Job Instability and Earnings and Income Consequences:
Evidence from SIPP 1983-1995

July 16, 1999

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This paper was prepared for the Joint Center for Poverty Research sponsored conference for 1997-98 ASPE/Census Bureau Small Grants, May 13-14, 1998, Washington DC. Small grant funding is gratefully acknowledged. I would like to thank Doug Fleming, Carolyn Sages and Becky Snyder for reliable research assistance. All errors are mine.

Abstract

Transitory fluctuations in earnings have adverse consequences for the poor because of limited ability to smooth consumption. This paper investigates job instability and its consequences on earnings and income using 5 SIPP panels spanning 1983-1995. The paper discusses results for married men, the standard group for most studies, and for unmarried women, a group with welfare policy significance. The paper first looks at earnings fluctuations measured as a transitory coefficient of variation and then at job turnover. The less educated have greater relative earnings fluctuations and more turnover. For the age group 20-59 there is no apparent trend in instability for any education group. The paper then looks at the earnings and income consequences of both job loss and job changes. The earnings consequences of job change appear to improve for the less educated in the 90s, but there is no trend in income consequences. Family income shows greater relative transitory fluctuation than personal earnings due largely to earnings of other family members.

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The rise in earnings inequality over the last 20 years is now a well accepted fact[1]. The literature has pointed to several factors that have given rise to the increase. Broadly speaking, the rise has been attributed to a widening in the returns to human capital (both education and experience) and an increase in the instability of individual earnings trajectories. Gottschalk and Moffitt (1994) find that rising instability of earnings is a major feature, accounting for perhaps one-third of the overall rise in inequality from the 70's to the 80's. Haider (1998) suggests that the overall inequality increase from the 70's to the 80's is due to fairly equal rises in earnings instability and permanent earnings inequality. This project investigates the importance of earnings instability in the 80s through mid-90s and addresses the consequences of job instability on earnings and family income, especially for the low-earnings population.

Temporary earnings instability might be thought not to be a major problem because households can smooth consumption by borrowing and saving. But this is not the case for the poor who are likely to be liquidity constrained (Cutler and Katz, 1991,1992 or Slesnick 1993). Thus even transitory fluctuations may have adverse consequences for the low wage population.

The paper begins by looking at levels of earnings instability across demographic groups and at trends in instability over the 80's and early 90's. This leads to a discussion of job stability and the consequences of job loss and job changing. A recent and fairly large literature exits on these topics. My paper extends the literature by using data from SIPP and by focusing on unmarried women as a group of welfare policy interest along with married men as a reference group. The paper also extends the literature by looking at income consequences of job change rather than the more usual wage consequences. The third section turns to a discussion of income instability. Since transfers and earnings of other family members may cushion earnings fluctuations, this section takes a preliminary look at how family income responds to job loss or job change by one earner. A conclusion with directions for future work follows.

I. Earnings Instability

Background

Gottschalk and Moffitt (1994) report evidence of rising instability in individual earnings. They use the Panel Study of Income Dynamics (PSID) longitudinal earnings data on white males age 20-60 for the period 1970 to 1987. They break the period into halves: 1970-78 and 1979-87. In each period they calculate the mean of log earnings for each person and the deviation of log earnings from that mean. They define the permanent variance component as the variance of mean earnings across

[1] See Levy and Murnane (1992).

people and the transitory variance component as the variance for a person about the individual's mean averaged across people. To avoid life cycle effects, they actually use deviations from a regression of earnings on a quartic in age in place of earnings. Between the period 70-78 and the period 79-87 they find that permanent variance rose by 41 percent, consistent with explanations based on widening returns to education and experience. But transitory variance also rose by 42 percent. Since the transitory variance is about half as large as the permanent variance, and the two sum to total variance, then the transitory variance accounts for about a third of the rise in earnings inequality. They find that transitory variance is higher for less-educated, lower-wage workers.

They proceed to look for causes of the rise in transitory variance such as job changes, cyclical effects, industry changes, and unionization. Generally they find that compositional changes (such as industry shifts) cannot explain much of the increase. For example, they find that the transitory variance of earnings rises even for those who stay in the same job, although it rises more for those who change jobs. Thus the causes of rising instability are not yet well understood.

Haider (1998) uses the PSID-SRC sample a more flexible model than Gottschalk and Moffitt and reaches a similar conclusion about the overall rise in instability. He finds that much of the action in annual instability comes through cyclical hours changes.

Job stability

Many others have investigated the whether jobs have become less stable and there has been some controversy in part based on data source. Moffitt and Gottschalk (1994), Rose(1995) , and Marcotte(1995) use the PSID and find a rise in job instability. Boisjoly, Duncan, and Smeeding (1998) also use PSID and find rising involuntary job losses for male workers of all education levels from 1968-1992. Other recent PSID work by Polsky(1998) and Gottschalk and Moffitt(1998) find no increase in instability for the 80s and 90s, but increase in the 70s.

The CPS tends to show little overall increase in instability (Diebold, Neumark and Polsky (1996,1997), Swinnerton and Wial (1995,1996), Farber (1997A,1997B) and Stewart(1998)). Jaeger and Huff Stevens (1997) have reconciled the CPS and PSID job changing trends. They conclude that the recent trend in job changing is relatively flat. But some demographic subgroups have experienced rising instability. Marcotte (1995) reviews the controversy and emphasizes the consistent finding that low education workers and blacks have faced rising job instability. Stewart also finds that turnover rates for low education men have risen from 1975-1995, but not for other demographic groups. Recently Monks and Pizer (1997) and Bernhardt et al. (1997) brought the NLS to bear on the question and found rising instability for younger workers.

In work begun coincident with my study, Gottschalk and Moffitt (1998) use both the Survey of Income and Program Participation (SIPP) and PSID to look at job transitions. They find that neither set provides evidence that separation rates have increased, and rather may have declined when non-heads are included. They find the annual trends in the two data sets are fairly consistent.

A consensus view of the literature would conclude that general job instability has not increased in the 80s and 90s but may well have increased for less advantaged groups. My study also employs SIPP to track job transitions from the mid 1980s to mid 1990s. SIPP offers an alternative data source with high quality data on job change. I look at both transitory variance and job separation rates.

Measuring Job Instability Using the Survey of Income and Program Participation

SIPP offers several advantages for measuring job instability. First, SIPP provides high quality earnings, income and public assistance data on a monthly basis. Monthly fluctuations may be a problem for the poor. Second, SIPP offers highly disaggregated job data that allows us to pinpoint the timing of job changes. SIPP collects separate monthly information on up to two jobs and, in addition, two self-employment jobs. Third, SIPP offers larger samples than PSID which will help precision for disaggregations by demographic groups, particulary the low-education group. For many tables, I use low education as an indicator of disadvantaged workers.

SIPP provides monthly longitudinal data on individuals in 15000-20000 households per panel. It covers demographic information, labor information and detailed income and program participation information. It is supplemented by topical modules on specific topics including a module on assets. Panel members are interviewed every four months and asked about the previous four months; thus it has a shorter recall than annual data. The panels begin in 1984 and a new SIPP panel is initiated each year, so that there are overlapping panels (at least through 1996). This project uses five panels of SIPP, the 1984, 86, 88, 90, and 92 panels, spanning Sept 1983 April 1995[2]. These time frames will allow the tracking of trends over time from the mid 80's into the 90's.

I use three indicators of job instability: transitory variances of earnings, job transition rates, and spell length of new jobs. The following sections make comparisons by demographic group, as well as look for trends over the years.

Permanent and Transitory Earnings and Hours Variances

To concentrate on short-term fluctuations, I estimate a linear time trend regression for each person and consider fluctuations around that trend as transitory variation. Let $Y_{it} = á_i + â_i t + å_{it}$ [3] where Y_{it} represents the variable of interest (wage, earnings, income), á is individual intercept, â is individual time trend, t represent months, and the transitory error $å_{it}$ represents a classical regression error. I measure the transitory component for each person as the standard error of the person's regression. To get an idea of the relative size of transitory fluctuations, I also compute the transitory coefficient of

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[2] The 1984 panel spans June 1983-April 86, the 1986 panel spans October 85-March 88, the 1988 panel spans October 87-December 89, the 1990 panel spans October 89-August 92, and the 1992 panel spans October 91-March 95.

[3] Gottschalk and Moffitt (1994) divide earnings into permanent and transitory components using a standard decomposition. Let $Y_{it} = \mu_i + å_{it}$ where Y_{it} denotes earnings, μ_i is the permanent component and $å_{it}$ is the transitory component which is assumed uncorrelated with μ_i. They take out the age component of Y using a quartic age profile assumed the same for all persons. The extended version of this paper reports earlier results using the standard decomposition with no personal time trend and not taking out the age profile. The TCVs are much larger but the trends over time are similar. A possible exception is that less educated unmarried women show a rise in TCV in the 1992 panel.

variation (TCV) defined as the standard error of the regression divided by the mean Y (computed for each person). Since the TCV normalizes by the mean, it also allows us to compare the relative size of fluctuations across demographic or education groups with different means. The TCV is computed for each person and I tabulate the median or mean TCV across people.

Married men are a group often used as a standard in other studies of job stability and I include them as a reference point. I also show results for unmarried females since they are a group of policy interest due to their above average poverty rates and use of transfer programs. Marital status for the TCV measures is determined at the beginning of each panel. The first panel of Table I.1 shows the TCV for wages and earnings for married men aged 20-59 without any self-employment income at the beginning of the panel. The second panel of that table shows comparable measures for unmarried women[4]. The measures are computed separately for each panel based on the first 24 months of each panel. The panels vary in length so I used the first 24 months so that the measures would be comparable across panels. My sample includes only original sample members and all results are weighted by the panel weight provided in SIPP which helps control for selective attrition during each panel.[5]

In the 1992 column in Table 1 for married men, low education men show higher relative variation in monthly earnings than more highly educated men, a finding consistent with Gottschalk and Moffitt (1994). For the table, the TCV (stated as a percentage of the mean) is computed for each person and the median across people is shown. I also classify by whether the man falls in the bottom wage quartile, based on his average wage computed over the entire panel, and find greater relative instability among the low wage. Finally, men who head poor families exhibit substantially greater earnings instability than non-poor heads. Since earnings instability may lead to lower income and hence poverty, this result is expected, but it clearly reinforces the point in the introduction: the group most prone to fluctuations is poor and least able to cushion fluctuations. The results for unmarried women in the second panel of the table show slightly more earnings variation, particularly for poor women.

For hourly wages, the less educated have smaller relative variation than the most educated.[6] Since the TCV of hourly wage rates is much smaller than that of earnings, we can conclude that fluctuation in hours and the interaction of hours and wages are important components of earnings instability. The contrast is largest for the less educated and the poor, suggesting that hours fluctuations are key for them.

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[4] Sample excludes students and armed forces. The extended version of this paper includes the means and permanent and transitory variances for several other wage and earnings measures.

[5] When panels are pooled in subsequent analyses, each weight is normalized by the mean weight within the panel so that the weighted sample size of each panel matches its actual sample size.

[6] SIPP provides separate information on up to two concurrent jobs. Hourly wages are defined as the hourly wage on the main job, if given. If not given, wage is computed as monthly earnings divided by weeks worked that month times usual hours per week.

The time trend in instability is also of interest. For married men, earnings instability fluctuates panel to panel, but is relatively stable with no decided trends. Stratifying the sample by poverty status or low wage status gives the same result. For unmarried women, earnings instability has somewhat greater variation panel to panel with the 84 panel showing greatest variation. Past 84 there is little trend. There is some tendency for hourly wages to show diminishing TCV over time for all age groups. Overall over this period, earnings variance does not appear to be increasing. This conclusion might appear to differ from Gottschalk and Moffitt (1994) but the time periods differ. Their PSID study compares 1970-78 and 1979-87 and does not extend into the 90s. My data spans 84-95. Haider (1998) uses a different methodology with PSID from 79-91 and finds declining transitory variance in the 80s with a rise in 1991.

Job Transition Rates

Since job changes give rise to earnings fluctuations, this section looks at job changes and job losses. SIPP data are well suited to this task because SIPP requests information by employer on up to two concurrent jobs. In SIPP an employer identification code is given for each month. The first job is considered the main job. The monthly data allow us to determine when a separation (including quits, layoffs, or job loss) occurs, and observe wages and hours before and after. A variety of methods can be used to characterize job separations. In this section I use an indicator of whether the person works for the same employer 4 months later, a gross flow measure. That is, in a given month I look at the main job employer and then look ahead 4 months to see if the person works for that employer as either the first or second job[7]. Persons must be present in both months to be included. This raises an issue since job separation may affect attrition. The analysis depends on the adequacy of the panel weights to control for attrition.[8] Persons who report self-employment income are excluded.

Figure 1A and 1B show 4 month separation rates for married men and for unmarried women. A separation can be a job loss or a job change. The points show the proportion who separate over the next 4 months, computed month by month. The lines are a spline-smoothing (done by SAS) of the monthly points. Through calendar time, one can see a pattern of rising separation rates within each panel. But the overall trend is driven by comparisons across panels and shows some fluctuations. The

[7] Most transitions in SIPP are reported to occur at the seam between interviews. Even though a 4 month rate may miss transitions within a "wave" (SIPP 4 month interview period) such transitions are infrequently reported which suggests a measurement error. The 4 month rates effectively compare job ids in one interview to the next interview and avoid a one-month spike at the seam that would occur with monthly transition rates. Gottschalk and Moffitt (1999) uses montlhy transition rates but argue that the seam is averaged out due to the overlapping rotation group design. In the SIPP design a different rotation group (roughly one quarter of the sample) has a seam each month.

[8] The person must be "in sample" (ppmis=1) for the starting and ending month. Together with weights this excludes fully imputed data records. For those in sample, the SIPP Longitudinal research files (which I used) include longitudinal imputations for missing items and I allowed these individual item imputations. See the SIPP Users Guide for explanation.

1984 panel has some suspected data problems with job ids and the extended version of this paper investigates the problems further. For reasons given there I discount results based on job ids from the 1984 panel. I include them for completeness, but argue that results from 86 and later panels are more reliable.

Single females have higher separation rates than married men. Those with less than 12 years of education have higher separation rates than the more educated. Both point to increased job instability for the lower income group. The time trends are relatively flat with higher education groups showing a slight downward trend, and the least educated showing an uneven but eventual slight upward trend. The trend issue is explored further by regression as discussed below.

Job changes and job losses have different income consequences. Figure 2 shows the trends for job changes (job to job transition) and Figure 3 shows job losses (job to no job). The latter category includes both transitions to unemployment and to out of the labor force. Job loss separations do not show a noticeable trend. Ignoring the odd 1984 panel, the job change transitions are nonlinear but appear to decline slightly for women.

The change in the nature of transitions is more apparent in Table I.2. The table shows a different type of tabulation, the percentage of monthly transitions by type. Transitions include employed (not self-employed) to new job, to self-employment, to unemployment or to out of the labor force tabulated by the calendar year in which the transition took place. As expected, the least educated have more transitions to unemployment. Less educated women show the highest rate of transition to out of the labor force. For all education groups, there is a marked increase over time in the percentage of job separations that result from taking new jobs. For the least educated men and women, this reflects fewer separations due to unemployment. For the more educated men, it reflects reduced unemployment and reduced self-employment transitions, whereas for more educated women it largely reflects reduced unemployment. I conclude that job changes are increasingly important, but that loss remains a primary problem for the least educated.

To detect trends more simply, Table I.3 displays a probit of separation rates on a calendar year time trend. The top panel, specification A, shows the trend controlling for the within-panel month-pattern noted above in the figures by allowing a month-in-sample trend that was assumed the same across panels.[9] Specification B adds age, race and education group, and interacts the year trend with these covariates. For men, both models show a statistically significant but small declining yearly trend in separation rates (see the coefficient on calendar year). The trend for unmarried women is larger in specification A. The low education group does not show a statistically significant trend. Overall, we do not see rising job instability by this measure[10].

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[9] The 1984 panel is excluded. The sample is organized by person month, so that a person appears in the sample more than once. The probit standard errors are corrected for this.

[10] In the extended version of the paper I show separation probits where separation is a job change or an industry change based on change in a workers industry code. This check for possible unreported transitions by employer id. If a worker reports a change in industry (at say the one digit

Length of New Jobs and Unemployment Spells

A final method of assessing earnings instability considers the spell length of new jobs and of unemployment spells using standard duration measures. To find the length of a new job spell, I looked for the first job start after the beginning of the panel; that is, the person needed to be in sample and without a job for at least one month prior to starting a new job. I counted continuous months with the first observed employer until the spell ended with a job loss or job change (for complete spells), or the person attrited or the panel ended (for right censored spells). Table I.4 and I.5 show unweighted Kaplan-Meier estimates of the survivor function for new jobs for men and women respectively. Spells are computed separately for each panel.

In the 1992 panel, the less educated married men have less stable jobs with 47 percent of new jobs lasting 12 months or more whereas the higher education (>12 years) group has 68 percent lasting 12 months or more. Looking across panels, the survivor function is remarkably stable, especially if we eliminate the suspect 1984 results. There is little indication of shortened job length that would indicate rising instability over time. Women have somewhat shorter durations at new jobs than men, but there is no trend.

The bottom panel of Table I.4 and I.5 show the survivor function for unemployment spells. These are the first spells of unemployment within a panel for each person, excluding left censored spells. The least educated show longer spells of unemployment. The time trend shows little change in unemployment spell length for the least educated men and women.

Conclusion**:**

This section has stressed two points. First, the least advantaged face greater earnings instability and job insecurity than the more advantaged. They face greater relative fluctuations in earnings and face more job turnover. Second, for most workers there has not been a significant increase in earnings or job instability over the period 1984 to 1994 based on changes across SIPP panels. Job instability is, however, only part of earnings. Job mobility could increase or decrease earnings. Increasing concern about rising instability of earnings may also reflect concern over changes in the consequences of job instability to which we now turn.

II. Consequences of Job Instability

Monthly data from SIPP is particularly well suited to look at the short-term consequences of job change. SIPP permits us to look at the time profile of earnings around a job loss or job change. At the time of a job change do monthly earnings rise or fall? How much do they rise thereafter? How does this differ by education level? Is there a change over time in the earnings consequences of job change?

Variations of these questions have been addressed in the literature usually by looking at wages

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level) this check counts a transition even if the employer id did not change. The results are not sensitive to this check.

and unemployment rates rather than earnings. Farber (1993) found no difference in the cost of job loss comparing the recessions 1982/3 and 1990/1. Polsky(1990) uses PSID to compare the periods 76/81 and 86/91 and found larger wage losses and lower reemployment probabilities after job change in the later period. Thus he concludes that job instability had worse consequences in the late 80s compared to earlier. Gottschalk and Moffitt (1998) use SIPP and conclude that job changes were not more likely to be accompanied by wage declines or greater unemployment from the late 80 to mid 90s. In my paper I look at earnings because earnings reflect both wage and hours changes and consequences for each may differ. In the next secion I look at how job instability affects family incomes.

Method and Background

A simple comparison of earnings for job keepers and losers does not control for the well known selection bias that those who have a job loss may differ in unobserved ways from those who do not (Mincer 1986). For example, if we estimate the size of the earnings drop based on a comparison of earnings for those experience and drop and those who do not, we would obtain an overestimate of the drop. To avoid this problem, I follow Jacobson, Lalonde and Sullivan (1993) et al. and use a fixed effect model that effectively lets each person act as their own control when computing earnings changes. This approach is also used by Huff Stevens (1997) and Gottschalk and Moffitt (1998).

For illustration, let $Y_{it} = \mu_i + \varepsilon_{it}$ be earnings divided into a permanent and transitory component. We want to compare $E[Y_{it} \mid \text{separation at time s}]$ with $E[Y_{it} \mid \text{no separation}]$. If the separation decision is made based only on the permanent component of earnings, then conditioning on the permanent component produces the correct comparison. That is, conditioning on permanent earnings is the way by which I control for heterogeneity. Under an alternative model, separation could depend on the transitory component as when a worker is discharged based on poor recent performance. While this can partly be handled by using a personal component with trend as in Jacobson et al.(1993), or Huff Stevens (1997), both find that the addition of a personal trend does not change the results and I do not pursue it here.

As pointed out by Jacobson et al (1993), earnings change before and after the actual date of job loss. Thus a one month change picks up only part of the effect. Jacobson et al. look at how job loss affects earnings using an extended panel of quarterly earnings records from Pennsylvania administrative data and investigate the time pattern of earnings loss. They use calendar time dummies using those who do not lose their jobs to serve as a base for sorting out macro influences. This is important since we are interested in detecting structural trends in consequences of job changes abstracting from macro fluctuations.

I use a variation of the statistical model suggested by Jacobson et al. Workers earnings are assumed a function of a personal permanent component, calendar time dummies to pick up macro

fluctuations, and a time dummy to measure the shift in earnings at the time of job change.[11] The "change" dummy equals one commencing at job change, zero before, and thus measures the shift in average wages measured over months prior to change relative to months after. For a moment, consider data from a single panel. Let Y_{it} be log of monthly earnings. Then

$$Y_{it} = \mu_i + \delta_t + \theta Change_{it} + \varepsilon_{it}$$

To assess whether different education groups have differing earnings changes, the model interacts the change indicator with indicators for low education, high education. Finally, since we are interested as well in the time trends of consequences of job loss, an additional set of interactions with calendar year are included for each group. Thus we can assess, for example, whether the change for low education individuals is getting lower or higher over the years. Two types of calendar year interactions were used. First I employed a set of calendar year dummies. Second, to summarize trends more easily, I employed a linear calendar year trend. The model with the linear trend is thus

$$Y_{it} = \alpha_i + \delta_t + \sum_c \theta_{1c} Change_{it} * Z_{itc} + \theta_{2c} Change_{it} * Z_{itc} * Year_t + \varepsilon_{it}$$

Where Z_{itc} denotes the c-th education group, and Z_{it1}. is taken to be a constant one for the education =12 group. For the model with year dummies, the several dummies replace the linear year variable. Age is also included as a time varying, but not interacted covariate. The model is estimated using person month data pooled over all panels and weighted. Models are computed separately by race and by household type. Types are unmarried women and married men where marital status is measured in each sample month.

Results for Job Changes

Figure 4 plots the change in earnings based on the indicator variables for years from the regression above. Figure 4 plots earnings change for job changers who moved from one job to the next without any intervening unemployment. Earnings are measured after the change in all remaining months of the panel with zeros excluded. Subsequently, I broaden the sample to include those that experienced some unemployment at the time of job change but ultimately were reemployed. When interpreting the pictures, one should keep in mind that these changes control for underlying macro movements in earnings. That is, earnings fell due to the recession in 1990-91 but the changes reported

[11] Jacobson et al use a more general model that uses dummies for each quarter relative to time of separation with time splines for periods before, during and after job loss used in interactions with covariates. The extended version of my paper shows results for a specification that allows a different trend in earnings as well as an intercept shift following a job change. The added time complication makes the results harder to summarize simply, but qualitatively the story is the same.

here are the changes in earnings above and beyond the recession's impact.

In Figure 4, the less educated white men initially show a loss in earnings at job change in the mid 80s meaning that they were moving to worse jobs. Earnings losses again occur in 1990 but show improvement after that ending up with positive earnings changes at job change. Table II.1 shows the estimated coefficients from the model that assumes a linear trend. The first panel shows the same job change sample as the figure. The trend for less educated married white men is indeed upward by 1.3 percent per year starting from the base year 1982 drop of 10.7 percent. (That is, the year trend has the value zero in 1982.) Consistent with the picture the more educated white married men show less trend.

The story for less educated black married men is similar but more extreme. The figure shows earnings losses at job change are larger in the late 80s but settle down to zero change in the 90s. The trend regression shows a large initial drop which improves by 4.4 percent per year.
The other education groups show less trend although the most educated black married males show a gain in earnings at job change that diminishes as we move into the 90s.

For unmarried white women, the less educated show some a gain at job change in the 80s with a loss in 1990 and then improvement in the 90s. This nonlinear pattern produces a negative linear trend starting from a positive base. Other education groups show small or no trend. Black unmarried women have a pattern similar to that of whites with gains in the 80s , drop in 90 and then improvement. The overall linear trend is not statistically significant for blacks, but given the nonlinear nature of the yearly changes, the linear trend oversimplifies.

When we generalize the sample to include those who change jobs but experience some unemployment in between we encounter more months of zero earnings. Only those who become reemployed during the panel can contribute to post job loss earnings. If the probability of reemployment is determined only by age and permanent earnings, then the method above yields the correct contrast for earnings change at job loss. That will be assumed here.[12]

The generalization of the sample does not change the pattern of results much. This is shown in Figure 5 and bottom of Table II.1. An exception is that married black men show a large initial gain in earnings in the 80s compared to figure 4. This is due to a few people with very large wage gains after a job loss. Results prior to 1990 are difficult to generalize but there tends to be an improving trend for the least educated after 1990. This positive trend is less pronounced than in earlier Figure 4 indicating that the job losers (those that had some unemployment between jobs) experienced less of a positive effect.

Overall, the earnings consequences of job change were not always favorable in the 80s for less educated men but the labor market seems to have improved for them into the 90s. For women initial gains in the 80s were wiped out around 1990, but subsequently there is an improving trend. Thus for the early 90s the labor market improved for the less educated as well as the more educated.

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[12] Past literature on earnings drops and changes including Gottshalk and Moffitt(1998), Jacobson et al (1993) and Huff Stevens (1998) all make a similar (explicit or implicit) assumption that reemployment probabilities depend only on included variables and individual fixed effects or trends.

III. Income Instability

Transfers and earnings of other family members can respond to earnings fluctuations to reduce fluctuations in income. As noted earlier, if family members earnings are correlated, it is possible for this to accentuate swings. Table III.1A displays the median transitory coefficient of variation (TCV) of several earnings and family income measures.[13] Table III.1B uses the same format but shows the mean TCV across people. The mean transitory variation in earnings is higher than the medians suggesting a skew in the distribution of TCVs. Results using the means are more dramatic but tell the same story as the median TCVs. We can directly compare the transitory coefficients of variation for income and earnings. As with earnings, the low education groups have greater relative transitory variation than their better off counterparts.

Family income shows more variation than personal earnings. This may seem surprising since a given fluctuation in earnings is a smaller percentage of family income, but it largely reflects that other family members earnings add instability to family earnings.

Starting from personal earnings in line 1 of Table III.1A, the second line adds other family members earnings, including spouses and any other family member. This slightly raises TCV for all education groups but is more pronounced for the less educated. The third line adds public cash transfer income. The addition makes little difference even for the the less educated unmarried women more of whom are likely eligible for transfers. When property and other income are added in we arrive back at family income. The addition of these last income items tends to be make little difference except for the mean TCV of the most educated where asset income is nontrivial.

From a decomposition of this type one cannot draw conclusions about the relative size of the impacts of different components since the results would depend on the order of the additions. Additional work on relative importance of transfers and other components in reducing transitory variation is left for future work.

Overall, most groups do not show a trend toward increasing relative transitory variation in income. The less educated unmarried women show a decline in TCV for family income that mirrors that for family earnings. Labor market of the 90s have a trend toward more stability in family earnings.

The pattern above suggests that income responds somewhat differently than earnings to fluctuations such as job loss or job changes due to the influence of other components of income. I next look explicitly at how incomes respond to job instability. The approach is equivalent to a reduced form approach: I simply look at how income responds to job loss and job change, allowing all adjustments due to family earnings or transfers to take place.

Income Consequences of Job Loss

This section looks at family income changes due to job loss of one member of a family. The

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[13] As in Table I.1, the TCV are computed for each person allowing individual trends for the first 24 months of each panel and the median across people is shown. The sample in Table III.1 is restricted to persons who have non-missing values for all the earnings, income, and transfer measures so that the sample is the same for all four measures.

analysis parallels that for earnings above. Transfers received in response to the separation should help cushion the drop, but earnings by other family members could raise or lower the drop depending on their correlation with earnings of the person suffering the drop.

Figure 6 shows the income change following a job change using a fixed effect model controlling for macro effects parallel to the analysis for earnings above. Income tends to show less trend in the 90s than earnings in the earlier Figure 4. Unmarried black women are the exception and show a downward trend from positive income gain at job change in the 80s to income loss at job change in the 90s. The visual trends are verified in Table III.2 which shows linear year trends from regression. These regressions show a substantial negative trend for less-educated unmarried black women.

When we broaden the sample to include those who had some unemployment before reemployment we obtain Figure 7 and the bottom panel of Table III.2. The downward trend for less educated black women is mitigated, but the level shows income loss in early all years for all groups. Visually there is perhaps a slight upward trend–less income loss--for the least educated in all demographic groups. Among the less educated samples, the linear trend regression shows only a statistically significant positive trend for black married men.

In short, job change for the broadest sample generally results in income loss but there does not appear to be a worsening of the loss over time.

IV. Conclusions:

Transitory fluctuations have adverse consequences for the poor because of their limited ability to smooth consumption. The poor have greater relative earnings fluctuations, measured as transitory coefficient of variation. There is no apparent trend in earnings variability(TCV) from 1986 to mid 90s for age 20-59 unmarried women or married men. Separation rates show a slight downward trend or no trend–not an increasing trend. Length of new jobs show no trend. Thus instability of earnings does not appear to rise over this period.

The earnings consequences of job loss are relatively worse for the less educated and for unmarried women compared to married men. There is some improvement over time in the early to mid 90s. For most groups including the less educated the labor market of the mid 90s is better even after controlling for macro fluctuations.

Income is relatively less stable than personal earnings due largely to other family members earnings. Income shows little trend over time in relative instability. Generally, incomes on average fall due to job change but the size of the fall shows no trend. The income consequences of job change do not appear to be getting worse from mid 80s to mid 90s.

Future work should investigate the responsiveness of transfers to job loss and job changes, and address how responsiveness varies over the years. How does the level of transfers depend on permanent and transitory components of earnings, and at how are transfers timed, that is, at the lag structure of response to the occurrence of job loss or change? Second, future work should investigate the size and timing of short term earnings increases by other household members (the added worker effect) and how this response changes over the years. The timing issues play to the strength of SIPP data. Both investigations should look at how transfers and other earnings affect the transitory variance of household income. Finally, future work should consider the adequacy of assets for the smoothing of

earnings fluctuations. Low liquid asset stocks of the poor offer reduced consumption smoothing in the face of the large earnings fluctuations found above.

Through the mid 80s to 90s, the less advantaged continue to face significant earnings instability. For the sample aged 20-59 considered here, there is no trend toward increasing instability and the consequences of their job changes may be improving.

References

Bernhardt, Annette, Martina Morris, Mark Handcock, and Marc Scott. "Trends in Job Instability and Wages for Young Adult Men." Population Research Insitute Working Paper No. 99-01(Pennsylvania State University) (January 1999).

Boisjoly, Johanne, Greg Duncan, and Timothy Smeeding. "The Shifting Incidence of Involuntary Job Losses from 1968 to 1992." *Industrial Relations* 37(2) (1998): 207-31.

Devine, Theresa. "Measurement of Job Exits: What Difference Does Ambiguity Make?" In *Panel Data and Labor Market Dynamics: Contributions to Economic Analysis*, edited by Henning Bunzel, Peter Jensen, and Niels Westergard-Nielsen, 75-105. Vol. 222. Amsterdam: North Holland, 1993.

Diebold, Francis X., David Neumark, and Daniel Polsky. "Comment on Kenneth A. Swinnerton and Howard Wial "Is Job Stability Declining in the US Economy"." *Industrial and Labor Relations Review* 49(2) (1996): 348-52.

Diebold, F. X., D. Neumark, and D. Polsky. "Job Stability in the United States." *Journal of Labor Economics* 15(2) (1997): 206-33.

Farber, Henry S. "The Changing Face of Job Loss in the US, 1981-95." *Unpublished Manuscript* Princeton University (1997b).

---. "Trends in Long Term Employment in the US, 1979-96." *Princeton University Working Paper* (1997a): July.

Gottschalk, Peter, and Robert Moffitt. "The Growth of Earnings Instability in the U.S. Labor Market." *Brookings Papers on Economic Activity* 2:1994 (1994): 217-72.

---. "Changes in Job and Earnings Instability in the Panel Study of Income Dynamics and the Survey of Income and Program Participation." *Unpublished Manuscript* (Boston College) (1998).

---. "Job Instability and Insecurity for Males and Females in the 1980s and 1990s." *Unpublished Manuscript* (Boston College) (1999).

Haider, Steven J. "Earnings Instability and Earnings Inequality of Males in the US: 1967-1991." *Unpublished Manuscript* (university of Michigan, August 1998) (1998).

Huff Stevens, Ann. "Persistent Effects of Job Displacement: The Importance of Multiple Job Losses." *Journal of Labor Economics* 15(1, pt. 1) (1997): 165-88.

Jacobson, Louis S., Robert J. LaLonde, and Daniel G. Sullivan. "Earnings Losses of Displaced Workers." *American Economic Review* 83 (September 1993): 685-709.

Jaeger, David A., and Ann Huff Stevens. "Is Job Stability in the United States Falling? Trends in the Current Populations Survey and Panel Study of Income Dynamics." *Unpublished Manuscript* (Yale University) (1997).

Kletzer, Lori G. "Job Displacement." *Journal of Economic Perspectives* 12(1) (1998): 115-36.

Levy, Frank, and Richard J. Murnane. "U.S. Earnings Levels and Earnings Inequality: A Review of Recent Trends and Proposed Explanations." *Journal of Economic Literature* 30(3) (1992): 1333-81.

Marcotte, Dave E. "Declining Job Stability: What We Know and What It Means." *Journal of Policy Analysis and Management* 14(4) (1995): 590-98.

Mincer, Jacob. "Wage Changes in Job Changes." *Research in Labor Economics* 8(A) (1986): 171-97.

Monks, James, and Steven D. Pizer. "Trends in Volunatry and Involuntary Job Turnover." *Industrial Relations* 37(4) (1998): 440-59.

Neumark, David, Daniel Polsky, and Daniel Hansen. "Has Job Stability Declined Yet? New Evidence for the 1990s." *Unpublished Manuscript* May (1998).

Polsky, Daniel. "Changes in the Consequences of Job Separations in the US Economy." *Unpublished Manuscript* (Univ of Pennsylvania) (1996): October.

---. "Changes in the Consequences of Job Separations in the US Economy." *Unpublished Manuscript* University of Pennsylvania, November (1998).

Stewart, Jay. "Has Job Mobility Increased? Evidence from the Current Population Survey: 1975-1995." *Unpublished Manuscript* Bureau of Labor Statistics (1998).

Swinnerton, K. A., and H. Wial. "Is Job Stability Declining in the US Economy?" *Industrial and Labor Relations Review* 48(2) (1995): 352-55.

Swinnerton, Kenneth A., and Howard Wial. "Is Job Stability Declining in the U.S. Economy? Reply to Diebold, Neumark, and Polsky." *Industrial and Labor Relations Review* 49(2) (1996): 352-55.

Appendix
Job Transitions in the 1984 SIPP

The 1984 panel of SIPP shows patterns of job transitions based on job id that are different from the other panels.[14] In this appendix I compare the panels.[15]

As shown in Figures B.1 to B.4, The 1984 panel shows a blip in 4 month job transition rates that occurs in wave 6 or wave 7 of the panel, depending on the person's rotation group.[16] The blips in these figures are smoothed somewhat because they are shown in calendar time. In calendar time the beginning of wave 6, for example, is spread over 4 calendar months. If graphed as a function of time in sample, the blip in 1984 is more exaggerated.

Since I was concerned about the coding, the figure also shows three variants of job transition coding. The original definition is a 12 month gross flow. A job change is identified when the main job id in the first month does not appear as a job id four months later. This includes transitions to no job. The second variant, labeled 1-digit industry, adds transitions by including cases where a person changed industry at the one-digit level, even though job id indicated that no change occurred. The third variant, labeled 3-digit industry, adds to original transitions those where a person changed industry at the 3-digit level, even though job id indicated that no change occurred.

As is apparent from the pictures, the recoding had a dramatic impact for the 1984 panel, but less so for other panels. This again reduces my confidence in the 84 panel job transitions. Of course, industry change can be miscoded as well, but the 1984 panel has a quite different look.

To see if the 1984 panel shows significantly different trends, I ran separation rate probits. Table D-1 shows results for married males. Model 1 includes only a month-in-sample trend and calendar year trend. The second column shows coefficients for variables interacted with a not-1984 panel dummy. That is, it shows the difference in coefficients between 1984 and the other panels. The coefficient on month shows a significant trend for month in sample for the 1984 panel, but almost no trend for the other panels (.028-.024). In model 2 other covariates are added. Coefficients on month, age and low education are statistically different and other show substantive differences as well. Likelihood ratio tests shown at the bottom of the table show that the 1984 panel coefficients are jointly significantly different from the other panels. Table D.2 shows the same analysis for single females. The

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[14] Personnel from the Census Bureau have told me that there are suspected coding errors on job id in the 84 panel where some new jobs were given the original job id (1) in later interviews.

[15] Devine(1993) in footnote 7 suggests that those respondents who have been improperly coded as not having a job change can be identified and dropped by using check item E3.1. She uses this method in the 1986 panel, however, it is not suitable for the 1984 panel because that check item does not appear in the questionnaire.

[16] The SIPP sample is divided into four rotation groups of roughly equal size with each rotation group interviewed every four months in a staggered pattern.

results are similar. In particular, the 1984 panel shows a strong month-in-sample trend whereas the other panels do not.

I conclude that the job id transitions from the 1984 panel are suspect and the 1984 panel data is consequently excluded from remaining tables that use job id transition data. As for the transitions themselves, I continue to use the original method for finding job transitions (not using industry data) in the other panels for two reasons. The original definition and the definitions that use industry coding give very similar patterns. Second, using industry code changes to detect job changes introduces another possible measurement error.