subscripts $E W$ stand for "experi-ence-weighted" spell length, as shall be explained presently.


Figure 1

On the other hand, there is yet a third measure of the average length of unemployment. This measure consists of the average length of all spells of unemployment, where the spells are not defined to be those in progress at a given point in time, as in $S_{E W}$, but are those spells which are observed to terminate over a given period of time. In such an average each spell counts exactly once, irrespective of its total contribution to unemployment. In terms of Figure 1 such an average would be

$$
\begin{aligned}
S_{T W}= & \left(S_{1}+S_{2}+S_{31}+S_{32}\right. \\
& \left.+S_{41}+S_{42}+S_{5}+S_{6}\right) / 8
\end{aligned}
$$

taking into account the two repeat spells of persons 3 and 4. This statistic is represented by the symbol $S_{T W}$, where $T W$ mnemonically represents "termination-weighted." The time period over which these terminations have been averaged in the literature has commonly been the calendar year (see Hyman Kaitz and Salant).

In contrast to $S_{T W}$, which weights all spells equally, the chances of sampling a given spell at a given point in time is proportional to its length. For this reason in steady state the average of completed spells at a given point in time ( $t_{0}$ for example) is equivalent to a
measure which weights spells according to their contribution to total unemployment; this contribution is, of course, their completed length. It was for this reason that the measure $S_{E W}=\left(S_{1}+S_{2}+S_{5}+S_{6}\right) / 4$ was named the experience-weighted spell length.

## B. Explanations of Three Statistics by Analogy

An analogy is exact and also gives intuitive explanation of the three statistics. Barring the repeat spells of Persons 4 and 5, Figure 1 could be taken to represent not the length of time unemployed, but, instead, the life spans of persons over some period of time, with Person $i$ having a life span of length $S_{i}$, with life beginning and ending in calendar time as indicated by the horizontal lines. The statistic $T$ corresponds to the average age of the population; the statistic $S_{E W}$ corresponds to the average life span of the population alive at $t_{0}$, and $S_{T W}$ corresponds to the average life span of all persons who die over some period of time, or, equivalently in a steady state, is life expectancy at birth. The latter statistic is smaller than the former because longer-lived persons are more apt to be seen in any given census; thus the person who dies at eighty is visited by eight decennial censuses; the child who dies at ten is seen by only one decennial census. In demography, life expectancy at birth ( $S_{T W}$ ) is dramatically different from the average life expectancy of a population ( $S_{E W}$ ) where there are high rates of child mortality. The dramatic differences reported in the next section between $S_{E W}$ and $S_{T W}$ for job tenures and unemployment durations are the similar result, caused by the existence of many short job tenures and of many short spells of unemployment.

## C. A Numerical Example

A numerical example illustrates the relation between the two statistics $S_{E W}$ and $S_{T W}$, and how it may come about that $S_{E W}$ may be long while $S_{T W}$ is short.

Suppose that there are two persons who are continuously employed over a ten-year period. The first is employed in ten consecu-
tive jobs with each job lasting exactly one year. The second person, however, is employed in the same job for the entire ten-year period. At any moment of time a census of this population will find two persons employed. One person will be in a one-year job; the other will be in a ten-year job. The average completed job tenure of the currently employed is, accordingly, five and one-half years. Furthermore, it should be apparent, perhaps after a moment's reflection, that, since in each and every year the average length of job in which that year's employment is spent is five and one-half years, so it is also true that over the entire period the average length of job in which employment is spent is five and one-half years.

On the other hand, in the example there are eleven spells of employment that terminate over the period and twenty employment years. Thus $S_{T W}=20 / 11 \cong 1.8$. The measure $S_{E W}$ weights the ten one-year jobs equally with the one ten-year job, according to their respective contributions to employment. In contrast, $S_{T W}$ weights all eleven spells equally.

## D. Interpretation of Data in Steady State

Censuses enumerate populations at given moments of time. It is a central question in demography to use population censuses to calculate mortality tables that show average life expectancy at birth, or $S_{T W}$. Similarly, the Bureau of Labor Statistics produces monthly data on the length of interrupted spells of unemployment and occasional tables on the interrupted job tenure of workers (see $B L S, 1964,1967,1969,1974$ ). This paper uses these census-like data to infer both the average experience-weighted and the average termination-weighted unemployment durations and job tenures.

A property of the steady state permits empirical estimates of $S_{E W}$ from reported statistics on interrupted spells. In the steady state a person who is interviewed at a random time will be interviewed with uniform probability throughout the length of his spell. Thus for each person $i, E\left(T_{i}\right)=S_{i} / 2$, and with a large population $S_{E W}=2 T$. This fact

Table 1-Estimated Mean Completed Tenure of Currently Held Jobs (In Years) $=S_{E W}$

|  | Male |  |  |  | Female |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1963 | 1966 | 1968 | 1973 | 1963 | 1966 | 1968 | 1973 |
| A. By Race, Date, and Sex |  |  |  |  |  |  |  |  |
| White | 17.4 | 18.2 | 18.3 | 17.2 | 11.6 | 12.1 | 11.6 | 11.1 |
| Nonwhite | 14.2 | 14.1 | 14.4 | 14.2 | 11.0 | 11.6 | 10.3 | 11.8 |
| B. By Industry, Date, and Sex |  |  |  |  |  |  |  |  |
| Agriculture | 24.5 | 28.2 | 29.0 | 30.6 | 22.9 | 28.6 | 23.3 | 23.0 |
| Mining | 19.4 | 18.5 | 20.7 | 19.7 | - | - | - | - |
| Construction | 10.5 | 11.0 | 12.3 | 11.9 | 10.0 | 12.1 | 9.4 | 10.2 |
| Manufacturing-durable | 18.8 | 21.8 | 18.3 | 18.3 | 13.2 | 14.1 | 12.2 | 13.2 |
| Manufacturing-nondurable | 18.3 | 19.8 | 19.5 | 18.5 | 13.7 | 14.5 | 14.0 | 13.7 |
| Transport/public utilities | 21.8 | 23.4 | 22.8 | 20.6 | 16.4 | 16.1 | 15.1 | 13.3 |
| Wholesale/retail | 11.7 | 12.2 | 13.7 | 11.7 | 9.2 | 9.3 | 9.1 | 8.7 |
| Service/finance | 12.0 | 11.8 | 13.7 | 11.5 | 9.8 | 10.2 | 9.9 | 10.2 |
| Public Administration | 18.6 | 19.4 | 18.8 | 19.3 | 14.5 | 13.2 | 12.7 | 12.7 |
| C. By Occupation, Date, and Sex |  |  |  |  |  |  |  |  |
| Professional/technical | 16.2 | 17.1 | 16.7 | 16.3 | 13.2 | 13.9 | 13.1 | 12.3 |
| Managers, proprietors | 21.2 | 22.1 | 22.0 | 19.7 | 17.3 | 19.4 | 18.1 | 16.4 |
| Clerical and kindred | 17.0 | 17.2 | 17.2 | 16.9 | 11.0 | 11.1 | 10.6 | 10.4 |
| Sales workers | 12.4 | 13.8 | 14.1 | 14.2 | 10.5 | 10.3 | 10.2 | 8.7 |
| Craftsmen, foremen | 18.4 | 20.0 | 19.5 | 18.2 | 14.6 | 17.4 | 16.8 | 14.0 |
| Operatives and kindred | 15.7 | 15.6 | 15.7 | 15.0 | 13.4 | 13.8 | 12.7 | 13.1 |
| Nonfarm laborers | 11.4 | 11.3 | 12.7 | 10.9 | - | 13.6 | 14.1 | 9.1 |
| Farm laborers and foremen | 9.7 | 11.4 | 10.7 | 13.5 | 23.6 | 27.3 | 24.0 | 23.3 |
| Service workers | 12.8 | 12.8 | 13.3 | 11.6 | 8.4 | 9.8 | 8.7 | 9.4 |

Source: See text.
gives a simple way of estimating the $S_{E W}$ statistic, using the steady-state assumption, from the official $B L S$ statistics on interrupted spells.

## II. Job Tenures and Longest Job-Unemployment Durations

This section, among other things, displays estimates of the two statistics on job tenures and unemployment durations $S_{E W}$ and $S_{T W}$, for various populations. It shows that $S_{E W}$ is empirically a uniformly large multiple of $S_{T W}$ both for job tenures and for unemployment durations.

## A. Job Tenures

The Bureau of Labor Statistics has, on occasion, compiled data on interrupted job tenures. Table 1 displays the estimated mean completed tenure of currently held jobs for a variety of demographic, occupational, and industrial subgroups. Assuming the steady state, we doubled an estimate of the mean
interrupted job tenure to give the statistic reported in Table 1 as $S_{E W}$, or the estimated mean completed tenure of currently held jobs. The estimates were found to display a remarkable stability for each subgroup over time; this stability for four different times, not all at the same phase of the business cycle, gives some confidence in the use of the steady-state assumption to calculate $S_{T W}$ and $S_{E W}$.

Table 2 reports the estimates obtained using the steady-state assumption for mean completed job tenures in the 1968 to 1973 period and compares them with the estimated experience-weighted job tenures for 1968 as obtained in Table 1. ${ }^{1}$ These statistics support the major hypothesis of this paper: that the average employment-year is spent in a job of long tenure even though the average length of all jobs is quite short. For white males the estimated average completed length of job is four years; however, the average length of job of currently employed males is

[^1]Table 2-Estimated Mean Completed Tenure (In Years) of Jobs Held in January $1968=S_{E W}$; Estimated Mean Completed Tenure (In Years) of Jobs Ending Between January 1968 and January $1973=S_{T W}$; and the Ratio of $S_{E W} / S_{T W}$

|  | Male |  |  | Female |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $S_{E W}$ | $S_{T W}$ | $S_{E W} / S_{T W}$ | $S_{E W}$ | $S_{T W}$ | $S_{E W} / S_{T W}$ |
| A. By Race and Sex |  |  |  |  |  |  |
| White | 18.3 | 3.9 | 4.7 | 11.6 | 2.6 | 4.5 |
| Nonwhite | 14.4 | 2.8 | 5.1 | 10.3 | 2.2 | 4.7 |
| B. By Industry and Sex |  |  |  |  |  |  |
| Agriculture | 29.0 | 3.6 | 8.1 | 23.3 | 3.8 | 6.1 |
| Mining | 20.7 | 4.8 | 4.3 | - | - | - |
| Construction | 12.3 | 2.4 | 5.1 | 9.4 | 2.5 | 3.8 |
| Manufacturing-durable | 18.3 | 4.3 | 4.3 | 12.2 | 3.1 | 3.9 |
| Manufacturing-nondurable | 19.5 | 4.2 | 4.6 | 14.0 | 3.2 | 4.4 |
| Transport/public utilities | 22.8 | 5.8 | 3.9 | 15.1 | 3.6 | 4.2 |
| Wholesale/retail | 13.7 | 2.6 | 5.3 | 9.1 | 2.1 | 4.3 |
| Service/finance | 13.7 | 3.0 | 4.6 | 9.9 | 2.2 | 4.5 |
| Public administration | 18.8 | 5.7 | 3.3 | 12.7 | 3.4 | 3.7 |
| C. By Occupation and Sex |  |  |  |  |  |  |
| Professional/technical | 16.7 | 4.0 | 4.2 | 13.1 | 2.7 | 4.9 |
| Managers, proprietors | 22.0 | 7.3 | 3.0 | 18.1 | 5.8 | 3.1 |
| Clerical and kindred | 17.2 | 3.6 | 4.8 | 10.6 | 2.6 | 4.1 |
| Sales workers | 14.1 | 3.0 | 4.7 | 10.2 | 2.4 | 4.3 |
| Craftsmen and foremen | 19.5 | 4.5 | 4.3 | 16.8 | 4.6 | 3.7 |
| Operatives and kindred | 15.7 | 3.0 | 5.2 | 12.7 | 2.8 | 4.5 |
| Nonfarm laborers | 12.7 | 2.4 | 5.3 | 14.1 | 2.7 | 5.2 |
| Farm laborers and foremen | 10.7 | 1.6 | 6.7 | 24.0 | 4.0 | 6.0 |
| Service workers | 13.3 | 2.8 | 4.8 | 8.7 | 1.9 | 4.6 |

Source: Calculations described in the text.
over eighteen years. For white females the comparable statistics are three and twelve years, respectively.

Relative to the new view of employment, which sees jobs as being of short duration, the eighteen years for male employees and the twelve years for female employees is quite long. Furthermore, although the steady-state assumption is violated due to growth of the labor force, this tends to bias the estimated average downwards, since persons with long employment began their jobs long ago and therefore their fraction, as reported in the $B L S$ table of interrupted durations, is less than would occur in a steady state without employment growth. (A calculation reported elsewhere crudely estimates the underreporting bias as 7 percent for women and 4 percent for men.)

Table 2, Panels A and B, report the comparable statistics for employment by occupation and industry. It should again be noted that the $S_{E W}$ statistic is considerably longer
than the $S_{T W}$ statistic and, as a rule of thumb, the longer statistic is a multiple three to five times the shorter statistic for the same population subgroup.

## B. Longest Job

The statistics on job tenures strongly suggest that most adult males do have a "normal" job which they maintain for a good portion of their adult lives. There is one corroborating piece of evidence. In 1966 Parnes' National Longitudinal Survey asked older men 45 to 59 (i.e., with average age 52) about their longest job. As can be seen in Table 3, the average length of longest job was seventeen years. This estimate must be taken as a lower bound since the youngest of these men were still twenty years from retirement age and almost two-thirds reported that they were currently in their longest job. This large fraction is by itself another indicator of the employment stability of most of the adult

Table 3-Average Length (In Years) of Longest Job by Age and Race for Older Male Workers (45-59) in $1966^{\text {a }}$

| Age | All | White | Black |
| :---: | :---: | :---: | :---: |
| 45 | 14.7 | 15.2 | 13.4 |
| 46 | 13.6 | 13.8 | 12.9 |
| 47 | 14.4 | 14.5 | 14.2 |
| 48 | 15.1 | 15.3 | 14.4 |
| 49 | 15.5 | 15.4 | 15.6 |
| 50 | 17.3 | 17.6 | 16.8 |
| 51 | 16.8 | 17.2 | 15.9 |
| 52 | 18.4 | 18.7 | 17.8 |
| 53 | 17.6 | 18.1 | 16.3 |
| 54 | 18.0 | 18.8 | 16.3 |
| 55 | 18.7 | 19.2 | 17.4 |
| 56 | 20.0 | 20.8 | 18.3 |
| 57 | 21.5 | 22.4 | 19.4 |
| 58 | 19.8 | 21.2 | 17.7 |
| $\frac{59}{45-59}$ | $\underline{20.5}$ | $\underline{21.5}$ | $\underline{17.7}$ |
| $\frac{17.2}{17.7}$ | $\underline{17.7}$ | $\underline{16.1}$ |  |

${ }^{\text {a }}$ From Parnes' National Longitudinal Study.
male labor force. Finally, we might mention that almost 8 percent of the sample of these older men still found themselves in 1966 in their first job after school.

## C. Unemployment Durations

Table 4 presents estimates of the two statistics $S_{T W}$ and $S_{E W}$ in columns 1 and 2 , respectively. Column 1 is the estimated average length of all spells of unemployment ending over a span of time, by year, for the years $1948-78$ for the U.S. population. Column 2 gives estimated average lengths of completed spell of persons unemployed at a given time for the same years, 1948-78, or, equivalently, the average duration of unemployment spell in which an unemploymentweek occurs.

For the years 1966 to $1978, S_{T W}$ was calculated by the method of Salant. His method maximizes the likelihood of the observed breakdown of the observed population into different categories given that interrupted spells are distributed as a beta distribution. Earlier estimates of escape rates are obtained from Kaitz. Estimates of $S_{E W}$ are obtained by employing the steady-state as-
sumption and doubling the mean interrupted spell length $T$ as reported by the $B L S$. It should be noted that for almost all years from 1948 to 1978 the ratio of the two statistics $S_{E W}$ to $S_{T W}$ was between three and five.

Table 4 thus demonstrates what appears to be an empirical regularity: the average duration of all spells of unemployment of a given subgroup of the U.S. population which terminate over the course of a year, $S_{T W}$, is much shorter than the average duration of the completed spells of those unemployed at any moment in time, $S_{E W}$; and, as a rule of thumb, the latter statistic is a multiple between three and five of the former statistic. While the average duration of all unemployment spells of the total U.S. population was approximately six weeks, the average duration of completed spell of those unemployed at each moment of time for the United States over the postwar period was approximately six months. The computations made to calculate Table 4, of course, use the steadystate assumption. The sensitivity of our estimates to these assumptions has been examined elsewhere with results generally favorable to the use of these assumptions (see our 1979 article).

## III. Conclusion

This paper has presented and shown empirical estimates of a measure of $S_{E W}$ of the average length of a spell in which an employ-ment-year and an unemployment-week is spent. According to estimates in the preceding sections experience-weighted means of job tenures and unemployment durations are, as an empirical regularity, all longer by large multiples (for example, roughly three to five) than the mean length of all jobs and all spells of unemployment.

While the average job may be quite short because there are many short jobs, most employment experience is spent in jobs that are quite long. This is somewhat contrary to the popularized view of the U.S. labor market as one where everyone is on the brink of changing jobs. If an "I quit" was induced at each opportunity of a job paying a few dollars more; or a "you're fired" was forthcoming at every deviation from required productivity,

Table 4-Weighted and Unweighted Unemployment Durations

|  | Average Duration (in Weeks) of Completed Spells of Unemployment Unweighted ${ }^{\text {a }}$ | Estimate of Weighted Average Duration of Completed Spells of Unemployment ${ }^{b}$ | Unemployment |  |
| :---: | :---: | :---: | :---: | :---: |
|  | $S_{T W}$ | $S_{E W}$ | Rate | $S_{E W} / S_{T W}$ |
| 1948 | 4.6 | 17.2 | 3.8 | 3.7 |
| 1949 | 6.2 | 20.0 | 5.9 | 3.2 |
| 1950 | 6.7 | 24.2 | 5.3 | 3.6 |
| 1951 | 4.1 | 19.4 | 3.3 | 4.7 |
| 1952 | 4.0 | 16.8 | 3.0 | 4.0 |
| 1953 | 3.7 | 16.0 | 2.9 | 4.3 |
| 1954 | 6.4 | 23.6 | 5.5 | 3.7 |
| 1955 | 5.4 | 26.0 | 4.4 | 4.8 |
| 1956 | 5.0 | 22.6 | 4.1 | 4.5 |
| 1957 | 5.7 | 21.0 | 4.3 | 3.7 |
| 1958 | 7.4 | 27.8 | 6.8 | 3.8 |
| 1959 | 6.2 | 28.8 | 5.5 | 4.6 |
| 1960 | 6.0 | 25.6 | 5.5 | 4.3 |
| 1961 | 7.2 | 31.2 | 6.7 | 4.3 |
| 1962 | 6.2 | 29.4 | 5.5 | 4.7 |
| 1963 | 6.4 | 28.0 | 5.7 | 4.4 |
| 1964 | 5.8 | 26.6 | 5.2 | 4.6 |
| 1965 | 5.2 | 23.6 | 4.5 | 4.5 |
| 1966 | 4.2 | 20.8 | 3.8 | 5.0 |
| 1967 | 5.0 | 17.6 | 3.8 | 3.5 |
| 1968 | 4.5 | 16.8 | 3.6 | 3.7 |
| 1969 | 4.6 | 15.8 | 3.5 | 3.4 |
| 1970 | 5.4 | 17.4 | 4.9 | 3.2 |
| 1971 | 6.8 | 22.6 | 5.9 | 3.3 |
| 1972 | 6.2 | 24.0 | 5.6 | 3.9 |
| 1973 | 7.0 | 20.0 | 4.9 | 2.9 |
| 1974 | 5.6 | 19.4 | 5.6 | 3.5 |
| 1975 | 9.1 | 28.2 | 8.5 | 3.1 |
| 1976 | 8.0 | 31.6 | 7.7 | 4.0 |
| 1977 | 7.2 | 28.6 | 7.0 | 4.0 |
| 1978 | 6.3 | 26.2 | 6.0 | 4.2 |

${ }^{2}$ Source: Kaitz and our 1980 article.
${ }^{\mathrm{b}}$ Double the average durations of unemployment durations of unemployed persons.
currently employed males would hardly be expected to average an eighteen-year job tenure in their current jobs! This popular view that jobs are quite short is, however, a statistical artifact based on an erroneous interpretation of turnover statistics. While there may be less permanence than in previous times, it remains that the average male is in a job of quite long standing. There exists a considerable degree of permanence in the labor market.

If a monthly turnover rate of around 2.8 percent is taken to imply that all jobs last three years, then the opportunities for pay to diverge from marginal product must be
limited. If, on the other hand, jobs currently in progress are expected to last an average of eighteen years, there seems to be considerable scope for the existence of internal labor markets and for the pay of most, although certainly not all, to diverge from their respective marginal products. The experienceweighted spell length $S_{E W}$ seems to shed light on possible imperfections in the labor market.

One other practical and immediate example can be given of the explanatory power of experience-weighted job durations. The crisis at Chrysler can be viewed as the traumatic termination of many thousands of jobs. Turnover statistics for the automobile in-
dustry indicate that jobs last on average three years. The male jobs being terminated at Chrysler, however, if they are of the same length as in the rest of manufacturing industry, have an expected tenure of around twenty years. This is altogether a more serious situation.

On the subject of unemployment, it is apparent that while the average unemployment spell may be quite short because there are many short spells of unemployment, most unemployment experience is spent in spells that are quite long. For the application of economic theory to the problems of unemployment, the less misleading statistic to our mind is not the length of the average spell of unemployment but, rather, the average length of spell in which time unemployed is spent. The existence of many short spells is of little consequence if the very shortness of these spells means that they do not contribute much to total unemployment. The measure $S_{E W}$ with respect to unemployment shows that most time spent unemployed is in spells that are quite long.

This observation on unemployment is not new, and has been made most forcibly by Clark and Summers (1979) who effectively derive a Gini coefficient for the distribution of unemployment. Our measure $S_{E W}$ lacks the sophistication of the Clark and Summers' approach, and must be viewed as an easily derived summary measure. Examination of Table 4 indicates that in the late 1970's the typical week of unemployment was spent in a length in excess of six months. This result can only add weight to Clark and Summers' rejection of both search theory and the theory of contracts as plausible explanations of unemployment. Remedies for unemployment must clearly be aimed at "the unemployed" rather than at making the labor market more efficient.

In summary, the use of estimates of the experience-weighted spell length $S_{E W}$ that were easily derived from the observed interrupted spell lengths $T$ of stocks of both the employed and the unemployed, has led to a view of the U.S. labor market that is distinctly stock-oriented or "long." The source of confusion created by the use of turnover statistics or their equivalent,
termination-weighted average spell lengths $S_{T W}$ has been explained. The respective views of the U.S. labor market provided by these two types of measure are remarkably different. From a policy viewpoint it seems important to emphasize that examination of turnover in labor market states can lead to a mistaken short view of the labor market stemming from estimates of low $S_{T W}$; while examination of labor market participants leads, in fact, to a long view of the labor market through remarkably high values of $S_{E W}$.

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[^1]:    ${ }^{1}$ See our 1979 article.

