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Have Employment Relationships in the United States Become Less Stable?

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Abstract:

There has been considerable debate as to whether job stability has declined in the United States. This paper uses data from the Survey of Income and Program Participation (SIPP) to examine the incidence of labor market turnover between 1986 and 1993. Specifically, we calculate one- and two-year separation rates and then analyze turnover by the source of separation. We find that the incidence of job separations did not increase over the period under investigation, but appears to have declined somewhat. When analyzing separations by reason, conditional on separating from an employer, we find little evidence of temporal changes in the composition of turnover that would indicate greater employment instability. Therefore, we do not find conclusive evidence that employment relationships have become more unstable in the recent past. (JEL J60, J63)

Keywords: employment stability, labor turnover

Introduction:

In spite of the current expansionary period, reports of corporate downsizing and increased use of temporary workers suggest that stable employment relationships may be a thing of the past. Even the chairman of the Federal Reserve, Alan Greenspan, invoked the perceived decline in employment stability as a possible explanation for the unlikely juxtaposition of tight labor markets and low inflation. Despite this pessimism, there is little research that documents an erosion in employment stability.

Data limitations and measurement problems impede empirical analysis of inter-firm mobility and as a result, there is little agreement concerning recent trends. For example, empirical research has relied on the use of synthetic cohorts, surveys with critical wording changes across years, lengthy recall periods, or panel data sets on select samples. These studies yield mixed results and exhibit sensitivity to corrections for differential response rates, non-comparability across surveys, and potential recall bias.

In this paper, we analyze recent trends in the incidence and sources of labor market turnover with data particularly well-suited to studying changes

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in labor market dynamics. We use several panels of the Survey of Income and Program Participation (SIPP) to compare the incidence of labor market turnover between 1986 and 1993, a period for which previous research indicates potential declines in employment stability. The SIPP panels provide key employer identification codes that permit identification of the dissolution of employer–worker matches and the calculation of separation probabilities that do not rely on synthetic cohorts. Moreover, the panels are large nationally representative surveys that use similar survey instruments over time and that do not rely on lengthy recall periods for employment history questions. Most importantly, the SIPP provides information on the reason triggering separations. We use this information to study temporal changes in voluntary and involuntary turnover.

We construct several measures of employment stability for the period 1986 to 1993. First, we calculate one- and two-year separation rates, defined as the probability of separating from a primary employer within one or two years of the initial month covered by the panels. We find no evidence that overall separation rates have increased between 1986 and 1993. In fact, the data indicate a reduction in turnover over the period. When analyzing separations by reason, conditional on separating from an employer, we find little evidence of temporal changes in the composition of turnover that would indicate greater employment instability.

Review of Recent Research:

The existing research on changes in employment stability takes one of two approaches. The first approach uses changes over time in tenure distributions and retention rates (defined as the probability that a person with t years of tenure will remain with their employer for a stated amount of time) to make inferences about changes in employment stability. The results from these studies are mixed at best. Using the Current Population Survey [Swinnerton and Wial, 1995; Diebold et al., 1997; Neumark et al., 1999] and the Panel Study of Income Dynamics [Rose, 1995; Diebold et al., 1997; Polsky, unpublished manuscript (1996); Marcotte, unpublished manuscript (1997)], researchers arrive at conflicting conclusions, possibly due to corrections for wording changes in the tenure and job attachment questions, treatment of non-responses, and treatment of self-employed.

The second approach looks directly at changes in the incidence and composition of workers displaced from their primary employers. Many of the worker-displacement studies find an increase in the incidence of firm-initiated separations. Using the CPS Displaced Worker Surveys, Farber [1993, 1997] finds that the incidence of involuntary job loss increased slightly in the 1990s compared to the 1980s. However, an increase in respondents that answer that they were displaced for "some other reason" accounts for much of this increase, thus raising the question concerning the source and nature of this observed change [Kletzer, 1998]. In an analysis of a sample from the Panel Study of Income Dynamics (PSID), Polsky [unpublished manuscript, 1996] and Boisjoly et al. [1998] find an increase in the proportion of involuntary separations, especially for workers with longer tenure. Using National Longitudinal Surveys, Monks and Pizer [1998] find an increase in the

probability of job turnover during 1971 through 1990 that is accounted for by an increase in involuntary separations. In a study analyzing changes in the proportion of the unemployed that are permanently dismissed from previous job, however, Neumark and Polsky [unpublished manuscript, 1997] find no evidence of an increase in the incidence of overall involuntary separations.

In sum, the existing body of research suffers from several shortcomings, which may, in part, be responsible for the apparent lack of consensus. First, data limitations caused by changes in question wording and survey design make it difficult to compare stability measures over time. Moreover, conclusions concerning trends in stability often depend on how one corrects for these wording changes. Second, the existing research uses several alternative measures of employment stability, many relying on overall turnover or retention rates without regard to the causes of turnover, and others focusing exclusively on the incidence of involuntary separations. Few studies compare overall changes in turnover and changes by reason within the same data set. Moreover, there is very little research on the co-movements of trends in voluntary and involuntary turnover. This is particularly important since declines in voluntary turnover coupled with increases in involuntary turnover may yield stable overall turnover rates. In addition, a less frequently mentioned shortcoming of existing research is the fact that the synthetic cohort studies do not control for observed personal characteristics since the cohort construction necessarily requires data aggregation. Below, we present results from a data source that directly addresses many of these shortcomings.

Data Description and Estimation Methodology:

The data for this project come from two sets of public release files put out by the Census Bureau that are compiled from the Survey of Income and Program Participation (SIPP). First, we use various years (from 1986 through 1993) of the SIPP Full Panel Research Files. The full panel files contain merged data from six to eight consecutive waves of interviews that are spaced four months apart. Each wave collects detailed demographic information and information concerning employment and participation in various public assistance programs, with each wave corresponding to the four month period preceding the survey date. The full panels include panel weights that take into account sample attrition over the approximately two-and-a-half year periods. Second, we extract information from the individual wave files not included in the full panel. In particular, we extract variables giving the reasons for separating from an employer and a union status variable from the individual files and then merge this information to that contained in the panels.

We identify job separation from a series of employer identification codes constructed from the interview control cards used by the SIPP surveyors. In the first-wave interview, the SIPP interviewers record the identity of the respondent's primary and secondary employers on an interview control card that is used in all subsequent interviews. Each employer is assigned a consecutively numbered employer identification value. In subsequent interviews, if the respondent's primary or secondary employers match either the primary or secondary employers recorded in previous interviews, the employer

identification variables will remain the same as the previously assigned values. When the worker changes employers, the new employer name is recorded on the control card and the next available employer identification number is assigned. If the worker is unemployed or has left the labor force, the employer identification code is set to zero. These employer identification codes are reported in the public-use files and are key to identifying employer–employee separations during the time period covered by the panel.

We define job separations relative to the respondent's primary employer as of the first month of the panel. If at any time between months 2 and 13 we find that neither of the primary or secondary employer identification codes match the employer identification code for the month-one primary employer, then we code the respondent as having separated from the primary employer within one year. Similarly, we code respondents as separating within two years if the above condition holds for any of the months between month 2 and month 24.[1] For those respondents separating within one year, we further classify the separation as permanent or temporary based on whether the individual returns to the employer in the 12 months subsequent to the separation [Anderson and Meyer, 1994]. The short lengths of the panels do not allow us to further classify the two-year separations as permanent and temporary.

We use the generated separation variables in two ways to analyze recent changes in the extent and incidence of turnover. First, we present nationally representative estimates of the various overall separations probabilities for each year by gender, race, educational attainment, age, and union status.[2] Next, we use simple linear-probability models to test for year-to-year changes in separation probabilities after controlling for possible shifts in the demographic composition of the workforce, cyclical variation in state unemployment rates, and industry-specific effects.[3] These models express the dichotomous dependent variable as a linear function of the explanatory variables. Specifically, separation (our dependent variable) takes the value of one if the individual separates from his/her employer within a year (or two) and zero if the individual works for the same employer over the entire period. We estimate the linear probability models by weighted least squares to account for heteroscedasticity.

After analyzing trends in overall separation probabilities, we turn to an analysis of the reasons behind separations. The reason-for-separating variable taken from the individual wave files codes separations as lay-offs, retirements, discharges, temporary jobs ending, quits to take another job, and quits for some other reason. We use this information to generate estimates of the composition of turnover by reason for the separations that occur within one year of the initial survey month. We restrict this analysis to one-year separations due to the fact that we can identify the permanency of the separation for these transitions only.

We impose several restrictions on the samples drawn from the full panels. To begin, we restrict the sample to those individuals who complete interviews in all waves. We further restrict the sample to civilian, non-family, wage and salary workers that are 18 to 65 years of age and are working full time (35 h plus). We impose these standard restrictions to isolate that portion of the population that are prime age and have strong attachment to the labor force.

Recent Trends in Overall Separation Rates:

Table 1 presents weighted one- and two-year separation rates for 1986, 1988, 1990, 1991, 1992, and 1993. The table provides calculations for workers overall and workers stratified by gender, race, education, age, and union status. We define separation rates relative to the workers primary job as of the beginning of the panel year. Before discussing changes in the separation rates over time, we must briefly discuss the general patterns observed in all years.

Overall, approximately 20 percent of workers separate from their primary employers within one year while approximately 30 percent separate within two years. The one and two-year rates for women are larger than those for men in all years except for the 1992 one-year rates. While there are no consistent patterns by racial group, there are strong differences in turnover by education and age. Educational attainment has a strong negative association with both the one- and two-year separation rates, with an approximate 10 percentage point difference between the lowest education attainment group (less than 12 years) and the highest education group (16 years plus) in all years for both separation rates.

Separation rates consistently exhibit a strong U-shaped pattern across age groups with the highest figures for workers ages 18 to 25 (between 0.33 and 0.39 for the one-year rates and 0.46 and 0.53 for the two year rates), the lowest separation rates for workers ages 46 to 50 (0.12 to 0.15 for the one-year rates and 0.18 to 0.23 for the two year rates), and rather high separation rates for workers 60 to 65 years of age (0.23 to 0.34 for the one-year separation rates and 0.42 to 0.51 for the two-year rates). These patterns are consistent with previous research showing high turnover and job shopping early in one's work career [Topel and Ward, 1992] and the high retirement rates for workers over 60 [Peracchi and Welch, 1994]. Finally, union workers are considerably less likely to separate from their employers than are non-union workers. This pattern is consistent with the argument that unions provide a voice for workers that is used to express dissatisfaction in lieu of the exit option [Freeman and Medoff, 1982], and is also consistent with the existence of true union-wage effects [Card, 1996; Hirsch and Schumacher, 1998].

Turning to changes over time, both one- and two-year separation rates declined between 1986 and 1993 for most workers. Overall separation rates decline monotonically between 1986 and 1992 and then increase slightly between 1992 and 1993. Looking at the overall changes between 1986 and 1993, the one year separation rate declined by 0.031 (a change considerably larger than the standard errors for either year's estimate), while the two-year separation rates similarly declined by 0.036. Similar declines are observed for males, females, and whites, while separation rates for black workers increased slightly.

With respect to educational attainment, there are slight but statistically insignificant increases in the one-year separation probabilities of workers that have not completed high school when comparing 1993 to 1986, while for all other educational attainment groups, the rates decline. Across age groups, there is some evidence that separation rates have increased for workers ages 56 to 65. The increases, however, are not monotonic over the period and vary considerably from year to year. Finally, there is pronounced drop in the

TABLE 1
One and Two-Year Separation Probabilities

	Two-Year Separations						One-Year Separations					
Variables	1986	1988	1990	1991	1992	1993	1986	1988	1990	1991	1992	1993
Unemployment rate	7.0%	5.5%	5.5%	6.7%	7.4%	6.8%	7.0%	5.5%	5.5%	6.7%	7.4%	6.8%
All workers	0.323	0.323	0.308	0.295	0.284	0.287	0.224	0.222	0.210	0.198	0.186	0.193
	0.006	*0.005*	*0.004*	*0.005*	*0.004*	*0.004*	*0.005*	*0.005*	*0.003*	*0.004*	*0.003*	*0.004*
Sex												
Male	0.308	0.316	0.295	0.285	0.282	0.282	0.213	0.218	0.197	0.196	0.189	0.188
	0.007	*0.007*	*0.005*	*0.006*	*0.005*	*0.005*	*0.006*	*0.006*	*0.005*	*0.005*	*0.005*	*0.005*
Female	0.345	0.334	0.324	0.309	0.286	0.293	0.239	0.228	0.226	0.200	0.183	0.199
	0.009	*0.008*	*0.006*	*0.007*	*0.006*	*0.006*	*0.008*	*0.007*	*0.005*	*0.006*	*0.005*	*0.006*
Race												
White	0.329	0.325	0.306	0.297	0.286	0.289	0.227	0.224	0.206	0.198	0.186	0.194
	0.006	*0.006*	*0.004*	*0.005*	*0.004*	*0.004*	*0.005*	*0.005*	*0.004*	*0.044*	*0.004*	*0.004*
Black	0.266	0.310	0.326	0.273	0.284	0.287	0.186	0.205	0.240	0.196	0.202	0.197
	0.019	*0.018*	*0.012*	*0.015*	*0.013*	*0.014*	*0.017*	*0.016*	*0.011*	*0.014*	*0.012*	*0.013*
Educational attainment												
<12	0.389	0.380	0.385	0.382	0.381	0.387	0.278	0.264	0.280	0.275	0.261	0.283
	0.015	*0.015*	*0.012*	*0.015*	*0.013*	*0.014*	*0.014*	*0.013*	*0.011*	*0.014*	*0.012*	*0.012*
12 years	0.326	0.326	0.316	0.297	0.282	0.296	0.230	0.231	0.218	0.200	0.189	0.201
	0.009	*0.008*	*0.006*	*0.007*	*0.006*	*0.007*	*0.008*	*0.007*	*0.006*	*0.007*	*0.006*	*0.006*
13–15 years	0.322	0.321	0.313	0.303	0.287	0.279	0.223	0.217	0.211	0.195	0.192	0.183
	0.012	*0.011*	*0.008*	*0.010*	*0.008*	*0.009*	*0.011*	*0.010*	*0.007*	*0.008*	*0.007*	*0.007*
16+ years	0.277	0.288	0.250	0.247	0.242	0.237	0.179	0.188	0.159	0.161	0.144	0.149
	0.011	*0.010*	*0.007*	*0.008*	*0.007*	*0.007*	*0.009*	*0.009*	*0.006*	*0.007*	*0.006*	*0.006*

Age												
18–25	0.518	0.533	0.503	0.459	0.490	0.488	0.393	0.382	0.371	0.334	0.347	0.362
	0.015	*0.014*	*0.011*	*0.014*	*0.013*	*0.014*	*0.014*	*0.014*	*0.011*	*0.014*	*0.012*	*0.013*
26–30	0.355	0.355	0.359	0.365	0.333	0.350	0.256	0.241	0.249	0.237	0.217	0.239
	0.014	*0.013*	*0.010*	*0.012*	*0.011*	*0.012*	*0.013*	*0.012*	*0.009*	*0.011*	*0.010*	*0.010*
31–35	0.298	0.290	0.291	0.277	0.265	0.254	0.210	0.197	0.201	0.194	0.173	0.163
	0.014	*0.013*	*0.010*	*0.011*	*0.009*	*0.010*	*0.012*	*0.011*	*0.009*	*0.010*	*0.008*	*0.008*
36–40	0.237	0.274	0.236	0.235	0.207	0.228	0.154	0.191	0.156	0.155	0.139	0.148
	0.013	*0.013*	*0.009*	*0.011*	*0.009*	*0.009*	*0.011*	*0.011*	*0.008*	*0.009*	*0.008*	*0.008*
41–45	0.231	0.226	0.209	0.221	0.200	0.214	0.152	0.159	0.135	0.140	0.128	0.136
	0.015	*0.014*	*0.010*	*0.011*	*0.009*	*0.010*	*0.013*	*0.012*	*0.008*	*0.009*	*0.008*	*0.008*
46–50	0.230	0.179	0.200	0.202	0.205	0.184	0.148	0.123	0.123	0.127	0.127	0.124
	0.017	*0.014*	*0.011*	*0.013*	*0.011*	*0.011*	*0.014*	*0.012*	*0.009*	*0.011*	*0.009*	*0.009*
51–55	0.256	0.211	0.234	0.207	0.240	0.213	0.152	0.134	0.141	0.138	0.156	0.127
	0.019	*0.017*	*0.013*	*0.015*	*0.014*	*0.013*	*0.015*	*0.014*	*0.011*	*0.012*	*0.011*	*0.010*
56–60	0.245	0.274	0.277	0.252	0.248	0.291	0.136	0.152	0.168	0.154	0.138	0.183
	0.020	*0.021*	*0.016*	*0.019*	*0.016*	*0.017*	*0.016*	*0.017*	*0.014*	*0.016*	*0.013*	*0.015*
60–65	0.484	0.507	0.468	0.469	0.421	0.488	0.299	0.336	0.309	0.276	0.229	0.320
	0.034	*0.032*	*0.027*	*0.032*	*0.026*	*0.029*	*0.031*	*0.030*	*0.025*	*0.028*	*0.022*	*0.027*
Union status												
Nonunion	0.350	0.354	0.336	0.319	0.305	0.312	0.244	0.242	0.231	0.213	0.201	0.211
	0.006	*0.006*	*0.004*	*0.005*	*0.005*	*0.005*	*0.006*	*0.005*	*0.004*	*0.005*	*0.004*	*0.004*
Union	0.226	0.207	0.190	0.194	0.192	0.178	0.151	0.146	0.122	0.133	0.122	0.115
	0.011	*0.010*	*0.008*	*0.009*	*0.008*	*0.008*	*0.009*	*0.009*	*0.006*	*0.008*	*0.007*	*0.007*

Standard errors are reported in italics.
Separation rates are computed for FULL-TIME workers only.

TABLE 2
One-Year Separation Probabilities for All, Permanent, and Temporary Separations

	All Separations						Permanent						Temporary					
Variables	1986	1988	1990	1991	1992	1993	1986	1988	1990	1991	1992	1993	1986	1988	1990	1991	1992	1993
Unemployment rate	7.0%	5.5%	5.5%	6.7%	7.4%	6.8%												
All workers	0.224	0.222	0.210	0.198	0.186	0.193	0.174	0.174	0.146	0.138	0.137	0.147	0.049	0.049	0.063	0.060	0.049	0.046
	0.005	*0.005*	*0.003*	*0.004*	*0.003*	*0.004*	*0.004*	*0.004*	*0.003*	*0.004*	*0.003*	*0.003*	*0.003*	*0.002*	*0.002*	*0.002*	*0.002*	*0.002*
Sex																		
Male	0.213	0.218	0.197	0.196	0.189	0.188	0.163	0.173	0.139	0.136	0.137	0.141	0.049	0.044	0.058	0.060	0.051	0.047
	0.006	*0.006*	*0.005*	*0.005*	*0.005*	*0.005*	*0.006*	*0.006*	*0.004*	*0.005*	*0.005*	*0.004*	*0.003*	*0.003*	*0.003*	*0.003*	*0.003*	*0.003*
Female	0.239	0.228	0.226	0.200	0.183	0.199	0.190	0.174	0.156	0.140	0.136	0.154	0.049	0.054	0.070	0.060	0.046	0.045
	0.008	*0.007*	*0.005*	*0.006*	*0.005*	*0.006*	*0.007*	*0.006*	*0.005*	*0.005*	*0.005*	*0.005*	*0.004*	*0.004*	*0.003*	*0.004*	*0.003*	*0.003*
Race																		
White	0.227	0.224	0.206	0.198	0.186	0.194	0.177	0.177	0.145	0.137	0.136	0.148	0.050	0.047	0.062	0.061	0.049	0.046
	0.005	*0.005*	*0.004*	*0.044*	*0.004*	*0.004*	*0.005*	*0.005*	*0.003*	*0.004*	*0.003*	*0.003*	*0.003*	*0.003*	*0.002*	*0.003*	*0.002*	*0.002*
Black	0.186	0.205	0.240	0.196	0.202	0.197	0.139	0.147	0.161	0.141	0.152	0.145	0.047	0.058	0.079	0.055	0.050	0.052
	0.017	*0.016*	*0.011*	*0.014*	*0.012*	*0.013*	*0.015*	*0.014*	*0.010*	*0.012*	*0.011*	*0.011*	*0.009*	*0.009*	*0.007*	*0.008*	*0.006*	*0.007*
Educational attainment																		
<12	0.278	0.264	0.280	0.275	0.261	0.283	0.199	0.192	0.184	0.180	0.186	0.197	0.080	0.072	0.096	0.095	0.075	0.087
	0.014	*0.013*	*0.011*	*0.014*	*0.012*	*0.012*	*0.012*	*0.012*	*0.094*	*0.012*	*0.010*	*0.011*	*0.008*	*0.008*	*0.007*	*0.009*	*0.007*	*0.007*
12 years	0.230	0.231	0.218	0.200	0.189	0.201	0.183	0.176	0.149	0.138	0.140	0.154	0.047	0.055	0.068	0.062	0.048	0.047
	0.008	*0.007*	*0.006*	*0.007*	*0.006*	*0.006*	*0.007*	*0.007*	*0.005*	*0.006*	*0.005*	*0.005*	*0.004*	*0.004*	*0.003*	*0.004*	*0.003*	*0.003*
13–15 years	0.223	0.217	0.211	0.195	0.192	0.183	0.174	0.170	0.155	0.141	0.140	0.144	0.049	0.046	0.056	0.054	0.052	0.040
	0.011	*0.010*	*0.007*	*0.008*	*0.007*	*0.007*	*0.010*	*0.009*	*0.007*	*0.008*	*0.006*	*0.006*	*0.006*	*0.005*	*0.004*	*0.005*	*0.004*	*0.004*

16+ years	0.179	0.188	0.159	0.161	0.144	0.149	0.145	0.161	0.114	0.115	0.108	0.117	0.033	0.027	0.045	0.046	0.037	0.033
	0.009	*0.009*	*0.006*	*0.007*	*0.006*	*0.006*	*0.008*	*0.008*	*0.005*	*0.006*	*0.005*	*0.005*	*0.004*	*0.004*	*0.003*	*0.004*	*0.003*	*0.003*
Age																		
18–25	0.393	0.382	0.371	0.334	0.347	0.362	0.311	0.298	0.257	0.224	0.252	0.274	0.082	0.084	0.114	0.110	0.095	0.088
	0.014	*0.014*	*0.011*	*0.014*	*0.012*	*0.013*	*0.014*	*0.013*	*0.010*	*0.012*	*0.011*	*0.012*	*0.008*	*0.079*	*0.007*	*0.009*	*0.008*	*0.008*
26–30	0.256	0.241	0.249	0.237	0.217	0.239	0.198	0.189	0.174	0.162	0.161	0.168	0.058	0.052	0.074	0.075	0.056	0.071
	0.013	*0.012*	*0.009*	*0.011*	*0.010*	*0.010*	*0.012*	*0.011*	*0.008*	*0.010*	*0.008*	*0.009*	*0.007*	*0.006*	*0.006*	*0.007*	*0.005*	*0.006*
31–35	0.210	0.197	0.201	0.194	0.173	0.163	0.174	0.153	0.136	0.133	0.125	0.125	0.035	0.045	0.065	0.060	0.047	0.038
	0.012	*0.011*	*0.009*	*0.010*	*0.008*	*0.008*	*0.011*	*0.010*	*0.007*	*0.009*	*0.007*	*0.008*	*0.005*	*0.006*	*0.005*	*0.006*	*0.004*	*0.004*
36–40	0.154	0.191	0.156	0.155	0.139	0.148	0.120	0.144	0.104	0.109	0.107	0.111	0.034	0.047	0.052	0.047	0.032	0.036
	0.011	*0.011*	*0.008*	*0.009*	*0.008*	*0.008*	*0.010*	*0.010*	*0.007*	*0.008*	*0.007*	*0.007*	*0.006*	*0.006*	*0.005*	*0.005*	*0.005*	*0.004*
41–45	0.152	0.159	0.135	0.140	0.128	0.136	0.108	0.127	0.097	0.093	0.087	0.105	0.044	0.033	0.039	0.047	0.041	0.030
	0.013	*0.012*	*0.008*	*0.009*	*0.008*	*0.008*	*0.011*	*0.011*	*0.007*	*0.008*	*0.007*	*0.007*	*0.007*	*0.006*	*0.005*	*0.006*	*0.005*	*0.004*
46–50	0.148	0.123	0.123	0.127	0.127	0.124	0.115	0.094	0.084	0.093	0.091	0.094	0.033	0.030	0.039	0.034	0.037	0.030
	0.014	*0.012*	*0.009*	*0.011*	*0.009*	*0.009*	*0.013*	*0.011*	*0.007*	*0.009*	*0.008*	*0.008*	*0.007*	*0.006*	*0.005*	*0.006*	*0.005*	*0.005*
51–55	0.152	0.134	0.141	0.138	0.156	0.127	0.110	0.107	0.098	0.100	0.119	0.099	0.042	0.027	0.043	0.038	0.037	0.027
	0.015	*0.014*	*0.011*	*0.012*	*0.011*	*0.010*	*0.013*	*0.013*	*0.009*	*0.011*	*0.010*	*0.009*	*0.009*	*0.007*	*0.006*	*0.007*	*0.006*	*0.005*
56–60	0.136	0.152	0.168	0.154	0.138	0.183	0.094	0.122	0.122	0.123	0.106	0.155	0.042	0.030	0.046	0.031	0.032	0.028
	0.016	*0.017*	*0.014*	*0.016*	*0.013*	*0.015*	*0.013*	*0.015*	*0.012*	*0.014*	*0.011*	*0.014*	*0.009*	*0.008*	*0.008*	*0.008*	*0.006*	*0.006*
60–65	0.299	0.336	0.309	0.276	0.229	0.320	0.247	0.287	0.270	0.229	0.194	0.286	0.051	0.049	0.039	0.047	0.035	0.035
	0.031	*0.030*	*0.025*	*0.028*	*0.022*	*0.027*	*0.029*	*0.029*	*0.024*	*0.027*	*0.021*	*0.026*	*0.015*	*0.014*	*0.010*	*0.013*	*0.010*	*0.010*
Union status																		
Nonunion	0.244	0.242	0.231	0.213	0.201	0.211	0.194	0.192	0.163	0.149	0.151	0.163	0.050	0.050	0.068	0.064	0.050	0.048
	0.006	*0.005*	*0.004*	*0.005*	*0.004*	*0.004*	*0.005*	*0.005*	*0.004*	*0.004*	*0.003*	*0.004*	*0.003*	*0.003*	*0.002*	*0.003*	*0.002*	*0.002*
Union	0.151	0.146	0.122	0.133	0.122	0.115	0.105	0.104	0.076	0.090	0.076	0.077	0.046	0.042	0.046	0.043	0.046	0.038
	0.009	*0.009*	*0.006*	*0.008*	*0.007*	*0.007*	*0.008*	*0.008*	*0.005*	*0.007*	*0.005*	*0.006*	*0.005*	*0.005*	*0.004*	*0.005*	*0.004*	*0.004*

Standard errors are reported in italics.
Separation rates are computed for FULL-TIME workers only.
PPMIS1–25 = 1 for 1990, 1991, 1992 and 1993, PPMIS1–24 = 1 for 1986 and 1988.

separation rates for union and non-union workers, with a slightly larger decline for union workers.

Table 2 presents the one-year separations rates that are divided further into permanent and temporary separations. According to Table 2, permanent separation account for the majority of separations in any given year. The cross-group patterns observed for the one- and two-year rates are similar for both permanent and temporary separators. The temporal changes, however, are more pronounced for permanent separations.

The table shows declines in permanent separations for most workers on the order of three percentage points, with a slight increase for black workers and virtually no change for workers who have not completed high school. Again, the notable deviation from the general pattern occurs for workers 56 to 65 years of age, where there are considerable and statistically significant increases in the permanent one-year separation rates. For the most part, the proportion of workers that temporarily separate from their employers remains stable over the period analyzed, with exceptions for workers over 55, where we observe significant declines in temporary separations.

While the patterns observed in Tables 1 and 2 provide little evidence of an upward trend in separation rates, compositional shifts in the workforce along variables listed in the tables may bias these results. For example, during the period analyzed, the proportion of workers unionized or covered by a collective bargaining contract declined. Since union members separate from their employers at a lower rate, a decline in union density may mask an even larger decrease in separation rates. On the other hand, to the extent that the overall workforce aged over the time period or if the mean education level increased, failure to account for such compositional shifts may mask a temporal increase in separation rates.

One advantage of using the SIPP panels to study changes in separation rates concerns the fact that one can test for significant changes in separation probabilities after controlling for observable personal characteristics. We do this by estimating linear probability regressions where the dependent variable is equal to one for individuals that separate from their employers and zero otherwise.[4] In specifications that control for standard demographic and human capital variables, unemployment rates in the year and state of residence of the respondent, and industry dummy variables, the regressions confirm the findings observed in the unadjusted estimates of separation rates presented in Tables 1 and 2. Over the period in question, we find little evidence of an increase in employment instability, measured in terms of overall separation rates. If anything, the stability of worker–employer matches actually increased from 1986 to 1993.[5] Hence, results from overall separation rates do not support the argument that employment has become more unstable in the recent past.

Nonetheless, our aggregate measures of employment stability may be masking underlying shifts in the reasons for separation. For example, if the probability of quitting has decreased and the probability of a layoff has increased, overall separation rates may either increase, stay constant, or decline. Hence, a more detailed analysis of the reasons that precipitate the dissolution of worker–employer matches is necessary in order to evaluate recent trends.

Separation Rates by Reason:

In addition to providing the employer identification codes necessary to detect separations, the individual SIPP wave files (released separately from the full panel files) provide information on the reasons precipitating separations. In this section, we use data from the individual waves (appended to our data extracts from the full panel files) to analyze temporal changes in separations by reason. Possible reasons given for a separation include layoffs, retirements, discharges, temporary jobs ending, quits to take another job, and quits for some other reason. We apply the information contained in this additional variable to construct measures of voluntary and involuntary separations. We aggregate layoffs and discharges to compute involuntary separations, and aggregate quits to take another job and quits for some other reason as our measure of voluntary separations. Using these reasons for separating, we then test for changes over time.

One shortcoming of the coding process for the reason-for-separation variable in the SIPP data is that the variable is coded only for workers that separate within waves. The survey does not collect information for workers that separate at the seams of the waves – i.e., between the last and first months of consecutive waves. For the full panels used in this analysis, the explicit survey questions concerning whether or not a separation occurs and the associated reason for the separation misses nearly half of the separations that we identify by changes in the employer identification codes.[6] Whether or not the information concerning the reason for a separation is useful depends on the extent to which the probability of being 'seamed' is random.

To account for any potential bias due to non-random seaming, we calculated alternative computations for the conditional separations rates by reason using sample weights that are adjusted for non-random seaming across observable demographic characteristics.[7] These results do not differ qualitatively from those using the unadjusted sample weights provided in the full panel files. Hence, here we simply present regression results from the unadjusted tabulations.[8] In addition, we further restrict the analysis to workers that separate permanently. Comparable calculations for overall one-year separation rates by reasons yield very similar results.

Table 3 presents linear probability models where the sample is restricted to observations, where a permanent separation occurs, and where we observe a reason for the separation.[9] We estimate two sets of models: (a) models where the dependent variable indicates voluntary separations (equals one for workers that quit, zero otherwise), and (b) models where the dependent variables indicate involuntary separations (equals one if the worker is laid off or discharged and zero otherwise). We present four specifications of each model: (1) a baseline regression of the separation reason on a complete set of year dummies omitting 1986, (2) a regression of the reason for separating on the year dummies and a set of standard demographic and human capital variables, (3) a regression of the reason for separating on all variables in the second specification plus the unemployment rate in the year and state of residence of the respondent, and (4) a regression on all variables in the third specification plus a set of industry dummy variables (omitting manufactur-

TABLE 3
Linear Probability Estimates of Probability of Quit or Involuntary Separation
(Conditional on Permanent Separation and Providing a Reason)

	Dependent Variable							
	Voluntary Separation (Quit) 1 = if give reason for separation as quit 0=if give some other reason for separation				Involuntary Separation (Layoff or Discharged) 1=if give reason as laid off or discharged 0=if give some other reason for separation			
Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Intercept	**0.549**	**0.650**	**0.865**	**0.814**	**0.323**	**−0.420**	**−0.550**	**−0.559**
	0.017	*0.115*	*0.120*	*0.117*	*0.016*	*0.115*	*0.120*	*0.120*
1988	**0.080**	**0.083**	**0.045**	**0.048**	**−0.079**	**−0.076**	−0.013	−0.017
	0.023	*0.021*	*0.022*	*0.021*	*0.021*	*0.020*	*0.021*	*0.021*
1990	0.013	0.014	−0.028	−0.034	0.005	0.007	**0.049**	**0.063**
	0.024	*0.022*	*0.023*	*0.023*	*0.022*	*0.021*	*0.023*	*0.022*
1991	**−0.064**	**−0.053**	**−0.050**	**−0.076**	**0.084**	**0.080**	**0.090**	**0.098**
	0.024	*0.023*	*0.023*	*0.022*	*0.023*	*0.022*	*0.023*	*0.022*
1992	**−0.081**	**−0.064**	**−0.057**	**−0.058**	**0.067**	**0.057**	**0.048**	**0.057**
	0.025	*0.023*	*0.023*	*0.023*	*0.024*	*0.023*	*0.023*	*0.023*
1993	0.002	0.021	0.007	0.005	0.007	0.003	0.006	0.025
	0.024	*0.023*	*0.023*	*0.022*	*0.023*	*0.022*	*0.022*	*0.021*
Age		0.003	0.002	0.004		**0.046**	**0.041**	**0.045**
		0.004	*0.003*	*0.003*		*0.003*	*0.003*	*0.003*
Age^2		**−0.0002**	**−0.0002**	**−0.0002**		**−0.001**	**−0.001**	**−0.001**
		0.00004	*0.00004*	*0.00004*		*0.00004*	*0.00004*	*0.00004*
Highest grade		−0.007	−0.009	−0.017		0.014	0.019	0.021
		0.014	*0.015*	*0.014*		*0.015*	*0.015*	*0.015*
Highest $grade^2$		**0.001**	**0.001**	**0.001**		**−0.002**	**−0.002**	**−0.002**
		0.001	*0.001*	*0.001*		*0.001*	*0.001*	*0.001*
Male		**−0.134**	**−0.132**	**−0.090**		**0.111**	**0.107**	0.072
		0.020	*0.020*	*0.020*		*0.020*	*0.020*	*0.020*
Union		**−0.161**	**−0.143**	**−0.131**		**0.083**	**0.076**	0.051
		0.020	*0.020*	*0.020*		*0.021*	*0.021*	*0.020*

Black		**−0.062**	**−0.067**	**−0.058**		0.037	0.042	0.033
		0.030	*0.031*	*0.031*		*0.030*	*0.031*	*0.030*
Married		**0.044**	**0.046**	**0.056**		**−0.078**	**−0.059**	**−0.071**
		0.019	*0.019*	*0.019*		*0.018*	*0.019*	*0.018*
Married*male		0.031	0.033	0.036		−0.004	−0.016	−0.023
		0.027	*0.026*	*0.026*		*0.026*	*0.026*	*0.025*
Black*male		**−0.129**	**−0.138**	**−0.160**		**0.073**	0.071	**0.103**
		0.045	*0.046*	*0.045*		*0.044*	*0.045*	*0.044*
State UR			**−2.668**	**−2.700**			**2.692**	**2.795**
			0.449	*0.440*			*0.446*	*0.440*
Agriculture				**−0.138**				−0.012
				0.044				*0.045*
Mining				**−0.154**				**0.166**
				0.073				*0.070*
Construction				**−0.091**				**0.062**
				0.027				*0.027*
Trans/Comm.				**0.113**				**−0.141**
				0.030				*0.030*
Wholesale Trade				**0.103**				**−0.094**
				0.032				*0.032*
Retail Trade				**0.149**				**−0.145**
				0.021				*0.021*
FIRE				**0.098**				**−0.087**
				0.028				*0.028*
Services				**0.145**				**−0.180**
				0.019				*0.019*
Public Sector				**0.094**				**−0.285**
				0.037				*0.031*
R^2	0.012	0.176	0.185	0.217	0.014	0.086	0.094	0.141
F-value	11.96	12.07	6.01	8.66	13.84	13.67	6.25	8.29
N	5055	4990	4970	4946	5055	5040	4989	4944

Standard errors are reported in italics.
*F-value tests joint significance of year dummies in all regressions.
Coefficients shown in bold are statistically significant at the 10 percent level of confidence.

ing). We include state unemployment rates to isolate time trends in reason for separating net of any cyclical component. State unemployment rates come from the Bureau of Labor Statistics (BLS) Geographic Profile of Employment and Unemployment. The BLS calculates these rates from the Current Population Survey. Lastly, we include industry dummy variables to allow for any industry-specific differences in reasons for turnover. At the bottom of each column, we present F-statistics for tests of the joint significance of the year dummies.

Starting with the voluntary turnover equations, in all specifications quitting accounts for a greater proportion of turnover in the low unemployment year of 1988 and a lower proportion of turnover in the recession years of 1991 and 1992. Nonetheless, looking at the end point of the period studies, quitting accounts for a similar proportion of separation in 1993 and 1986, even after controlling for personal characteristics and state unemployment rates. Concerning separations due to either layoffs or discharges, we see the near mirror image, with involuntary separations accounting for high proportions in recession years and low proportions in low-unemployment years. Again, however, there are no statistically significant differences between the proportion of separations that are involuntary in 1986 and 1993. This result holds up across all specifications.

Concerning the coefficients on the other variables included in the specifications, quitting accounts for a lower proportion of separations for males relative to females, while layoffs and discharges account for a higher proportion. Black men are even less likely to quit than white men and are even more likely to be laid off or discharged. Unionized workers are less likely to quit conditional on separating and are more likely to have been laid off. Being married, however, is associated with higher likelihood of quitting and lower likelihood of being laid off. Age is a strong predictor of involuntary separation with a strong positive coefficient on age and a strong and significant negative coefficient on age squared.

Finally, the state unemployment rate has a strong negative effect on voluntary mobility and a strong positive effect on involuntary mobility. By industry, only mining and construction have higher layoff and discharge probabilities than manufacturing, while the comparisons across industries for quitting is mixed. Specifically, compared to manufacturing, those working in transportation/communication, trade, finance/insurance/real estate, services, and the public sector were more likely to have quit, conditional upon separation, while those in agriculture, mining, and construction industries were less likely to cite quitting as the reason for separating from their employer.

Conclusion:

Despite media reports and recent public opinion polls, we do not find evidence that employment relationships have become more unstable in the recent past. Looking at overall separation rates, we find that the propensity of

workers to separate from their primary employers actually decreases between 1986 and 1993, with sizable decline from 1986 to 1992 and an increase that partially offsets this rise from 1992 to 1993. These results survive controls for basic demographic and human capital characteristics, as well as controls for state/year specific unemployment rates and industry of employment. With respect to the changes in voluntary and involuntary separations, we find no increase in the proportion of separations accounted for by layoffs and discharges nor a decrease in the proportion of separations accounted for by quitting.

One possible explanation that may be able to reconcile the divergence between our findings and popular sentiment would be if workers, in response to greater probability of layoff and discharge, alter their behavior out of fear of job loss. For example, in response to a decrease in stability, workers may work longer hours, not ask for raises, and be careful not to shirk on the job. To the extent that this occurs, our measures of turnover may not capture such subtle changes in behavior.

Footnotes:

[1] *We define the two year separation rate over 23 months instead of 24 due to the constraint of the length of the 1986 and 1988 panels.*

[2] *We have also calculated separation rates over time and by reason for all years by industry and occupation. Theses tables are available upon request from the authors.*

[3] *In results not reported here, we estimated all of the models presented in this paper using probit regressions rather than linear probability models. The results are nearly identical to what we report in this paper. Given the ease of interpreting the coefficients from the linear probability model, we report these results here. The probit results are available upon request.*

[4] *The results from these regressions are not shown but are available upon request from the authors.*

[5] *In our unadjusted calculations, however, we do observe increases in the separation probabilities of older workers (ages 56 to 65). To test the significance of these changes and their robustness to controlling for demographic and labor market variables, we also estimated regressions where the sample is restricted to workers that are 56 to 65 years of age. Generally speaking, separation probabilities decline from 1988 to 1992 and then increase between 1992 and 1993. This pattern is fairly consistent across outcomes and model specifications. These results are available upon request from the authors.*

[6] *Seaming rates of approximately 50 percent are similar in magnitude to previous work conducted on job transitions using SIPP data [Ryscavage, 1993].*

[7] *We compute the adjusted weights as follows. First, we estimate a probit equation where the dependent variable if equal to one if the person separates from their primary employer and is not seamed, is equal to zero if the person separates from their primary employer but is seamed, and is set to missing for all workers that do not separate. Our list of explanatory variable include age, age squared, and dummy variables for black, female, and married. The estimated probit coefficients are then used to generate a probability of not-being seemed for each observation. Our adjusted sample weights take the reciprocal of this probability and then multiplies it by the unadjusted sample weight.*

[8] *Calculations using the adjusted weights are available upon request.*

[9] *Since we only observe reasons for those observations that are not seamed, it is impossible to directly calculate unconditional quit and turnover rates for the sample.*

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