

The Labor Market Consequences of Experience in Self-Employment

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ABSTRACT: Many public policies are designed to encourage self-employment. However, because self-employment experiences are typically brief, it becomes important to understand the long-term consequences of entering and then leaving self-employment. Using the Panel Study of Income Dynamics (PSID), we examine the effects of brief self-employment experience on subsequent labor market outcomes. We find that, relative to continued wage employment, brief spells in self-employment do not increase—and probably actually reduce—average hourly earnings upon return to wage employment. We also find that those who experience self-employment have difficulty returning to the wage sector. However, these consequences are small compared to similar experiences in unemployment.

1. Introduction

Should public policy be designed to explicitly favor small businesses and self-employed workers? Citing the many potential benefits of entrepreneurship, a large number of countries and an increasing number of US states are actively encouraging individuals to become self-employed. For example, US tax policies have traditionally favored sole proprietors relative to wage earners and larger businesses. The US Small Business Administration also invests billions of dollars annually to help new firms get started. More recently, self-employment programs have targeted individuals who are receiving unemployment insurance or other public assistance benefits.¹ The hope is that not only would these workers eventually leave the public program rolls as a result, but also that they might create new jobs for other unemployed individuals.

Perhaps as a result of this menu of public policies, a growing number of American workers are leaving the wage-and-salary ranks to start their own businesses. Indeed, nearly one in ten American workers is self-employed and a growing number of women are becoming self-employed each year. At the same time, it is widely known that many spells in self-employment end within the first few years of business. Thus, in evaluating the potential costs and benefits of public support for entrepreneurial activities, it becomes important to understand the labor market consequences associated with entering and then leaving self-employment.

In a sense, self-employment can be viewed as a human-capital-enhancement or job-training program. It has the potential to increase general human capital, thereby enhancing earnings and employment options in the wage sector after exiting self-employment. Alternatively, it might only stagnate any job-specific skills that had previously been gained in wage employment, leading to reduced earnings or employment prospects after exiting. Therefore, uncovering the consequences of spells in self-employment is a task that is left to

empirical analysis.

With the exception of Evans and Leighton (1989), Ferber and Waldfogel (1998) and Williams (2000), little attention in terms of empirical research has been given to the longer-term consequences faced by those leaving self-employment for a wage job. These studies, which focus on the effects of self-employment experience on earnings outcomes, while instructive have a number of shortcomings which we attempt to overcome.

We improve on previous estimates of the relative wage returns of self-employment experience to wage sector experience by utilizing panel data that is more representative of the population (The Panel Study of Income Dynamics (PSID)) and by controlling for the implied job change associated with a transition into self-employment. In addition to wage outcomes, we also examine the consequences of self-employment experience on other labor market outcomes, including the probability of unemployment and part-time employment.

Our main findings are as follows. Within five-year windows between 1979 and 1990 a significant proportion of wage workers experienced a short spell of self-employment. These short spells of self-employment tended to be very brief – two-thirds to three-quarters of them lasted one year or less. Unlike previous research, we find evidence that short spells of self-employment are associated with lower wages upon return to the wage and salary sector for men. However, when we control for job turnover these negative wage effects dissipate. For American women, while spells of self-employment are also associated with a reduction in wages the results are generally not statistically significant. Full-time working men and women who subsequently experience a self-employment spell appear to have some difficulty returning to full-time employment. These small negative consequences associated with short spells of self-employment contrast with the more severe negative consequences associated with similar spells

of unemployment.

We begin in Section 2 with some background and a review of the earlier literature. We focus on the wage consequences of self-employment experience in Sections 3 to 6. Section 3 provides a discussion of the data and a descriptive analysis of our sample. Section 4 describes our multivariate econometric approach, and Section 5 presents results and discussion. Section 6 contains a number of robustness checks. In section 7 we examine the effect of self-employment on the probability of subsequent part-time employment and unemployment. A discussion of conclusions and policy implications closes the paper in Section 8.

2. Background and Literature Review

Following the work of David Birch (1979) and others, who found that the majority of net job creation is concentrated in firms in the smallest size classes, policies aimed at small business creation have garnered prominent status among policy makers. In the US, federal tax policies have traditionally favored small businesses in the form of lower and progressive statutory rates, generous expensing provisions, and the like.² Income from self-employment was not subject to a Social Security payroll tax until 1951 while wage earnings were covered as early as 1937, and statutory payroll tax rates favored self-employment income until 1984. Since the early 1950s, the US Small Business Administration has facilitated the development of small businesses by providing access to the necessary capital. By 2000 the total dollar figure on loans approved through the Small Business Administration reached nearly twelve-and-a-half billion dollars.³

In addition, groups such as the unemployed have been targeted via the Self-employment Assistance Program (SEA). Building upon successful experimental demonstrations in Washington and Massachusetts, The North American Free Trade Agreement Implementation Act

(P.L. 103-182) in 1993 authorized states to establish programs to help unemployed workers create their own jobs by starting small businesses, initially for a five year period. SEA programs were subsequently extended indefinitely in 1998 through the Noncitizen Benefit Clarification on Other Technical Amendments Act (P.L. 105-306). Currently 10 states have established SEA programs.

At the same time, researchers studying the dynamics of self-employment have found that many individuals who enter self-employment exit shortly thereafter. In terms of business survival, Evans and Leighton (1989) show that about one-half of all spells in self-employment last fewer than 6 years. Holtz-Eakin, Joulfaian, and Rosen (1994) find that slightly more than 70 percent of all taxpayers reporting self-employment income on a Schedule C in 1981 were still filing a Schedule C in 1985, but it is not clear how many of these spells were continuous. Taylor's (1999) analysis of UK data shows that while 90 percent of new self-employment ventures survive their first year, only 58 percent last at least five years.

To be sure, the self-employed are a heterogeneous lot. A few of the most successful entrepreneurs never leave self-employment until they retire from the labor force. For every bright and successful entrepreneur, there is at least one who will never quite get it right. The effects of self-employment are equally diverse, but have not been analyzed as thoroughly as the causes in the growing empirical literature on self-employment. Some workers will be enriched by a spell in self-employment, while others will only suffer negative long-term consequences associated with the failure of their dream enterprise.⁴ Those who gain the most from this experience will either enjoy longer spells in self-employment or earn greater returns in the wage sector thereafter.

Evans and Leighton (1989) were perhaps the first to formally address the long-term

wage-sector consequences of self-employment.⁵ Their estimates of wage regressions for wage employees provide no clear evidence of a differential return—positive or negative—to previous self-employment experience for US men. Experience in either sector yields largely the same return in terms of wage-sector earnings. Unfortunately, as the authors point out, these results can not be interpreted as capturing a causal relationship between self-employment experience and wage outcomes.⁶ Their analysis, which uses a sample of workers between the ages of 14 and 39 taken from the National Longitudinal Survey of Young Men does not control for selection into self-employment.

Ferber and Waldfogel (1998) examine data from the National Longitudinal Survey of Youth (NLSY) in a broader analysis of non-traditional employment. After controlling for unobserved heterogeneity, they find no significant (positive or negative) overall return to self-employment experience in a wage-growth framework. The regression analysis includes those who are currently self-employed, however. Thus, the wage-sector returns to brief self-employment experience can not be explicitly identified in their framework.

Williams (2000) uses the same data as Ferber and Waldfogel (1998) and finds that the rate of return to previous self-employment experience is lower than the return to wage-and-salary experience for a sample of women in wage jobs. Echoing Evans and Leighton (1989), he does not find a similar effect for men.

While these studies provide useful insights they have a number of shortcomings. Because they use data that are not representative of the overall population and lack controls for the effects of job turnover that are associated with entry and then exit from self-employment, these studies are limited in their ability to isolate the effects of self-employment experience on wages. The data samples used are younger than the overall population. Thus, in the likely case

that the effects of self-employment experience differ with age the results are not representative of the overall population. This problem is likely exacerbated by the fact that the likelihood of a self-employment experience increases with age.⁷ In addition, none of these studies account for the fact that a transition into and then out of self-employment almost certainly entails a job or occupation change. As we show, this factor alone may account for any observed wage differentials following a spell of self-employment.

Further, other potential labor market consequences such as an inability to return to full-time wage employment following a spell of self-employment are not considered in these studies. It may be difficult for individuals to find a new job following a self-employment failure. Further, in cases where individuals do find employment the new job might entail reduced hours in addition to lower wages. Finally, the research to this point has focused on a comparison between the returns to self-employment experience and the returns to wage and salary experience. From a policy perspective this is an important comparison because it provides information about the possible negative effects associated with attracting workers away from the wage sector and into self-employment. However, for analyzing the growing number of programs aimed at preventing unemployment such a comparison offers little guidance. The relevant comparison for such programs is between a spell of unemployment and what might turn out to be a short spell of self-employment for many of those who participate.

Our study, which resembles Evans and Leighton (1989) and Williams (2000), adds to the literature in a number of ways. Our primary objective is to improve on previous estimates of the wage returns to self-employment experience relative to wage sector experience. We do this by utilizing the Panel Study of Income Dynamics (PSID) to estimate these returns. This data set is more consistent and representative of the US population than that used in previous studies and

enables us to track self-employment entry and exit. To this same end, we control for the effects of job or occupation turnover that often accompanies a transition into and then out of self-employment. Next, in addition to wage outcomes, we also briefly examine the consequences of self-employment experience on other labor market outcomes, including the probability of unemployment and part-time employment. Throughout the study we employ an estimation strategy that allows us to directly compare the effects of self-employment spells to spells of unemployment.

While a number of previous studies examine the consequences of job loss⁸ the inclusion of this analysis in our study has a number of advantages. First, we include estimates of the effects of unemployment spells primarily as a “benchmark” for comparison with the effects of short self-employment spells. Unlike previous estimates, our estimates of the effects of unemployment spells are directly comparable to those of self-employment spells. Both the data file from which our sample is drawn and the estimation strategy employed are the same. Second, while not ideal for this purpose we believe that the inclusion of such estimates in our analysis provides useful insights into the likely success of programs like the SEA. Studies that examine the effects of job loss primarily focus on displaced workers. However, programs such as the SEA target all unemployed individuals who are eligible to collect unemployment insurance. Our comparison sample resembles this group more closely than previous analyses.

3. Data and Descriptive Analysis

The data for this study are drawn from the Panel Study of Income Dynamics (PSID). The PSID began in 1968 with a representative random sample of 4,800 American households, and similar surveys have been fielded every year since.⁹ New respondents have been brought into

the sample over time as members of the original households have formed new households of their own. As of 1997, the PSID included data on over 60,000 individuals. The longitudinal nature of the PSID provides numerous opportunities for examining the long-term effects of self-employment experience.

Our focus in this study is on PSID household heads and their spouses, as information on self-employment status (in addition to other key variables) is only available for these individuals. Workers are considered to be self-employed on the basis of responses to a basic survey question regarding who they primarily work for: someone else, themselves, or both.¹⁰ The latter two categories are included in our definition of self-employment, but less than one percent of each year's workers report working for both themselves and someone else. In terms of further restrictions on the sample, we only include responses from full-time workers who are between the ages of 18 and 65 and are not retired, disabled, enrolled in school, or living outside the US at the time of the survey.¹¹

We focus on full-time workers who are neither self-employed nor unemployed in a specified initial year of the panel (ranging from 1979 to 1985). We then examine average hourly earnings among those who are also full-time wage workers¹² five years later (ranging from 1984 to 1990) to measure the impact of brief self-employment and unemployment experience between the two endpoints. The time period examined here spans the economic expansion of the 1980s and maximizes the potential for entrepreneurial activity and earnings growth. We examine the robustness of our findings by using longer time windows in the analysis that follows.

Table 1 presents the percentages of those who were wage-employed in both endpoints who: (a) never experienced a spell of self-employment nor unemployment within a five-year window (Never Self-Employed or Unemployed), (b) entered self-employment and then exited

within the window (Ever Self-Employed), and for comparison (c) entered unemployment and then exited (Ever Unemployed).¹³ While most wage workers never experienced short-term self-employment, a significant percentage did. In fact, between approximately 4 and 9 percent of males and between 2 and 3 percent of females who were wage-employed in either endpoint were self-employed in at least one of the intermediate years. Of course, since our focus is on the wage consequences of brief self-employment experience, we do not consider those who were initially self-employed or those who entered and never exited. Table 1 also shows that a significant percentage of those who were wage-employed in either endpoint experienced a brief spell of unemployment.

Table 2 provides some additional detail about the self-employment experiences of these workers. Of those with at least one year of self-employment experience in the intermediate years, most are self-employed for only one year. About two-thirds to three-quarters of men's and as high as 100 percent of women's self-employment experiences ended in the first year. Smaller percentages (typically less than a third) are self-employed for only two years, and very few are self-employed for more than two years. Again, recall that we do not consider all self-employment spells in the PSID, merely those that were experienced by workers that were not self-employed in either endpoint.

Turning to Table 3, we present some prima facie evidence of the relationship between self-employment experience and average hourly earnings in the wage sector after leaving. Table 3 provides nominal average hourly earnings at the endpoint of the five year windows for individuals in our sample who were "never self-employed or unemployed" and compares these to the "ever self-employed" and "ever unemployed" individuals. In all but two of the five-year windows for both men and women average hourly earnings of the group with self-employment

experience are lower than those who were never self-employed or unemployed. In addition, in those cases where the ending-year means of the ever self-employed group are statistically different at the five-percent level from the wage-employed, average hourly earnings were lower for the group who were self-employed between the endpoints. It should be noted, however, that the means are not statistically different for many of the five-year windows. Further, when compared to the raw hourly earnings of those who experienced a brief unemployment spell these differences appear to be small. In all but one case (males 1979-1984) earnings of the ever unemployed are lower than the ever self-employed. In addition, the difference between the means of the never (self-employed or) unemployed and ever unemployed are statistically significant more often than the ever self-employed comparison.

To be sure, there are a multitude of selection issues that must be dealt with if one is to interpret causal relationships between self-employment spells and hourly earnings. Those who enter self-employment and subsequently exit within a few years might be those least likely to earn higher wages upon a return to the wage-and-salary sector. The decision to enter self-employment is also likely to differ from the decision to enter and then exit. While we address the potential endogeneity associated with entry into self-employment in the multivariate strategy below, the possible selection bias resulting from exit decisions is left for future research. Clearly, selection is also an issue for those who enter and then leave unemployment. We also attempt to address the potential endogeneity associated with entry into unemployment.

4. Multivariate Empirical Strategy

To investigate the independent effect of brief self-employment experience on wage earnings more completely, we estimate ordinary least squares (OLS) regressions of the log of the

worker's average hourly earnings at the end of a five-year period on measures of self-employment and unemployment experience controlling for a number of individual, household, and occupational characteristics defined at the beginning of the period. The self-employment and unemployment experience measures are equal to the number of years (from one to four) in which the worker reports being self-employed (unemployed) between, but not including, the two endpoints.¹⁴ Because years of self-employment, unemployment and wage employment experience are perfectly collinear we interpret the effects of self-employment and unemployment experience as departures from wage and salary experience.

Our list of controls regarding the initial-period job includes a quadratic specification of the worker's *Tenure* (in months), an indicator for *Union* membership, and the local area (county) *Unemployment Rate*. Individual characteristics include a series of education indicators (*High School Dropout*, *Some College*, and *College Graduate*), an indicator for *Nonwhite* race, and a quadratic specification for the worker's *Age*. Household characteristics consist of an indicator for whether the worker is *Married* (with spouse present), the *Number of Kids* under age 18 living in the household, and the household's *Capital Income* (in \$1,000s). Also included are dummy variables for residence in a metropolitan statistical area (*MSA*) and region of residence (*Northeast*, *South*, and *West*). Reference categories are high school graduate and north-central residence.

In an attempt to control for the potential endogeneity associated with self-employment and unemployment experience, in separate regressions, we add the log of hourly wage sector earnings *recorded at the start of the five year period* as an independent variable.¹⁵ Workers who become self-employed for a brief period of time might do so as a result of lower earnings capacity in the wage sector, and may therefore have lower post-self-employment wage sector

earnings regardless of any self-employment activity. A similar argument can also be made for workers who become unemployed. By including the log of hourly earnings in wage employment from the beginning of each of the five year windows we capture time invariant unobserved individual heterogeneity associated with differences in productivity.¹⁶

Tables 4A and 4B report summary statistics for the regression samples. We leave a detailed inspection of these tables to the reader and highlight only a few key elements. Turning first to the males (Table 4A), the average worker in our sample was self-employed for about one-tenth of a year in each window, while the average number of years unemployed tended to be slightly shorter. Most of the remaining characteristics are fairly stable across time. Job tenure seems to increase rather dramatically as of the 1981-1986 period, perhaps as a result of a variable redefinition in the PSID. The local unemployment rate rises at first and then falls slightly, mirroring the general economic conditions during this time period. The summary statistics for the female workers (Table 4B) are similar in many ways, but women tend to have had fewer years in self-employment than men during the various five-year windows and their job tenure increases gradually over time. MSA residence tends to fall over time for both men and women.

5. Regression Results

Tables 5A and 5B present parameter estimates for males and females, respectively. The tables include regression results for a model that controls for unobserved heterogeneity (even numbered columns) and for comparison a model that does not include the log of hourly earnings at the start of each period (odd numbered columns). Focusing first on Table 5A and the odd numbered columns (no controls for endogeneity), we find that self-employment experience is generally associated with reduced earnings upon return to the wage-and-salary sector for males.

The one notable exception is a positive but statistically insignificant estimated effect in the 1981-1986 period. For periods in which the estimated relative returns to previous self-employment experience are negative, an additional year of self-employment experience reduces the post-self-employment wage by between 3.0 and 15.6 percent compared to a year of continued wage employment. In comparison, an additional year of unemployment is generally associated with negative relative wage returns that are larger in magnitude than years of self-employment. These differences are statistically significant in all but the 1979-1984 time period. For these men an additional year of unemployment is associated with a wage reduction of 8.2 to 55.7 percent upon return to full-time employment relative to a year of continued wage employment. As noted above selection may account for the rather large negative effects estimated here.

In fact, the results presented in the even numbered columns of Table 5A suggest that men in our samples “negatively select” into both self-employment and unemployment. In all cases where the relative returns to self-employment and unemployment are negative, the magnitudes of the effects are considerably smaller once we control for unobserved heterogeneity. The estimates of the relative wage loss from an additional year of self-employment experience in the even number columns range from 2.8 to 10.8 percent. This suggests that men who select into self-employment and unemployment have unobserved characteristics that are associated with poorer wage sector outcomes than those who remain in the wage sector. Even after accounting for differences in time invariant unobserved heterogeneity, however, experience in self-employment still has a smaller negative effect than unemployment experience for men. In this case, however, these differences are statistically significant in slightly fewer of the time periods.¹⁷

While there are several important differences these general findings also hold for the

females in our sample (Table 5B). For women in our sample the point estimates on years of self-employment experience are negative in all but the 1983-1988 time period. However, likely because of the small sample sizes and a low incidence of self-employment among women, these point estimates are only statistically significantly different from zero in the 1980-1985 time period. Much like the results for men, the coefficients on years of unemployment experience are more consistently negative and statistically significant. These negative returns to unemployment experience also appear to be bigger in magnitude¹⁸ than the negative returns to self-employment (though only statistically significantly different in the 1983-1988 window). Finally, comparing the even to odd numbered columns in Table 5B it appears that, unlike men, women do not negatively select into self-employment but, like men, there is evidence of negative selection into unemployment.

Coefficients on the remaining variables in Tables 5A and 5B are largely consistent with earlier findings in the labor economics literature and do not warrant lengthy attention here. To summarize briefly, wages tend to be higher for those with more tenure on the initial job and more education as of the initial year. Age exerts the expected hill-shaped effect on wages, and members of nonwhite races have lower wages. Residence in an MSA tends to increase average hourly earnings.

6. Robustness Checks

Our first robustness check considers the effect of self-employment experience on wage-sector earnings over a longer time period. We present two sets of results for ten-year windows in Table 6: 1979-1989 and 1980-1990. This analysis has the advantage of allowing for longer spells in self-employment. However, one disadvantage is that we give up some precision in

measuring many of the other exogenous variables in our model. Recall that we measure characteristics at the initial period. By expanding the window we increase the probability that some of these characteristics have changed by the end of the period examined. Table 6 includes only coefficients and standard errors for the “Years Self-Employed” and “Years Unemployed” variables. For men in our sample, the results in Table 6 reveal similar patterns to our baseline findings. If anything, the magnitude of the relative negative wage returns to years of self-employment appear to be somewhat smaller. Nonetheless, brief self-employment experience is found to reduce average hourly earnings upon return to the wage sector relative to a continued spell in wage employment for men. However, the negative consequences associated with self-employment experience appear to be small relative to the effects of spells of unemployment. For women in our sample, the results are mixed. The relative effect of years of self-employment is essentially zero in the 1979-1989 period but is negative and large relative to the effects of unemployment in the 1980-1990 window. This inconsistency with previous results is likely due to the further reduction in sample sizes and the loss of precision in measuring exogenous variables.

Finally to improve our estimates of the effects of self-employment experience on wages we consider the possibility that those who have brief self-employment experience should actually be compared to those who remain in the wage sector but who also experience at least one job change during the five-year window. To investigate this, we identify wage job changers in the PSID by comparing annual three-digit occupation codes and omit workers who have the same wage occupation throughout the five-year window. Results in Table 7 are similar to our baseline results in Tables 5A and 5B, with the exception that fewer of the point estimates are statistically significantly different from zero at the five-percent level. The general conclusion that brief self-

employment experience does not increase post-self-employment average hourly earnings continues to hold, regardless of whether the comparison group includes those who do not change wage jobs during the period of analysis.¹⁹ These results do, however, suggest that the returns to self-employment experience are likely closer to zero than our earlier results may have suggested.

7. Other Potential Consequences

To this point, we have restricted our attention to the wage consequences of self-employment experience for workers who return to full-time employment by the end of each of the five-year windows. However, there are potentially other labor market consequences associated with short self-employment spells. For instance, it may be difficult for those workers who fail at self-employment to subsequently find wage employment. In addition, those who do re-enter the wage sector might only be able to find part-time employment. We examine these potential consequences in this section.

For consistency, we focus on individuals who are full-time wage employed at the beginning of each of the five year windows and who are not self-employed at the end. Looking only at those who are wage employed at the end point we examine what effect *any* self-employment experience has on the probability of part-time employment. The upper portion of Table 8 provides raw part-time employment rates among this group. We compare all individuals in our sample to those with any self-employment experience between the end points and to those who had any unemployment experience. In almost all cases the part-time employment rates of men and women who experienced a short spell of self-employment are higher than the average of the sample. However, the part-time employment rates of those with self-employment experience are substantially lower than the group of workers who experienced unemployment in

all periods for men and somewhat lower in many of the periods for women.

In Table 8 we also look at the effects of self-employment on unemployment. The lower portion of Table 8 gives end period unemployment rates for workers who are labor force participants at the end of each of the periods by employment experience. Because the incidence of unemployment in any given year is rare the percentages are not as uniform across periods. In most cases the unemployment rates of the ever self-employed groups are somewhat larger than those for all individuals in the sample. However, as we might expect, unemployment rates of the ever unemployed do tend to be larger despite these sample considerations.

To investigate these possible consequences more carefully we estimate linear probability models of end-period part-time employment status and unemployment status by OLS²⁰, separately for men and women. Along with the list of controls regarding the initial-period characteristics from the previous analysis (including the log of wages, our proxy variable for productivity) we include an indicator variable which is set equal to one if the individual had any self-employment experience between the end points of the five-year window.²¹ Again for comparison, an indicator variable for unemployment experience is also included as a regressor. Table 9 contains the coefficient estimates and heteroskedasticity corrected standard errors for the self-employment and unemployment experience indicator variables. The results for males (upper portion of table) are consistent with the raw data. Previous self-employment experience appears to have a small positive effect on the probability of part-time employment and unemployment at the end point. In almost all cases the effect is not statistically significant. These results contrast with the relatively large positive effects of unemployment experience on the probability of subsequent part-time employment and unemployment found using the same sample.²² Likely due to small sample sizes the results for women are much less consistent across periods.

However, the table provides some evidence that self-employment experience is associated with an increased probability of subsequent part-time employment and unemployment. Again, however, the coefficient on any unemployment experience is more frequently positive and significant.

8. Conclusions

In theory, prior self-employment experience has the potential to either improve or worsen (or have no effect on) labor market outcomes for workers who eventually return to the wage sector. Using regressions of average hourly earnings on a variety of control variables including controls for time invariant unobserved heterogeneity, we find no empirical evidence that short self-employment experiences increase wages relative to continued wage employment for men or women. If any nonzero impact can be discerned from these data, it is that (compared to wage employment) an additional year of self-employment might actually reduce post-self-employment earnings in the wage sector by anywhere from 3 to 11 percent for men. These results contrast with the results of previous research by Williams (2000) who found the returns to self-employment to be positive and equal to the returns to wage employment for men and positive but less than the returns to wage employment for women. These differences may be due, in part, to the differences in the age distribution of the sample used in that study which was much younger and less representative of the overall population than our sample.

Unlike previous research, we also examine the effect of short self-employment spells on future employment prospects. In particular, we estimate the effect that self-employment experience has on the probabilities of subsequent part-time employment and unemployment. We find that, relative to wage sector experience, self-employment experience does not improve and

may diminish subsequent employment outcomes. It appears that a short spell of self-employment may increase the probability of unemployment by anywhere from 3 to 10 percent, and part-time employment by 10 to 30 percent. These results provide useful information in terms of evaluating the potential costs and benefits of public policies that support small business formation. On the surface, efforts to increase entrepreneurial activity may have unintended consequences in the form of lower employment probabilities, higher part-time employment probabilities, and lower earnings upon an eventual return to the wage sector.

Additionally, throughout our analysis we compare the labor market effects of spells of self-employment to the effects of spells in unemployment, in part to shed light on the likely effectiveness of recent Self-Employment Assistance programs focused on preventing unemployment spells. We find that the negative labor market consequences associated with unemployment spells in most of the five year windows examined are more severe than those associated with self-employment. Specifically, unemployment experience increases the probability of subsequent part-time employment by 14 to 40 percent, and of subsequent unemployment by 6 to 25 percent. To the extent that our analysis captures the underlying wage and employment effects of self-employment and unemployment, these results suggest that certain benefits may arise from programs that promote self-employment as an alternative to unemployment.

Several caveats are in order, however. First, we have not fully addressed the issue of selection out of self-employment or unemployment. This may bias our estimates of the returns to self-employment if those who enter but do not leave self-employment within our period of analysis are those who would have had higher wages upon returning to the wage sector. Further, selection out of the self and unemployment states may differ systematically resulting in our

finding of larger negative consequences to unemployment. This would be the case, for example, if individuals who are self-employed have higher reservation wages for wage sector reemployment than those who are unemployed. Second, our choice of time periods, while based on concerns of business cycles and tax changes, may be somewhat arbitrary. It could be the case that the labor market effects of self-employment and unemployment are quite different during other periods of time, especially for a window of time that spans a recession. Finally, despite accounting for wage and employment consequences, we are not able to assess nonpecuniary costs of self-employment experience such as the loss of fringe benefits.

Despite all of this, we believe that our results bring to the forefront new issues for consideration in the evaluation of the likely “effect” of various self-employment assistance programs. Our results suggest that the effectiveness of such programs depends to a great deal on which sector of the labor market workers are being attracted from to become entrepreneurs. Generally, we find that workers who remain in wage sector jobs do better in terms of wage outcomes than those who experience brief spells of self-employment but that those with spells of unemployment fare even worse than those with spells of self-employment. Thus, in evaluating programs aimed at promoting self-employment among the wage employed, such as those that provide start-up grants or general tax breaks, policy makers must weigh the possible deleterious effects of spells in self-employment on wages against the possible positive aspects of such policies. On the other hand, these results suggest that an evaluation of programs that promote self-employment among the unemployed should account not only for the promise of reducing public assistance rolls and creating new jobs but also for the fact that (compared to unemployment) self-employment may provide workers with an opportunity to maintain human capital in cases where wage sector employment is not an option.

Endnotes

¹ For an exhaustive review of some recent attempts in the US, see Vroman (1997).

² See Holtz-Eakin (1995) for a detailed discussion of federal tax preferences for small businesses.

³ Information provided on the Small Business Administration web page: <http://www.sba.gov/>.

⁴ See Williams (2000) for an excellent discussion of these possibilities.

⁵ Holtz-Eakin, Rosen, and Weathers (2000) are the most recent of a number of authors to examine the overall earnings effects of self-employment. They show that low-income self-employed workers are more likely to move up the income distribution, but that higher-income entrepreneurs did not necessarily enjoy similar success in terms of mobility. Again, their analysis focuses on the overall returns to self-employment and does not isolate the experiences of those who return to the wage sector.

⁶ See page 529 of their study.

⁷ See, for example, Fuchs (1982).

⁸ See Farber (2001) for a review of the recent literature and recent estimates of the consequences of job loss.

⁹ For additional information on the PSID, see <http://www.isr.umich.edu/src/psid/index.html>.

¹⁰ Like many earlier studies in this area, our use of annual PSID survey data restricts us to using single point-in-time observations on employment status.

¹¹ A small number of observations were dropped from the sample because of unusually high hourly wages (those with wages in excess of \$300).

¹² By restricting the sample to those workers who return to full-time employment there is the potential for exacerbating selection bias pertaining to self-employment exit. Those who leave self-employment for “good” wage employment opportunities may be overrepresented in our sample. However, as we show in section 7, self-employment experience has little effect on

subsequent part-time and unemployment probabilities. In any case including part-time employees at the end of each of the periods has little effect on the results.

¹³ It should be noted that the rows in Table 1 do not necessarily sum to 100 percent, because of possible overlap between the Ever Self-Employed and Ever Unemployed categories.

¹⁴ A formal empirical evaluation of self-employment assistance programs which target the unemployed would focus only on transitions from unemployment to self-employment. Such a strategy would restrict us to prohibitively small sample sizes, however, so we consider any short-term self-employment experience between the endpoints.

¹⁵ Because it was important to control for variables that do not change over time we chose not to pool the data and use a fixed effects model in estimation. A wage growth model was also rejected in favor of the described specification because of the unappealing restriction on the rate of return to time invariant individual specific skills (the coefficient on lagged wage is restricted to equal one in the wage growth model.) Changes in the rate of return to skills over the period examined in the US are well documented (see, for example, Katz and Murphy 1992).

¹⁶ Our measure of unobserved productivity may be biased if spells of self-employment (unemployment) within our five year periods are associated with previous spells of self-employment (unemployment). In such a case wages at the beginning of the period will also reflect previous self-employment or unemployment experience. However, we experimented with an IV strategy to control for endogeneity associated with entry into self-employment and the effects of self-employment experience were similar to those presented here.

¹⁷ In addition to the 1984-1989 time period, when we control for heterogeneity the difference between the returns to self and unemployment is statistically insignificant in the 1979-1984 and 1983-1988 periods as well.

¹⁸ These effects are somewhat larger than those estimated for displaced workers over the same period in Farber (2001). These differences are likely due to differences in samples, as previously discussed, and in period length (Farber examines three-year windows compared to our five-year windows).

¹⁹ We also explored the use of tenure data in the PSID, identifying wage job changers as those whose tenure on the current job was ever less than 12 months during each five-year window. While this cost us a substantial reduction in sample sizes, results were largely similar to those in Table 8.

²⁰ We chose the linear probability model over logit or probit for ease in interpreting the coefficients. We adjust the standard errors for the heteroskedasticity that is inherent in the model using White's (1980) estimator. In any case, we experimented using probit and in those cases found qualitatively similar results.

²¹ Our choice of binary indicators for self-employment and unemployment experience in this part of the analysis is made for convenience of interpretation, as well as the fact that experimentation with more continuous measures as in our log wage regressions yield qualitatively identical results.

²² The coefficients on the unemployment experience indicators are statistically different from those on self-employment experience in all periods except the 1984-1989 period.

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Table 1: Non-Wage Experience Between Wage-Employment Years

Years	Males			Females		
	Never Self-Employed or Unemployed	Ever Self-Employed	Ever Unemployed	Never Self-Employed or Unemployed	Ever Self-Employed	Ever Unemployed
1979-1984	88.85%	8.33%	3.52%	91.61%	3.50%	5.24%
1980-1985	86.61%	8.75%	5.51%	93.07%	2.97%	3.96%
1981-1986	86.36%	8.04%	6.46%	92.70%	2.92%	4.38%
1982-1987	89.31%	6.32%	5.23%	93.59%	2.62%	4.08%
1983-1988	91.30%	5.22%	3.98%	92.28%	2.20%	2.52%
1984-1989	91.17%	3.80%	5.81%	93.56%	1.96%	4.48%
1985-1990	89.46%	5.33%	5.67%	93.94%	2.42%	3.64%

Note: Entries are percentages of those who were wage-employed in either endpoint in the “Years” column.

Source: Authors’ calculations using the Panel Study of Income Dynamics.

Table 2: Detailed Self-Employment Experience Between Wage-Employment Years

Years	Years of Self-Employment Experience							
	Males				Females			
	1	2	3	4	1	2	3	4
1979-1984	73.24%	19.72%	5.63%	1.41%	90.00%	0.00%	10.00%	0.00%
1980-1985	67.90%	18.52%	12.35%	1.23%	88.89%	11.11%	0.00%	0.00%
1981-1986	57.58%	29.24%	15.15%	3.03%	75.00%	25.00%	0.00%	0.00%
1982-1987	70.69%	29.14%	3.45%	1.72%	55.56%	44.44%	0.00%	0.00%
1983-1988	71.43%	14.29%	9.52%	4.76%	57.14%	28.57%	14.29%	0.00%
1984-1989	70.59%	20.59%	8.82%	0.00%	71.43%	28.57%	0.00%	0.00%
1985-1990	76.60%	10.64%	12.77%	0.00%	100%	0.00%	0.00%	0.00%

Note: Entries are percentages of those who had self-employment experience between the endpoints in the “Years” Column, but were wage-employed in either endpoint.

Source: Authors’ calculations using the Panel Study of Income Dynamics.

Table 3: Average Hourly Earnings by Self-Employment Experience

Years	Males			Females		
	Never Self-Employed or Unemployed	Ever Self-Employed	Ever Unemployed	Never Self-Employed or Unemployed	Ever Self-Employed	Ever Unemployed
1979-1984	14.03	15.35	16.35	9.55	8.32	6.74
1980-1985	14.19	13.19	7.25	9.98	8.90	7.22
1981-1986	15.08	16.20	9.18	10.17	9.14	6.29
1982-1987	16.24	12.35	9.56	10.82	8.33	6.85
1983-1988	16.79	14.36	10.79	12.20	10.37	7.14
1984-1989	17.22	13.51	13.08	12.41	11.35	9.67
1985-1990	17.32	16.66	15.95	12.77	9.79	8.31

Note: Entries are average hourly earnings as of the endpoint in the “Years” column for those who were full-time wage employed at either endpoint. The columns are defined on the basis of labor market experience between the endpoints.

Bold type indicates that the means are statistically different than the wage employed at the 5% significance level.

Source: Authors’ calculations using the Panel Study of Income Dynamics.

Table 4A: Regression Sample Summary Statistics – Males

Variable	1979-1984		1980-1985		1981-1986		1982-1987		1983-1988		1984-1989		1985-1990	
Ln(Wage)	2.514	(0.508)	2.477	(0.602)	2.544	(0.574)	2.620	(0.531)	2.650	(0.577)	2.679	(0.557)	2.682	(0.571)
Years Self-Employed	0.113	(0.419)	0.129	(0.472)	0.132	(0.506)	0.086	(0.368)	0.077	(0.382)	0.053	(0.293)	0.073	(0.346)
Years Unemployed	0.039	(0.216)	0.062	(0.266)	0.079	(0.327)	0.059	(0.262)	0.043	(0.222)	0.064	(0.270)	0.067	(0.292)
Tenure	70.923	(77.463)	71.531	(78.506)	101.609	(94.038)	103.946	(93.731)	102.353	(91.948)	103.025	(92.161)	101.900	(89.453)
Union	0.268	(0.443)	0.280	(0.449)	0.258	(0.438)	0.234	(0.424)	0.210	(0.408)	0.204	(0.404)	0.205	(0.404)
Age	35.796	(10.409)	35.320	(9.942)	35.619	(9.959)	35.618	(9.639)	35.978	(9.692)	35.393	(9.087)	35.440	(8.952)
High School Dropout	0.170	(0.376)	0.159	(0.366)	0.150	(0.357)	0.129	(0.335)	0.125	(0.331)	0.124	(0.330)	0.096	(0.295)
Some College	0.202	(0.402)	0.203	(0.402)	0.205	(0.404)	0.205	(0.404)	0.230	(0.421)	0.209	(0.407)	0.214	(0.411)
College Graduate	0.258	(0.438)	0.246	(0.431)	0.264	(0.441)	0.287	(0.453)	0.184	(0.388)	0.166	(0.373)	0.190	(0.393)
Married	0.892	(0.311)	0.887	(0.317)	0.876	(0.330)	0.881	(0.324)	0.877	(0.329)	0.893	(0.310)	0.876	(0.329)
Number of Kids	1.190	(1.189)	1.262	(1.193)	1.217	(1.192)	1.214	(1.155)	1.221	(1.169)	1.265	(1.184)	1.265	(1.183)
Unemployment Rate	5.276	(2.010)	6.975	(2.268)	7.390	(2.608)	9.566	(3.423)	7.948	(2.842)	6.892	(3.220)	6.447	(2.624)
MSA	0.646	(0.479)	0.648	(0.478)	0.635	(0.482)	0.653	(0.476)	0.503	(0.500)	0.531	(0.499)	0.492	(0.500)
Capital Income/1000	0.588	(2.736)	0.855	(3.144)	0.896	(2.648)	1.024	(2.519)	1.178	(3.630)	1.101	(2.748)	1.007	(2.828)
Northeast	0.178	(0.383)	0.166	(0.373)	0.210	(0.407)	0.190	(0.392)	0.180	(0.385)	0.204	(0.404)	0.215	(0.411)
South	0.322	(0.467)	0.328	(0.470)	0.256	(0.437)	0.323	(0.468)	0.358	(0.480)	0.342	(0.475)	0.371	(0.483)
West	0.156	(0.363)	0.160	(0.367)	0.192	(0.394)	0.169	(0.375)	0.176	(0.381)	0.152	(0.359)	0.102	(0.303)
Nonwhite	0.080	(0.271)	0.081	(0.273)	0.078	(0.268)	0.074	(0.262)	0.084	(0.278)	0.072	(0.258)	0.062	(0.242)
N	852		926		821		917		805		895		882	

Note: Entries are sample means with standard deviations in parentheses, where the yearly samples are defined to be the same as those used for the baseline results in Table 5. All variables are defined as of the initial endpoint, with the exception of “Years Self-Employed” and “Years Unemployed” which are measured between the endpoints.

Source: Authors’ calculations using the Panel Study of Income Dynamics.

Table 4B: Regression Sample Summary Statistics – Females

Variable	1979-1984		1980-1985		1981-1986		1982-1987		1983-1988		1984-1989		1985-1990	
Ln(Wage)	2.132	(0.486)	2.167	(0.519)	2.147	(0.578)	2.219	(0.534)	2.326	(0.530)	2.378	(0.529)	2.383	(0.554)
Years Self-Employed	0.042	(0.248)	0.033	(0.197)	0.036	(0.223)	0.038	(0.245)	0.035	(0.255)	0.025	(0.189)	0.024	(0.154)
Years Unemployed	0.052	(0.223)	0.050	(0.259)	0.047	(0.230)	0.047	(0.249)	0.025	(0.157)	0.050	(0.243)	0.039	(0.210)
Tenure	55.703	(57.414)	55.769	(57.954)	74.821	(73.222)	72.064	(66.152)	75.252	(66.764)	78.126	(66.818)	78.130	(68.629)
Union	0.122	(0.328)	0.122	(0.328)	0.109	(0.313)	0.125	(0.332)	0.129	(0.336)	0.104	(0.305)	0.112	(0.316)
Age	36.115	(10.617)	35.248	(10.444)	36.493	(10.747)	35.510	(10.108)	36.255	(9.651)	35.796	(9.739)	35.855	(9.222)
High School Dropout	0.157	(0.365)	0.122	(0.328)	0.128	(0.334)	0.122	(0.328)	0.119	(0.325)	0.120	(0.326)	0.067	(0.250)
Some College	0.203	(0.403)	0.198	(0.399)	0.204	(0.404)	0.230	(0.422)	0.239	(0.427)	0.221	(0.416)	0.242	(0.429)
College Graduate	0.154	(0.361)	0.172	(0.378)	0.153	(0.361)	0.163	(0.370)	0.104	(0.305)	0.115	(0.319)	0.145	(0.353)
Married	0.629	(0.484)	0.640	(0.481)	0.606	(0.490)	0.638	(0.481)	0.689	(0.464)	0.686	(0.465)	0.673	(0.470)
Number of Kids	0.881	(1.073)	0.746	(1.002)	0.803	(1.012)	0.808	(0.935)	0.921	(1.058)	0.860	(1.053)	0.870	(1.074)
Unemployment Rate	5.281	(1.884)	6.625	(2.118)	6.993	(2.298)	9.041	(3.308)	7.893	(2.828)	6.779	(3.283)	6.367	(2.364)
MSA	0.720	(0.450)	0.762	(0.426)	0.686	(0.465)	0.720	(0.450)	0.579	(0.495)	0.566	(0.496)	0.530	(0.500)
Capital Income/1000	0.629	(3.824)	0.866	(4.076)	0.663	(2.593)	0.942	(3.133)	1.055	(8.683)	1.016	(3.151)	0.987	(2.579)
Northeast	0.171	(0.377)	0.162	(0.369)	0.201	(0.401)	0.178	(0.383)	0.170	(0.376)	0.176	(0.382)	0.179	(0.384)
South	0.364	(0.482)	0.356	(0.480)	0.318	(0.466)	0.370	(0.484)	0.415	(0.494)	0.412	(0.493)	0.442	(0.497)
West	0.210	(0.408)	0.228	(0.420)	0.215	(0.412)	0.195	(0.397)	0.230	(0.421)	0.188	(0.391)	0.112	(0.316)
Nonwhite	0.119	(0.324)	0.116	(0.320)	0.117	(0.322)	0.117	(0.321)	0.132	(0.339)	0.115	(0.319)	0.085	(0.279)
N	286		303		274		343		318		357		330	

Note: Entries are sample means with standard deviations in parentheses, where the yearly samples are defined to be the same as those used for the baseline results in Table 5. All variables are defined as of the initial endpoint, with the exception of “Years Self-Employed” and “Years Unemployed” which are measured between the endpoints.

Source: Authors’ calculations using the Panel Study of Income Dynamics.

Table 5A: Log-Wage Estimates – Males

Variable	1979-1984		1980-1985		1981-1986		1982-1987		1983-1988		1984-1989		1985-1990	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Years Self-Employed	-0.070 (0.036)	-0.052 (0.030)	-0.116 (0.036)	-0.085 (0.031)	0.023 (0.032)	0.036 (0.028)	-0.156 (0.039)	-0.096 (0.032)	-0.030 (0.047)	-0.028 (0.040)	-0.120 (0.055)	-0.088 (0.046)	-0.131 (0.048)	-0.108 (0.039)
Years Unemployed	-0.082 (0.070)	-0.020 (0.058)	-0.557 (0.065)	-0.474 (0.056)	-0.304 (0.051)	-0.154 (0.045)	-0.364 (0.056)	-0.210 (0.046)	-0.240 (0.082)	-0.067 (0.070)	-0.193 (0.061)	-0.153 (0.050)	-0.243 (0.058)	-0.155 (0.047)
Ln(Wage Start Year)	---	0.632 (0.033)	---	0.691 (0.039)	---	0.571 (0.036)	---	0.627 (0.029)	---	0.594 (0.034)	---	0.630 (0.031)	---	0.709 (0.034)
Tenure	0.000 (0.001)	0.001 (0.001)	0.000 (0.001)	-0.001 (0.001)	0.001 (0.001)	0.000 (0.000)	0.001 (0.000)	-0.001 (0.000)	0.003 (0.001)	0.002 (0.001)	0.001 (0.001)	-0.001 (0.000)	0.001 (0.001)	0.000 (0.000)
Tenure-squared/1000	0.001 (0.002)	0.001 (0.001)	0.001 (0.002)	0.003 (0.002)	0.002 (0.002)	0.003 (0.001)	0.001 (0.001)	0.002 (0.001)	-0.005 (0.002)	-0.005 (0.002)	0.001 (0.002)	0.002 (0.001)	0.001 (0.002)	0.000 (0.001)
Union	0.113 (0.036)	0.019 (0.030)	0.115 (0.040)	0.039 (0.035)	0.124 (0.039)	0.035 (0.035)	0.051 (0.036)	0.007 (0.029)	0.002 (0.045)	-0.060 (0.039)	0.025 (0.042)	-0.039 (0.035)	0.032 (0.044)	-0.050 (0.036)
Age	0.047 (0.013)	0.019 (0.011)	0.060 (0.016)	0.026 (0.014)	0.061 (0.015)	0.022 (0.013)	0.065 (0.013)	0.021 (0.011)	0.061 (0.017)	0.019 (0.014)	0.075 (0.016)	0.028 (0.013)	0.061 (0.016)	0.010 (0.013)
Age-squared/100	-0.056 (0.017)	-0.025 (0.014)	-0.074 (0.020)	0.037 (0.017)	-0.082 (0.019)	-0.036 (0.017)	-0.082 (0.017)	-0.031 (0.014)	-0.075 (0.021)	-0.030 (0.018)	-0.092 (0.020)	-0.037 (0.017)	-0.074 (0.021)	-0.016 (0.017)
High School Dropout	-0.184 (0.045)	-0.065 (0.038)	-0.155 (0.052)	-0.020 (0.046)	-0.188 (0.051)	-0.123 (0.044)	-0.232 (0.047)	-0.119 (0.039)	-0.298 (0.059)	-0.153 (0.050)	-0.285 (0.052)	-0.117 (0.044)	-0.364 (0.060)	-0.182 (0.050)
Some College	0.144 (0.042)	0.049 (0.035)	0.131 (0.048)	0.037 (0.041)	0.188 (0.046)	0.085 (0.040)	0.080 (0.040)	-0.020 (0.033)	-0.010 (0.046)	0.014 (0.039)	0.083 (0.042)	0.033 (0.035)	0.042 (0.043)	0.004 (0.035)
College Graduate	0.376 (0.041)	0.182 (0.036)	0.419 (0.048)	0.201 (0.043)	0.415 (0.045)	0.210 (0.041)	0.351 (0.038)	0.147 (0.033)	0.233 (0.051)	0.126 (0.044)	0.296 (0.047)	0.157 (0.040)	0.229 (0.046)	0.064 (0.038)
Married	0.058 (0.051)	-0.012 (0.043)	0.061 (0.059)	-0.028 (0.051)	0.045 (0.053)	-0.020 (0.047)	0.102 (0.059)	0.014 (0.039)	0.117 (0.059)	0.109 (0.050)	0.006 (0.056)	-0.012 (0.047)	0.055 (0.056)	0.061 (0.045)
Number of Kids	0.008 (0.015)	0.006 (0.012)	0.013 (0.017)	0.008 (0.014)	-0.022 (0.016)	-0.006 (0.014)	-0.006 (0.014)	0.006 (0.012)	-0.021 (0.018)	-0.030 (0.016)	-0.027 (0.016)	-0.025 (0.013)	-0.011 (0.017)	-0.015 (0.014)
Unemployment Rate	-0.007 (0.008)	-0.005 (0.007)	0.002 (0.008)	0.006 (0.007)	-0.007 (0.006)	-0.008 (0.005)	-0.001 (0.004)	0.004 (0.003)	-0.012 (0.006)	-0.004 (0.005)	-0.005 (0.005)	0.003 (0.004)	-0.012 (0.007)	0.000 (0.005)
MSA	0.183 (0.032)	0.080 (0.027)	0.141 (0.037)	0.055 (0.032)	0.195 (0.035)	0.103 (0.031)	0.176 (0.031)	0.087 (0.025)	0.142 (0.037)	0.059 (0.032)	0.184 (0.034)	0.099 (0.028)	0.189 (0.034)	0.090 (0.028)
Capital Income/1000	0.024 (0.006)	0.009 (0.005)	0.015 (0.006)	0.007 (0.005)	0.018 (0.006)	0.007 (0.006)	0.024 (0.006)	0.011 (0.005)	0.021 (0.005)	0.012 (0.004)	0.025 (0.006)	0.010 (0.005)	0.036 (0.006)	0.016 (0.005)
Nonwhite	-0.180 (0.055)	-0.105 (0.046)	-0.140 (0.065)	-0.055 (0.056)	-0.257 (0.063)	-0.144 (0.055)	-0.109 (0.056)	-0.057 (0.046)	-0.256 (0.066)	-0.127 (0.057)	-0.231 (0.064)	-0.098 (0.053)	-0.194 (0.071)	0.045 (0.058)
Constant	1.344 (0.237)	0.815 (0.199)	1.068 (0.281)	0.500 (0.244)	1.159 (0.260)	0.886 (0.227)	1.089 (0.234)	0.729 (0.192)	1.250 (0.303)	0.789 (0.258)	1.097 (0.282)	0.620 (0.234)	1.381 (0.297)	0.791 (0.242)
Adjusted R ²	0.428	0.509	0.515	0.444	0.460	0.400	0.426	0.347	0.500	0.424	0.477	0.394	0.489	0.397
N	852		926		821		917		805		895		882	

Note: Entries are ordinary least squares regression coefficients with standard errors in parentheses. The dependent variable for each column is the log of average hourly earnings as of the last endpoint. **Bold** type indicates statistical significance at the 5% level. Region coefficients omitted.

Table 5B: Log-Wage Estimates – Females

Variable	1979-1984		1980-1985		1981-1986		1982-1987		1983-1988		1984-1989		1985-1990	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Years Self-Employed	-0.008 (0.100)	0.058 (0.091)	-0.285 (0.141)	-0.310 (0.135)	-0.188 (0.144)	-0.209 (0.137)	-0.088 (0.106)	-0.107 (0.094)	0.037 (0.106)	0.043 (0.098)	-0.009 (0.131)	-0.228 (0.121)	-0.316 (0.177)	-0.133 (0.149)
Years Unemployed	-0.254 (0.113)	-0.144 (0.103)	-0.401 (0.106)	-0.290 (0.103)	-0.578 (0.134)	-0.462 (0.129)	-0.336 (0.105)	-0.034 (0.098)	-0.410 (0.171)	-0.365 (0.159)	-0.173 (0.104)	-0.059 (0.095)	-0.314 (0.131)	-0.091 (0.111)
Ln(Wage Start Year)	---	0.431 (0.055)	---	0.271 (0.052)	---	0.283 (0.053)	---	0.603 (0.062)	---	0.336 (0.049)	---	0.398 (0.045)	---	0.704 (0.061)
Tenure	-0.001 (0.001)	-0.002 (0.001)	0.001 (0.001)	0.001 (0.001)	0.001 (0.001)	0.000 (0.001)	0.003 (0.001)	0.000 (0.001)	0.001 (0.001)	0.000 (0.001)	0.000 (0.001)	0.000 (0.001)	0.003 (0.001)	0.000 (0.001)
Tenure-squared/1000	0.004 (0.006)	0.007 (0.005)	-0.002 (0.005)	-0.004 (0.005)	0.000 (0.004)	0.001 (0.004)	-0.007 (0.004)	0.001 (0.004)	0.001 (0.005)	0.003 (0.004)	0.005 (0.004)	0.004 (0.004)	-0.005 (0.005)	0.000 (0.004)
Union	0.134 (0.076)	0.042 (0.070)	0.185 (0.083)	0.158 (0.079)	0.104 (0.100)	0.095 (0.095)	-0.010 (0.080)	-0.094 (0.071)	0.251 (0.083)	0.164 (0.079)	0.060 (0.087)	0.013 (0.078)	0.093 (0.089)	0.048 (0.075)
Age	0.063 (0.021)	0.041 (0.019)	0.043 (0.022)	0.039 (0.021)	0.089 (0.026)	0.084 (0.024)	0.024 (0.022)	0.014 (0.019)	0.070 (0.025)	0.029 (0.024)	0.084 (0.022)	0.053 (0.020)	0.041 (0.024)	0.003 (0.020)
Age-squared/100	-0.087 (0.028)	-0.064 (0.025)	-0.064 (0.029)	-0.059 (0.028)	-0.126 (0.033)	-0.117 (0.031)	-0.033 (0.028)	-0.019 (0.025)	-0.096 (0.032)	-0.042 (0.031)	-0.113 (0.028)	-0.073 (0.026)	-0.056 (0.031)	-0.007 (0.027)
High School Dropout	-0.204 (0.072)	-0.131 (0.066)	-0.134 (0.087)	-0.045 (0.085)	-0.194 (0.099)	-0.162 (0.094)	-0.276 (0.085)	-0.095 (0.077)	-0.381 (0.090)	-0.260 (0.086)	-0.208 (0.083)	-0.120 (0.076)	-0.408 (0.115)	-0.338 (0.096)
Some College	0.157 (0.066)	0.110 (0.060)	0.136 (0.072)	0.139 (0.069)	0.047 (0.081)	0.000 (0.077)	0.008 (0.066)	-0.012 (0.058)	0.003 (0.067)	-0.001 (0.062)	0.005 (0.063)	-0.007 (0.057)	0.047 (0.067)	-0.059 (0.057)
College Graduate	0.376 (0.076)	0.228 (0.071)	0.404 (0.079)	0.345 (0.077)	0.391 (0.091)	0.264 (0.090)	0.362 (0.078)	0.160 (0.072)	0.191 (0.095)	0.136 (0.089)	0.356 (0.082)	0.254 (0.075)	0.370 (0.082)	0.119 (0.072)
Married	0.043 (0.053)	0.040 (0.048)	0.075 (0.057)	0.084 (0.055)	-0.002 (0.064)	-0.037 (0.062)	0.015 (0.055)	-0.006 (0.048)	0.075 (0.061)	0.067 (0.057)	-0.022 (0.058)	0.019 (0.053)	0.027 (0.062)	0.034 (0.052)
Number of Kids	0.007 (0.028)	0.012 (0.025)	-0.013 (0.031)	-0.019 (0.030)	-0.011 (0.036)	-0.020 (0.034)	0.034 (0.033)	0.024 (0.029)	-0.082 (0.029)	-0.050 (0.028)	-0.004 (0.029)	-0.009 (0.026)	0.013 (0.029)	0.022 (0.024)
Unemployment Rate	0.015 (0.014)	0.012 (0.013)	-0.005 (0.014)	-0.013 (0.013)	0.012 (0.014)	0.009 (0.013)	0.014 (0.008)	0.013 (0.007)	-0.010 (0.009)	-0.007 (0.009)	-0.018 (0.008)	-0.016 (0.007)	-0.001 (0.012)	0.002 (0.010)
MSA	0.277 (0.059)	0.138 (0.056)	0.285 (0.068)	0.238 (0.065)	0.293 (0.068)	0.242 (0.066)	0.313 (0.060)	0.129 (0.056)	0.161 (0.058)	0.089 (0.055)	0.233 (0.053)	0.135 (0.049)	0.120 (0.057)	0.004 (0.049)
Capital Income/1000	0.017 (0.006)	0.014 (0.006)	-0.005 (0.007)	-0.009 (0.006)	0.007 (0.012)	0.006 (0.012)	-0.002 (0.009)	-0.006 (0.008)	0.004 (0.003)	0.003 (0.003)	0.019 (0.008)	0.010 (0.008)	0.027 (0.011)	0.012 (0.009)
Nonwhite	-0.227 (0.077)	-0.147 (0.070)	-0.152 (0.088)	-0.122 (0.084)	-0.055 (0.100)	-0.032 (0.095)	-0.266 (0.086)	-0.117 (0.077)	-0.148 (0.085)	-0.077 (0.080)	-0.206 (0.084)	-0.097 (0.077)	-0.426 (0.102)	-0.163 (0.088)
Constant	0.716 (0.371)	0.587 (0.335)	1.243 (0.404)	0.919 (0.391)	0.377 (0.471)	0.067 (0.452)	1.239 (0.392)	0.599 (0.351)	0.972 (0.459)	1.110 (0.428)	0.870 (0.382)	0.663 (0.345)	1.414 (0.450)	0.912 (0.379)
Adjusted R ²	0.402	0.363	0.451	0.431	0.485	0.461	0.462	0.407	0.468	0.435	0.463	0.418	0.482	0.403
N	286		303		274		343		318		357		330	

Note: Entries are ordinary least squares regression coefficients with standard errors in parentheses. The dependent variable for each column is the log of average hourly earnings as of the last endpoint. **Bold** type indicates statistical significance at the 5% level. Region coefficients omitted.

Table 6: Wage Regression Estimates - Ten-Year Time Window

Years	Males	Females
1979-1989		
Years Self-Employed	-0.065 (0.015)	0.002 (0.065)
Years Unemployed	-0.202 (0.029)	-.154 (0.058)
N, Adjusted R ²	735, 0.464	230, 0.356
1980-1990		
Years Self-Employed	-0.019 (0.018)	-0.273 (0.089)
Years Unemployed	-0.217 (0.030)	-0.142 (0.082)
N, Adjusted R ²	735, 0.449	237, 0.218

Note: Entries are ordinary least squares regression coefficients on the “Years Self-Employed” and “Years Unemployed” variables with standard errors in parentheses. All regressions also include the variables in Table 5 including controls for endogeneity.

Bold type indicates statistical significance at the 5% level.

Table 7: Log Wage Regression Estimates - Workers Who Changed Jobs At Least Once

Years	Males	Females
1979-1984		
Years Self-Employed	-0.063 (0.036)	0.053 (0.093)
Years Unemployed	-0.041 (0.066)	-0.142 (0.108)
N, Adjusted R ²	843, 0.504	281, 0.463
1980-1985		
Years Self-Employed	-0.050 (0.037)	-0.433 (0.154)
Years Unemployed	-0.481 (0.055)	-0.288 (0.104)
N, Adjusted R ²	915, 0.451	299, 0.318
1981-1986		
Years Self-Employed	-0.049 (0.042)	0.079 (0.177)
Years Unemployed	-0.095 (0.051)	-0.531 (0.133)
N, Adjusted R ²	577, 0.487	195, 0.343
1982-1987		
Years Self-Employed	-0.124 (0.042)	-0.158 (0.110)
Years Unemployed	-0.185 (0.051)	-0.133 (0.106)
N, Adjusted R ²	624, 0.533	229, 0.374
1983-1988		
Years Self-Employed	-0.038 (0.060)	-0.199 (0.233)
Years Unemployed	-0.055 (0.074)	-0.481 (0.154)
N, Adjusted R ²	554, 0.441	224, 0.418
1984-1989		
Years Self-Employed	-0.095 (0.055)	-0.262 (0.171)
Years Unemployed	-0.142 (0.054)	-0.041 (0.106)
N, Adjusted R ²	600, 0.452	245, 0.325
1985-1990		
Years Self-Employed	-0.164 (0.059)	0.137 (0.156)
Years Unemployed	-0.174 (0.052)	-0.012 (0.102)
N, Adjusted R ²	605, 0.515	226, 0.592

Note: Entries are ordinary least squares regression coefficients on the “Years Self-Employed” and “Years Unemployed” variables with standard errors in parentheses. All regressions also include the variables in Table 5 including controls for endogeneity.

Bold type indicates statistical significance at the 5% level.

Table 8: Percent Part-Time and Unemployed by Employment Experience

Years	Males			Females		
	All-Employees	Ever Self-Employed	Ever Unemployed	All-Employees	Ever Self-Employed	Ever Unemployed
Percent of Employees Part-Time at End of Period						
1979-1984	14.32%	13.41%	50.70%	26.82%	33.33%	31.03%
1980-1985	10.73 %	13.68%	29.17%	27.19%	40.00%	47.62%
1981-1986	11.95%	15.00%	29.48%	28.57%	46.15%	53.13%
1982-1987	10.94%	16.22%	35.00%	26.73%	35.29%	51.52%
1983-1988	8.66%	12.24%	47.46%	22.95%	38.46%	50.00%
1984-1989	8.03%	19.04%	22.73%	23.53%	55.00%	36.00%
1985-1990	7.35%	9.43%	21.67%	25.68%	44.44%	35.00%
Percent of Workforce Unemployed at End of Period						
1979-1984	2.56%	5.74%	16.71%	2.30%	0.00%	3.33%
1980-1985	3.84%	5.00%	20.00%	2.20%	0.00%	25.00%
1981-1986	4.29%	6.98%	13.33%	1.90%	7.14%	5.88%
1982-1987	2.25%	0.00%	4.76%	1.21%	10.53%	5.71%
1983-1988	2.20%	0.00%	14.49%	1.84%	7.14%	14.29%
1984-1989	1.50%	2.33%	4.35%	1.40%	4.76%	0.00%
1985-1990	1.93%	5.36%	7.69%	2.06%	0.00%	9.09%

Note: Entries are percentages as of the endpoint in the “Years” column for those who were full-time employed at the start of the period. Sample used in part-time analysis (upper portion of table) includes only those who were employed in the wage sector at the endpoint. Sample used in unemployment analysis (lower portion of table) excludes those who were self-employed at the endpoint. The columns are defined on the basis of labor market experience between the endpoints.

Source: Authors’ calculations using the Panel Study of Income Dynamics.

Table 9: Linear Probability Regression Estimates - Part-Time and Unemployment at End of Period

Variable	1979-1984	1980-1985	1981-1986	1982-1987	1983-1988	1984-1989	1985-1990
Males							
Probability of Part-time Employment							
Any Self-Employment	-0.037 (0.039)	0.019 (0.033)	0.022 (0.038)	0.019 (0.037)	0.004 (0.039)	0.103 (0.042)	0.014 (0.037)
Any Unemployment	0.367 (0.043)	0.173 (0.038)	0.152 (0.040)	0.230 (0.037)	0.392 (0.036)	0.136 (0.035)	0.145 (0.036)
Adjusted R ²	0.090	0.030	0.039	0.071	0.155	0.052	0.024
N	1026	1053	937	1042	889	984	960
Probability of Unemployment							
Any Self-Employment	0.028 (0.017)	0.002 (0.019)	0.021 (0.023)	-0.031 (0.018)	-0.033 (0.021)	0.004 (0.019)	0.039 (0.019)
Any Unemployment	0.134* (0.018)	0.157* (0.021)	0.082 (0.024)	0.023* (0.018)	0.123* (0.018)	0.027 (0.016)	0.063 (0.018)
Adjusted R ²	0.069	0.072	0.022	0.006	0.076	0.008	0.011
N	1053	1095	979	1066	909	999	979
Females							
Probability of Part-time Employment							
Any Self-Employment	0.059 (0.102)	0.077 (0.105)	0.094 (0.137)	0.086 (0.112)	0.152 (0.119)	0.305 (0.096)	0.186 (0.107)
Any Unemployment	-0.014 (0.089)	0.125 (0.103)	0.264 (0.085)	0.221 (0.082)	0.271 (0.101)	0.091 (0.087)	0.042 (0.101)
Adjusted R ²	0.014	0.059	0.052	0.032	0.039	0.063	0.025
N	425	445	413	490	427	493	474
Probability of Unemployment							
Any Self-Employment	-0.018 (0.034)	-0.048 (0.032)	0.043 (0.041)	0.095 (0.026)	0.070 (0.036)	0.039 (0.027)	-0.013 (0.035)
Any Unemployment	-0.003 (0.030)	0.243 (0.028)	0.042 (0.026)	0.042 (0.019)	0.135 (0.029)	-0.010 (0.025)	0.074 (0.032)
Adjusted R ²	0.043	0.162	NA	0.058	0.055	NA	0.021
N	435	455	421	496	435	500	484

Note: Entries are ordinary least squares regression coefficients with White's (1980) standard errors in parentheses. The dependent variable in all cases is an indicator variable (equal to one if the worker is part-time employed at the end of the five year window in the upper portions of the tables and equal to one if the worker is unemployed at the end of the five year window in the lower portions of the tables).

Bold type indicates statistical significance at the 5% level. Additional coefficients omitted (see text).