

# The Importance of Lifetime Jobs in the U.S. Economy

By ROBERT E. HALL\*

Though the U.S. labor market is justly notorious for high turnover and consequent high unemployment, it also provides stable, near-lifetime employment to an important fraction of the labor force. This paper investigates patterns of job duration by age, race, and sex, with the following major conclusions:

1) The typical worker today is holding a job which has lasted or will last about eight years. Over a quarter of all workers are holding jobs which will last twenty years or more. Sixty percent hold jobs which will last five years or more.

2) The jobs held by middle-aged workers with more than ten years of tenure are extremely stable. Over the span of a decade, only 20 to 30 percent come to an end.

3) Among workers aged 30 and above, about 40 percent are currently working in jobs which eventually will last twenty years or more. Three-quarters are in jobs which will last five years or more.

4) The duration of employment among blacks is just as long as among whites. Even though the jobs held by blacks are worse in almost every other dimension, they are no more unstable than those held by whites.

5) Women's jobs are substantially shorter than men's, on the average. Only about one-quarter of all women over the age of 30 are employed in jobs which will last over twenty years, whereas over half the men over 30 are holding these near-lifetime jobs.

These findings are highly relevant in the debate over the existence and nature of long-term employment contracts. I have elaborated this point elsewhere (1980) and have given extensive citations, which will not

be repeated here. If most workers in the United States were holding relatively brief jobs, then theories of long-term employment arrangements would be off the point. The findings reported here of the considerable importance of lifetime work do not clinch the case in favor of any particular theory of long-term contracts. Even in markets for completely homogeneous products, where simple ideas of competitive spot markets work perfectly, it is conceivable that the typical buyer deals with the same seller year after year. But the finding of extensive long-term employment in the U.S. labor market does add to the interest in understanding long-term employment arrangements.

All of the results in this paper are derived from published tabulations of job tenure, that is, the length of time that workers have been employed to date in their jobs. Most of the results rest on projections of how much longer workers will remain on their current jobs. These projections are most important for workers in midcareer, where many have just started jobs which will ultimately last twenty or thirty years. The techniques used in this research were inspired by the related literature on the duration of unemployment, for example, the work of Hyman Kaitz. My concentration on the distribution of job duration across workers was suggested by the work of Kim Clark and Lawrence Summers on the distribution of the duration of unemployment across unemployed workers. This paper will not make any explicit use of a very different distribution, that of the duration across jobs. It is true, but not relevant for the points to be made here, that the typical job is extremely brief, lasting only a matter of months (see R. A. Jenness). Most workers hold very stable jobs, even though stable jobs are a small fraction of the flow of jobs filled each month. The relationship between the distribution of the lengths of jobs, sampled randomly from the universe of newly started jobs, and the distribution obtained by sampling randomly among workers, is ex-

\*Hoover Institution, and department of economics, Stanford University; National Bureau of Economic Research. This research was supported by the National Science Foundation through a grant to the National Bureau of Economic Research, and is part of the NBER's research program on economic fluctuations. I am grateful to Jane Mather for exceptionally capable assistance. All opinions expressed are my own.

plained in detail by Stephen Salant, and by George Akerlof and Brian Main. Everything in this paper is based on sampling workers.

The stability of jobs among middle-aged and older workers has been noted by a number of earlier authors, though the computation in this paper of additional time on the job is new, as far as I know. My own earlier work (1972) presented low estimates of separation rates from the National Longitudinal Survey of Work Experience for older men, but without any comment on the significance of the low rates. Martin Neil Bailly cited the same source in defense of theories of long-term employment contracts. Kazuo Koike has compared data on tenure for the United States and Japan, and concluded that tenure of fifteen years or longer is actually more common in the United States, in spite of the celebrated *nenko* system of lifetime employment in Japan. Akerlof and Main present computations of the mean length of jobs held by workers in the United States, with results that are fully compatible with the complete distributions reported here. Main shows that jobs lasting twenty years or more are slightly more prevalent in Britain compared to the United States.

### I. Data on Job Tenure

On six different occasions in the postwar period, the *Current Population Survey* has inquired about the starting date of the current job of each of the roughly 100,000 workers included in the survey.<sup>1</sup> A job is defined as continuous employment with the same employer, possibly in different occupations. Interruptions in jobs for vacation, illness, strikes, and layoffs of less than thirty days are not counted. For the self-employed and household service workers with multiple employers, the entire spell in the same line of work is counted as a single job.<sup>2</sup> Tenure is

<sup>1</sup>See Bureau of the Census and Bureau of Labor Statistics 1963, 1967, 1969, 1975, and 1979.

<sup>2</sup>Only 1.5 percent of workers are in household service, and, in any case, their distribution by tenure is very similar to the distribution for workers in general. The self-employed form 8.4 percent of all workers and have typically longer tenure (especially farmers). However, for most of the self-employed, the definition of a job used in the survey is probably quite reasonable.

defined as the number of years since the workers' current job began.

The data on tenure do not immediately suggest that lengthy employment is an important feature of the American labor market. The median job tenure among workers in general was only 3.6 years in 1978; 40 percent had tenure of less than two years and only 9.5 percent had been on the same job for twenty years or more. The distribution of all workers among the categories (years) of tenure was

Category	Percent
0-0.5	19.0
0.5-1.0	9.2
1-2	11.7
2-3	7.7
3-5	12.5
5-10	16.7
10-15	8.7
15-20	5.0
20-25	3.7
25-30	2.8
30-35	1.7
35+	1.3

The median was 3.6 years.

However, the labor force contains a large proportion of young workers who could not possibly have long tenure even if lifetime jobs were the general rule. A better way to diagnose long-term employment from data on tenure is among older workers. The percentages of workers who have had the same jobs for twenty or more years are

Age	Percent
35-39	1
40-44	7
45-49	17
50-54	25
55-59	30
60-64	33
65+	35

From these data, one might reasonably infer that lifetime employment is the exception in the U.S. labor market. Only about one-third of older workers are currently in jobs which have lasted a large fraction of their careers. But this inference is obscured by the failure to count large numbers of middle-aged workers who are now working in jobs which ultimately will last twenty or

twenty-five years, but which have lasted less than twenty years to date. Among the 45 to 49-year-olds, for example, in addition to the 17 percent who are working in jobs which have lasted at least twenty years so far, another 44 percent are in jobs which have lasted five to twenty years, and, as I will demonstrate, there is a large probability that these jobs will last a good many more years. Over 40 percent of all 45 to 49-year-olds are in near-lifetime jobs. This inference is not inconsistent with the small fraction—again about one-third—of workers near retirement age who have twenty or more years of tenure. Ages of retirement vary widely; many of the workers in this age group are now holding new jobs after retiring from near-lifetime jobs in the recent past. There is no single age at which the fraction of workers with long tenure reveals the true importance of long-term jobs.

## II. Inferring the Prospective Length of a Job

In order to get a clearer picture of the importance of long jobs, it is necessary to project the likely additional time a worker will spend in his current job. Then what I will call “eventual tenure” can be computed as the sum of actual reported tenure and the projected additional time on the job. The key element in the projection is the probability that a worker with a given age and tenure will retain his current job for one, ten, twenty years, and so on. In the work presented here, the retention probabilities are measured from the number of workers in one age-tenure category who move on to higher age-tenure categories. If the fraction is large, it means that there is considerable prospective additional time on the job for a worker in the first category. This kind of comparison can be made for widely separated categories; for example, to compute the probability that a worker aged 25 to 29 who has been on the job for five years will remain on the job for ten more years, I use the number of workers aged 35 to 39 with fifteen years of tenure divided by the number of workers aged 25 to 29 with five years of tenure.

The computation of job retention rates can be done historically by comparing the

number of workers in an age-tenure category in one survey with the number in a later survey in correspondingly higher age and tenure categories. Job retention rates computed in this way appear in Table 1 for the ten-year period 1968–78. Alternatively, what I will call “contemporaneous” job retention rates can be computed by comparing two categories in the same survey. In this approach, an adjustment for differences in the population by age must be used. The effect of the adjustment is to compare the fraction of the population in an age group who have a specified amount of tenure with the fraction of the population in an older group with correspondingly higher tenure. The two methods of calculating job retention rates will give the same results if the distribution of tenure within age groups remains stable over time. Both are just estimates of future retention rates, and it is not clear as a theoretical matter which is better. At the practical level, the contemporaneous retention rates are the only ones that can be calculated for less than five-year spans because the survey has been taken only at five-year intervals in the past decade. Examples of the differences between the two rates appear in Table 1 for selected age-tenure groups. The only important discrepancy occurs among 40 to 44-year-olds with fifteen to twenty years of tenure. An unusually large fraction of this age group in 1968 took jobs in the immediate postwar period, 1948–53. As a result, the numerator in the contemporaneous retention rate, which contains the same group ten years later, is biased upward as an estimate of the likely fraction of 50 to 54-year-olds with twenty-five to thirty years of tenure in 1988. Biases of this kind are largely offsetting because the same high number appears in the denominator of other estimates of retention rates. The fact that the disturbance in job-taking patterns caused by World War II shows up clearly in the 1978 data on job tenure is an illustration in itself of the importance of long-term jobs.

The computation of retention rates in Table 1 takes account of all the major sources of departure from jobs—movements to other jobs and departures from the labor force through permanent retirement or temporary

TABLE 1—TEN-YEAR JOB RETENTION RATES

Age in 1968	Tenure in 1968 (years)	Percent of Age Group in this Category		Age in 1978	Tenure in 1978 (years)	Percent of Age Group in this Tenure Category 1978	Historical Retention Rate 1968-78 (percent)	Contemporaneous Retention Rate 1978 (percent)
		1968	1978					
20-24	0-5	50.76	58.83	30-34	10-15	7.36	14.5	12.5
30-34	0-5	39.24	45.27	40-44	10-15	10.83	27.6	23.9
	5-10	14.25	16.61		15-20	7.61	53.4	45.8
40-44	5-10	12.30	15.36	50-54	15-20	7.10	57.7	46.2
	15-20	9.24	7.61		25-30	6.02	65.2	79.1
	20-25	4.93	4.61		30-35	3.58	72.6	77.7
50-54	5-10	11.12	12.58	60-64	15-20	4.23	38.0	33.6
	20-25	7.25	6.42		30-35	3.40	46.9	53.0
55-59	20-25	6.54	5.45	65-69	30-35	1.09	16.7	20.0

Source: Computed from Bureau of Labor Statistics (1969, 1979).

withdrawal. This is achieved by taking the percent of the population in each age-tenure category, rather than the percent of workers (which is what is reported in the tabulations of the survey). Data on the civilian noninstitutional population were used to restate the data in this form; details on the computations and the resulting distribution are given in an appendix which is available from the author. Two other less important sources of departure from jobs are not counted in Table 1: death and emigration. An examination of data on deaths and on population changes within cohorts showed that neither flow has any perceptible effect on the calculation of retention rates. In the modern U.S. economy, almost nobody dies or emigrates while holding a job. Finally, the restriction to civilian employment and population means that military service is not included—the reported retention rates are correct estimates for nonmilitary jobs.

### III. Computed Job Retention Rates and the Distribution of Eventual Tenure for the U.S. Labor Force

Table 1 shows that both measures of job retention rates agree that all but the youngest workers face a substantial probability of remaining on their current jobs for at least another ten years. Eventual tenure is far greater than tenure to date, especially for

workers in their forties. About half of those aged 40 to 44 who have been on their current jobs for five to ten years so far will retain their jobs ten years from now. And for those in their forties who have spent most of their working lives in their current jobs, the great majority (65-79 percent) will remain in those jobs for the next ten years as well. Job retention rates are lower among younger workers, who are still in the process of finding good lifetime matches, and for older workers, who have substantial probabilities of retirement in the next ten years.

With a complete set of job retention rates, it is possible to calculate the distribution of additional years of work for workers in each observed age-tenure category. The results for 40 to 44-year-olds with eventual tenure of twenty-plus years are

Category	Percent
0-0.5	4.6
0.5-1	7.8
1-2	11.3
2-3	15.7
3-5	20.4
5-10	35.5
10-15	59.0
15-20	98.0
20+	100.0

For all tenure groups, the percent was 39.5.

Although the entire distribution can be inferred, all that is shown here is the fraction of workers whose additional years of work

will be enough to give them eventual tenure of at least twenty years on the current job. As in every group in the labor force, those aged 40 to 44 who have just taken new jobs have only a small likelihood of remaining in those jobs for the next twenty years. But those who have been on their current jobs for five to ten years have a 35 percent chance of keeping their current jobs for the ten to fifteen additional years necessary to give them an eventual tenure of twenty years or more. Those who have already lasted ten to fifteen years have a 59 percent chance of lasting the additional five to ten years, and those with fifteen to twenty years on their current jobs are 98 percent likely to reach twenty years of eventual tenure. In the entire age group, just under 40 percent will have eventual tenure on their current jobs of twenty years or more. This should be compared to the much smaller figure—7.5 percent—who have already reached twenty years of tenure. Very long-term jobs are quantitatively important in this age group, but that fact is not apparent directly in the distribution of tenure. Computations of eventual tenure from job retention rates are needed to appraise the incidence of very long jobs.

The following is the distribution of eventual tenure across all age and tenure categories for all U.S. workers in 1978:

Years	Percent
0-0.5	9.8
0.5-1	6.7
1-2	7.0
2-3	5.0
3-5	13.5
5-10	14.8
10-15	10.4
15-20	4.7
20-25	4.7
25-30	6.2
30-35	10.0
35+	7.0

The median was 7.7 years; the percent with twenty-plus years was 28.0.

The typical worker is currently on a job which will last about eight years in all, counting the years it has already lasted. An important minority—about 28 percent—are currently employed in near-lifetime jobs lasting twenty years or more, and 17 percent are in jobs which will last thirty years or more.

An equally important minority are at work in what will turn out to be very brief jobs—about 23 percent will have eventual tenure of less than two years. A clear majority of workers—58 percent—are currently holding reasonably long jobs, those which will last five years or more.

#### IV. The Process of Moving into Long-Term Work

The data on job tenure reveal a good deal about the probability process through which most workers eventually settle into near-lifetime jobs. The typical pattern is to hold a number of very brief jobs in the first few years after leaving school. Eventually one job turns out to be a good match and lasts several years. The probability that any given new job will become a lifetime job is extremely low for young workers and never rises above 6 percent in any age group. But after a job has lasted five years, the probability that it will eventually last twenty years or more in all rises to close to one-half among workers in their early thirties. As a general matter, the data suggest that most job changes occur in the first few years after a job begins, because the worker or the employer or both perceive that the worker and the job are poorly matched. Once this period of job shopping reaches a successful conclusion, workers have very low probabilities of losing or leaving jobs. Again, it is important to emphasize that good matches are not necessarily good jobs in any absolute sense—a worker who is placed above his competence will not last any longer than will a worker who realizes he would be happier in another job for which he is qualified.

At no age is the probability very high of a given new job becoming a lifetime job (the percent shown is the probability that a job will last twenty-plus years):

Age	Percent
16-17	0.4
18-19	0.3
20-24	2.2
25-29	4.8
30-34	5.3
35-39	5.7
40-44	4.6
45-49	1.8
50-54	1.0

TABLE 2—ASPECTS OF THE PROCESS OF MOVING INTO LONG-TERM JOBS, ALL WORKERS, 1978

Age	Percent Working in New Jobs (1)	Probability of Retaining Job to 5 Years (2)	Percent of All Workers 5 Years Older Who Have Reached Tenure of 5+ Years (3)	Percent of those Who Reach 5 Years of Tenure Who Go on to Reach Tenure of 20+ Years (4)
16-17	59.5	1.7	5.5	26.2
18-19	52.5	1.2	5.5	26.2
20-24	34.1	5.9	19.9	36.6
25-29	22.3	10.8	35.3	44.9
30-34	17.1	13.6	46.3	39.3
35-39	13.6	16.0	53.7	35.5
40-44	11.3	18.1	61.7	25.2
45-49	8.6	20.0	67.1	8.7
50-54	7.1	24.4	71.4	4.3
55-59	6.2	20.0	73.7	—
60-64	6.2	9.8	63.5	—
65-69	8.2	7.1	72.9	—

*Note:* Column (1) is the reported fraction of workers in the age group who have zero to six months of tenure. Column (2) is the contemporaneous five-year job retention rate from 0-6 months tenure to 5-10 years tenure. Column (3) is the reported fraction of workers in the age group with five or more years of tenure. Column (4) is the fifteen-year contemporaneous job retention rate from five to ten years tenure to twenty to twenty-five years tenure. Source for all data is Bureau of Labor Statistics (1979).

The very low chance of success in any given new job means that the typical worker has to take a number of different jobs in order to have a good chance of finding a lifetime match. The small probability in each new job presumably reflects the paucity of information available to workers about prospective jobs before they try them out, and the similar paucity of information available to employers about the talents of prospective workers before they can be observed at work. Even workers in their thirties and forties, who generally have substantial amounts of experience, face low chances of landing lifetime jobs on any given try.

Still, most workers do wind up in lifetime work, as earlier parts of this paper have shown. Table 2 illustrates how multiple tries eventually succeed. It uses the point of five years of tenure as an intermediate milestone in describing the process. Column (1) gives the fraction of workers who are in new jobs, that is, jobs which began in the six months before the survey. The fraction declines smoothly from a majority of teenagers to about 6 percent of workers aged 55 to 64; it rises slightly around retirement age. Column (2) gives the probability that a newly em-

ployed worker will reach the milestone of five years on the job. The chances are insignificant among teenagers, rise to a peak of about one in four among workers in their early fifties, and then fall back to low levels for workers near retirement age. The third column shows the fraction of all workers in each age group who have reached the five-year point on their current jobs. The fraction rises smoothly from close to zero for teenagers to about three-quarters for workers in their early sixties. At age 40, a majority of workers have passed the five-year milestone, generally after a number of trials. For example, if the chances are about 10 percent that any given job will last at least five years, and half of all workers have made it, then the typical worker has taken roughly five tries. Column (4) gives the prospects for a total duration of twenty years or more at the five-year point. The probability reaches a peak of nearly half among workers in their early thirties and then declines among older workers, who will probably retire within the next fifteen years.

The result of this process of moving into long-term jobs is the following fraction of workers with eventual tenure of at least

twenty years on the job they currently hold:

Age	Percent
16-17	0.0
18-19	0.6
20-24	7.4
25-29	18.6
30-34	27.7
35-39	35.5
40-44	39.5
45-49	41.0
50-54	41.1
55-59	40.1
60-64	39.4
65-69	40.9

The fraction of workers rises until they are in their late thirties, as more and more find good job matches. The fraction then remains remarkably constant at about 40 percent until retirement age. However, these aggregate results conceal very important differences between men and women, a topic I will take up shortly.

Another way to express the movement of workers into stable jobs is by the number of jobs held by the average worker. The flow of new jobs is recorded directly in the tenure data in the form of the number of workers who have tenure of six months or less, though this measure understates the total flow of new jobs because some workers will have started two or more jobs in the six months before the survey. The annual number of new jobs started by the average person in an age group is roughly twice the fraction of the age group that is found in the zero to six-month tenure category. The average number of jobs held over a two-year span is twice the annual rate, and the average over a five-year span is five times the annual rate. These simple computations yield the results shown in Table 3 for the number of jobs held by the average worker (again, brief jobs are undercounted somewhat). Job shopping is most intense in the early twenties—by age 24, the average worker has held four jobs out of the ten he or she will hold in an entire career. The next fifteen years, from age 25 through 39, will contribute another four jobs. Then, during the ages when near-lifetime work is characteristic, less than three more jobs will be held on the average.

TABLE 3—NEW JOBS

Age Group	New Jobs per Year	New Jobs over the Age Interval	Cumulative Number of Jobs Held to this Age
16-17	.394	0.8	0.8
18-19	.534	1.1	1.9
20-24	.425	2.1	4.0
25-29	.309	1.5	5.5
30-34	.240	1.2	6.7
35-39	.192	1.0	7.7
40-44	.167	0.8	8.5
45-49	.126	0.6	9.1
50-54	.096	0.5	9.6
55-59	.076	0.4	10.0
60-64	.054	0.3	10.3
65-69	.032	0.2	10.4
70+	.010	0.1	10.5

### V. Long-Term Jobs among Blacks and Women

Many accounts of the disadvantages facing blacks and women in the labor market emphasize their lack of success in finding and holding permanent jobs. The techniques of this paper reach a surprising conclusion in testing this view—it is upheld strongly for women, but not at all for blacks. Lifetime employment is almost as common among blacks as among whites, and long-term employment is actually more common.<sup>3</sup> (See Table 4.)

TABLE 4—COMPARISON OF BLACKS AND WHITES

1978	Percent with Eventual Tenure of	
	5+ Years	20+ Years
All Blacks	63.4	26.4
All Whites	57.3	28.7

The lower-paying jobs where blacks are concentrated are not systematically briefer than are the better jobs typically held by whites. Discrimination against blacks does

<sup>3</sup>The same conclusion is reached by Steven Director and Samuel Doctors using personnel data from three firms, and by Akerlof and Main.

not take the form of exclusion from lifetime jobs. Blacks are heavily represented in certain occupations with lower status and pay, but these are not occupations with systematically shorter jobs. Moreover, the vastly higher incidence of unemployment among blacks—generally double the white rate—is not at all the result of larger flows of workers out of jobs. Further investigation of the surprising finding of equal or higher job stability among blacks relative to whites cannot be done with the published data and will require tabulation of the survey itself.

On the other hand, the comparison between men and women confirms the general impression that men typically hold longer jobs than do women (see Table 5). Shorter job duration among women is almost unrelated to their concentration in certain occupations. For example, more than one-third of all employed women (34.9 percent) in 1978 were in clerical occupations, against 6.4 percent of men. Median tenure for women clerical workers was 2.6 years compared to 4.7 years for men. The gap between women and men in the total labor force was close to the same—median tenure was 2.6 years for women and 4.5 years for men. Similarly large sex differences in tenure are found in the other two major occupations employing women, professional-technical and service workers. It is not possible to compute the distribution of eventual tenure by occupation with the published data, but it seems likely that large differences in eventual tenure would be found within occupations as well.

Although lifetime work is much less common among women than among men, the typical number of jobs held over a lifetime is about the same for both sexes—about ten or eleven jobs. Longer periods spent out of the labor force by women almost exactly offset the shorter durations of the jobs they hold. In other words, although the time between starting one job and starting the next is the same for women and men, women spend a larger part of that time not working. This is roughly true within age groups as well as over the typical entire career (see Table 6). Women slip behind men by about 0.6 jobs during the period of most intense job shopping and then recover a little after age 35.

TABLE 5—COMPARISON OF WOMEN AND MEN

1978	Percent with Eventual Tenure of	
	5+ Years	20+ Years
Women	49.6	15.1
Men	63.8	37.3

TABLE 6—CUMULATIVE JOBS FOR WOMEN AND MEN

Age	Cumulative Number of Jobs Held	
	Women	Men
16-17	0.7	0.8
18-19	1.8	1.9
20-24	3.8	4.1
25-29	5.2	5.8
30-34	6.4	7.0
35-39	7.4	7.9
40-44	8.3	8.7
45-49	9.0	9.3
50-54	9.4	9.8
55-59	9.8	10.2
60-64	10.0	10.5
65-69	10.2	10.7
70+	10.2	10.8

## VI. Further Results for Men

Because lifetime work is so much more common for men than for women, it seems worthwhile presenting some further detailed results for men alone. Actual and eventual tenure are shown in Table 7. Once past the

TABLE 7—TENURE AND EVENTUAL TENURE FOR MEN

Age	Percent Who had Worked 20+ Years to Date	Percent with Eventual Tenure of 20+ Years
16-17	0.0	0.3
18-19	0.0	1.2
20-24	0.0	11.5
25-29	0.0	27.0
30-34	0.1	38.4
35-39	1.7	47.0
40-44	10.2	51.1
45-49	24.4	52.6
50-54	33.4	51.0
55-59	39.3	49.5
60-65	41.4	48.0
65-69	38.9	50.2



TABLE 8—JOB RETENTION FOR MEN

Age	Percent of Jobs Retained for 10 Years, Starting from Tenure of:	
	10–15 Years	20–25 Years
30–35	73	—
35–39	81	—
40–44	64	79
45–49	66	61
50–54	47	59

years of job shopping, half of all men are in lifetime jobs.

The jobs held by middle-aged men are remarkably stable—ten-year job retention rates are shown in Table 8. Monthly separation rates, which are of the order of 3 percent for workers in general, are about 0.25 percent for middle-aged men with at least ten years on the job.

#### REFERENCES

- Akerlof, George A. and Main, Brian G. M., "An Experience-Weighted Measure of Employment and Unemployment Durations," *American Economic Review*, December 1981, 71, 1003–11.
- Baily, Martin Neil, "Contract Theory and the Moderation of Inflation by Recession," *Brookings Papers on Economic Activity*, 3: 1976, 585–622.
- Clark, Kim and Summers, Lawrence, "Labor Market Dynamics and Unemployment: A Reconsideration," *Brookings Papers on Economic Activity*, 1: 1979, 13–60.
- Director, Steven M. and Doctors, Samuel I., "Racial Differences in Blue-Collar Turnover Rates," *Industrial Relations*, October 1976, 15, 338–42.
- Hall, Robert E., "Turnover in the Labor Force," *Brookings Papers on Economic Activity*, 3: 1972, 709–56.
- , "Employment Fluctuations and Wage Rigidity," *Brookings Papers on Economic Activity*, 1: 1980, 91–124.
- Jenness, R. A., "Taux de Roulement et Permanance de l'Emploi dans l'Industrie Canadienne," *l'Actualité Economique*, Avril–Juin 1974, 50, 152–76.
- Kaiz, Hyman B., "Analyzing the Length of Spells of Unemployment," *Monthly Labor Review*, November 1970, 93, 11–20.
- Koike, Kazuo, "Japan's Industrial Relations: Characteristics and Problems," *Japanese Economic Studies*, Fall 1978, 7, 42–90.
- Main, Brian G. M., "The Length of a Job in Great Britain," unpublished paper, University of Edinburgh, October 1980.
- Salant, Stephen W., "Search Theory and Duration Data: A Theory of Sorts," *Quarterly Journal of Economics*, February 1977, 91, 39–57.
- U.S. Bureau of the Census, *Current Population Reports: Labor Force*, Series P–50, No. 36, November 5, 1951.
- U.S. Bureau of Labor Statistics, Special Labor Force Report No. 36, *Job Tenure of American Workers, January 1963*, Washington: USGPO, 1963.
- , Special Labor Force Report No. 77, *Job Tenure of Workers, January 1966*, Washington: USGPO, 1967.
- , Special Labor Force Report No. 112, *Job Tenure of Workers, January 1968*, Washington: USGPO, 1969.
- , Special Labor Force Report No. 172, *Job Tenure of Workers, January 1973*, Washington: USGPO, 1975.
- , Special Labor Force Report No. 235, *Job Tenure Declines as Work Force Changes*, Washington: USGPO, 1979.