



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.

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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

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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 1 in 10 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 stagnate any job-specific skills that had previously been gained in wage employment or serve as a signal of labor market instability, leading to reduced earnings or employment prospects after exiting.² Therefore, uncovering the consequences of spells in self-employment 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 are 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 for other labor market outcomes, including the probability of unemployment and part-time employment.³

Our main findings are as follows. Within 5-year windows between 1979 and 1990, a significant proportion of wage workers experienced a short spell (lasting four years or less) of self-employment. These short spells of self-employment tended to be very brief—two-thirds to three-quarters of them lasted 1 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

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

² See [Williams \(in press\)](#) or [Uhly \(2001\)](#) for more on the latter possibility.

³ Unfortunately, the PSID does not contain sufficiently detailed information on important fringe benefits such as health insurance, pensions, and family leave, which would allow us to go beyond an analysis of wage earnings.

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 3–6. 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 (i.e., job creation less job destruction) 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.⁴ 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 in the form of small business start-up loans. By 2000, the total dollar figure on loans approved through the Small Business Administration reached nearly twelve-and-a-half billion dollars.⁵

In addition, 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 5-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 et al. (1994) find that slightly more than 70% 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.

⁴ See Holtz-Eakin (1995) for a detailed discussion of federal tax preferences for small businesses.

⁵ For more information, see the Small Business Administration web page: <http://www.sba.gov/>.

Taylor's (1999) analysis of UK data shows that while 90% of new self-employment ventures survive their first year, only 58% last at least 5 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, but for every bright and successful entrepreneur, there is at least one who will never quite get it right. The potential effects of self-employment are equally diverse, but studies of them have been far outnumbered in the recent empirical research by analyses of the causes of self-employment. Some workers will be enriched by a spell in self-employment, while others will suffer negative long-term consequences associated with the failure of their dream enterprise.⁶ 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.⁷ 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 cannot be interpreted as capturing a causal relationship between self-employment experience and wage outcomes.⁸ 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 Waldfoegel (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, however, includes those who are currently self-employed. Thus, the wage-sector returns to brief self-employment experience cannot be explicitly identified in their framework.

Williams (2000) uses the same data as Ferber and Waldfoegel (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

⁶ See Williams (2000) for an excellent discussion of these possibilities.

⁷ Holtz-Eakin et al. (2000) are the most recent 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 do 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.

⁸ See page 529 of their study.

exacerbated by the fact that the likelihood of a self-employment experience increases with age.⁹ 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 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 loss,¹⁰ 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.

⁹ See, for example, [Fuchs \(1982\)](#).

¹⁰ See [Farber \(2001\)](#) for a review of the recent literature and recent estimates of the consequences of job loss.

3. Data and descriptive analysis

The data for this study are drawn from the PSID. The PSID began in 1968 with a representative random sample of 4800 American households, and similar surveys have been fielded every year since.¹¹ 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.¹² Workers are considered to be self-employed on the basis of responses to the question of whom they primarily work for: someone else, themselves, or both.¹³ The latter two categories are included in our definition of self-employment, but less than 1% 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.¹⁴

In order to examine the impact of short self-employment spells and arrive at results which might be useful in analysing policies like the SEA programs, we must confine our analysis to those who are not initially self-employed such that entry into self-employment can be observed. 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 workers¹⁵ 5 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 5-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

¹¹ For additional information on the PSID, see <http://www.isr.umich.edu/src/psid/index.html>.

¹² The PSID refers to primary survey respondents as "heads of household" and "spouses." In using these labels, our intent is to inform those familiar with the PSID about the precise makeup of our sample; no further meaning is intended.

¹³ 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.

¹⁴ A small number of observations were dropped from the sample because of unusually high hourly wages (those with wages in excess of US\$300).

¹⁵ 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.

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%

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.

unemployment and then exited (Ever Unemployed).¹⁶ While most wage workers never experienced short-term self-employment, a significant percentage did. In fact, between approximately 4% and 9% of males and between 2% and 3% 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 1 year of self-employment experience in the intermediate years, most are self-employed for only 1 year. About two-thirds to three-quarters of men’s and as high as 100% of women’s self-employment experiences ended in the first year. Smaller percentages (typically less than a third) are self-employed for only 2 years, and very few are self-employed for more than 2 years. Again, recall that we do not consider all self-employment spells in the PSID, merely those that were experienced by workers who 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 self-employment. Table 3 provides nominal average hourly earnings at the endpoint of the 5-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 5-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 5% 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

¹⁶ It should be noted that the rows in Table 1 do not necessarily sum up to 100%, because of possible overlap between the Ever Self-Employed and Ever Unemployed categories.

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%

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.

statistically different for many of the 5-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 (e.g., if they are relatively lower-skilled or otherwise ill-suited for wage employment in the first place). The decision to enter self-employment is also likely to differ from the decision to enter and

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

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.

then exit. In the multivariate strategy detailed below, we address the potential endogeneity associated with a short self-employment experience by controlling for time invariant individual characteristics. 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 in a similar manner.

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 5-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.¹⁷ 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*, where *High School Graduate* serves as the reference category), an indicator for *Non-White* race,¹⁸ 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 US\$1000s). Also included are dummy variables for residence in a metropolitan statistical area (*MSA*) and region of residence (*Northeast*, *South*, and *West*, where *North-Central* is the reference category).

In an attempt to control for the potential endogeneity associated with self-employment and unemployment experience, we add the log of hourly wage sector earnings *recorded at the start of the 5-year period* as an independent variable in separate regressions.¹⁹

¹⁷ 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.

¹⁸ Sample sizes are too small to allow the use of more narrowly defined race categories.

¹⁹ Williams (2000) uses a similar approach. We chose not to pool the data and use a fixed effects model as this would force the effects of self-employment experience to be the same in times of expansion and contraction—an assumption that is too restrictive in our view. In addition, we are concerned that this particular situation is not well suited to a fixed effects model because of the likelihood that the strict exogeneity assumption is violated. If, for example, individuals choose self-employment at $t+1$ because of shocks at time t , which is likely the case, then the fixed effects approach is not valid (see, for example, Wooldridge, 2002). 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).

Table 4

Variable	1979–1984	1980–1985	1981–1986	1982–1987	1983–1988	1984–1989	1985–1990
<i>(A) Regression sample summary statistics—males</i>							
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)
Non-White	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

(B) Regression sample summary statistics—females

Ln (Wage)	2.132 (0.486)	2.167 (0.159)	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)	1.106 (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)
Non-White	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)
<i>N</i>	286	303	274	343	318	357	330

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.

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 5-year windows, we capture time invariant unobserved individual heterogeneity associated with differences in productivity.²⁰

Table 4A and B reports 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, likely as a result of a variable redefinition in the PSID.²¹ The average local unemployment rate rises at first and then falls slightly, mirroring the general economic conditions during this time period at the national level. 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 5-year windows and their job tenure increases gradually over time. MSA residence tends to fall over time for both males and females.

5. Regression results

Table 5A and B presents parameter estimates for males and females, respectively. The table includes 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% compared to a year of

²⁰ Our measure of unobserved productivity may be biased if spells of self-employment (unemployment) within our 5-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. While the results from this experiment were somewhat erratic, the estimated effects of self-employment experience in the subset of IV models which performed relatively well were similar to those presented here.

²¹ Until 1980, the relevant question was “how long have you had your present position?” Then, beginning with the 1981 survey, it was changed to “how long have you worked for your present employer?”

Table 5

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)
<i>(A) Log-wage estimates—males</i>														
Years	– 0.070	–0.052	– 0.116	– 0.085	0.023	0.036	– 0.156	– 0.096	–0.030	–0.028	– 0.120	– 0.088	– 0.131	– 0.108
Self-Employed	(0.036)	(0.030)	(0.036)	(0.031)	(0.032)	(0.028)	(0.039)	(0.032)	(0.047)	(0.040)	(0.055)	(0.046)	(0.048)	(0.039)
Years	–0.082	–0.020	– 0.557	– 0.474	– 0.304	– 0.154	– 0.364	– 0.210	– 0.240	–0.067	– 0.193	– 0.153	– 0.243	– 0.155
Unemployed	(0.070)	(0.058)	(0.065)	(0.056)	(0.051)	(0.045)	(0.056)	(0.046)	(0.082)	(0.070)	(0.061)	(0.050)	(0.058)	(0.047)
Ln (Wage	–	0.632	–	0.691	–	0.571	–	0.627	–	0.594	–	0.630	–	0.709
Start Year)		(0.033)		(0.039)		(0.036)		(0.029)		(0.034)		(0.031)		(0.034)
Tenure	0.000	0.001	0.000	–0.001	0.001	0.000	0.001	–0.001	0.003	0.002	0.001	–0.001	0.001	0.000
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.000)	(0.000)	(0.000)	(0.001)	(0.001)	(0.001)	(0.000)	(0.001)	(0.000)
Tenure	0.001	0.001	0.001	0.003	0.002	0.003	0.001	0.002	– 0.005	– 0.005	0.001	–0.002	0.001	0.000
squared/1000	(0.002)	(0.001)	(0.002)	(0.002)	(0.002)	(0.001)	(0.001)	(0.001)	(0.002)	(0.002)	(0.002)	(0.001)	(0.002)	(0.001)
Union	0.113	0.019	0.115	0.039	0.124	0.035	0.051	0.007	0.002	–0.060	0.025	–0.039	0.032	–0.050
	(0.036)	(0.030)	(0.040)	(0.035)	(0.039)	(0.035)	(0.036)	(0.029)	(0.045)	(0.039)	(0.042)	(0.035)	(0.044)	(0.036)
Age	0.047	0.019	0.060	0.026	0.061	0.022	0.065	0.021	0.061	0.019	0.075	0.028	0.061	0.010
	(0.013)	(0.011)	(0.016)	(0.014)	(0.015)	(0.013)	(0.013)	(0.011)	(0.017)	(0.014)	(0.016)	(0.013)	(0.016)	(0.013)
Age-squared/1000	– 0.056	–0.025	– 0.074	0.037	– 0.082	– 0.036	– 0.082	– 0.031	– 0.075	–0.030	– 0.092	– 0.037	– 0.074	–0.016
	(0.017)	(0.014)	(0.020)	(0.017)	(0.019)	(0.017)	(0.017)	(0.014)	(0.021)	(0.018)	(0.020)	(0.017)	(0.021)	(0.017)
High School	– 0.184	–0.065	– 0.155	– 0.020	– 0.188	– 0.123	– 0.232	– 0.119	– 0.298	– 0.153	– 0.285	– 0.117	– 0.364	– 0.182
Dropout	(0.045)	(0.038)	(0.052)	(0.046)	(0.051)	(0.044)	(0.047)	(0.039)	(0.059)	(0.050)	(0.052)	(0.044)	(0.060)	(0.050)
Some College	0.144	0.049	0.131	0.037	0.188	0.085	0.080	–0.020	–0.010	0.014	0.083	0.033	0.042	0.044
	(0.042)	(0.035)	(0.048)	(0.041)	(0.046)	(0.040)	(0.040)	(0.033)	(0.046)	(0.039)	(0.042)	(0.035)	(0.043)	(0.035)
College Graduate	0.376	0.182	0.419	0.201	0.415	0.210	0.351	0.147	0.233	0.126	0.296	0.157	0.229	0.064
	(0.041)	(0.036)	(0.048)	(0.043)	(0.045)	(0.041)	(0.038)	(0.033)	(0.051)	(0.044)	(0.047)	(0.040)	(0.046)	(0.038)
Married	0.058	–0.012	0.061	–0.028	0.045	–0.020	0.102	0.014	0.117	0.109	0.006	–0.012	0.055	0.061
	(0.051)	(0.043)	(0.059)	(0.051)	(0.053)	(0.047)	(0.047)	(0.039)	(0.059)	(0.050)	(0.056)	(0.047)	(0.056)	(0.045)

(continued on next page)

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)	0.105 (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)
Non-White	- 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	

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 were omitted.

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. An additional year of unemployment is associated with a wage reduction of 8.2–55.7% upon return to full-time employment relative to a year of continued wage employment, and the differences are statistically significant in all but the 1979–1984 time period. 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. However, 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%. 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.²²

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 generally larger, more consistently negative and statistically significant²³ (though only statistically significantly different from the negative returns to self-employment 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 [Table 5A and B](#) 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 non-White races have lower wages. Residence in an MSA tends to increase average hourly earnings.

²² 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.

²³ 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 3-year windows compared to our 5-year windows).

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 10-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 5-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 5-year window. Results in Table 7 are similar to our baseline results in Table 5A and B, with

Table 6
Wage regression estimates—10-year time window

Years	Males	Females
<i>1979–1989</i>		
Years Self-Employed	– 0.065 (0.015)	0.002 (0.065)
Years Unemployed	– 0.202 (0.029)	– 0.154 (0.058)
N, Adjusted R^2	735, 0.464	230, 0.356
<i>1980–1990</i>		
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

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

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.

the exception that fewer of the point estimates are statistically significantly different from zero at the 5% 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.²⁴ These results do, however, suggest that the returns

²⁴ 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 5-year window. While this cost us a substantial reduction in sample sizes, results were largely similar to those in Table 8.

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 5-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 5-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

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
<i>Percent of employees part-time at end of period</i>						
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%
<i>Percent of workforce unemployed at end of period</i>						
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%

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 the table) includes only those who were employed in the wage sector at the endpoint. Sample used in unemployment analysis (lower portion of the 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.

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.²⁵ 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 OLS²⁶, 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 1 if the individual had any self-employment experience between the end points of the 5-year window.²⁷ 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, but 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.²⁸ 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, although the coefficient on any unemployment experience is more frequently positive and significant.

²⁵ Note that some overlap between these two groups is possible.

²⁶ 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 \(1980\)](#) estimator. In any case, we experimented using probit and found qualitatively similar results.

²⁷ 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.

²⁸ The coefficients on the unemployment experience indicators are statistically different from those on self-employment experience in all periods except the 1984–1989 period.

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
<i>Males</i>							
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
<i>Females</i>							
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

Entries are ordinary least squares regression coefficients with White (1980) standard errors in parentheses. The dependent variable in all cases is an indicator variable (equal to 1 if the worker is part-time employed at the end of the 5-year window in the upper portions of the table and equal to 1 if the worker is unemployed at the end of the 5-year window in the lower portions of the table). Bold type indicates statistical significance at the 5% level. Additional coefficients were omitted (see text).

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% for men. These results contrast to a certain extent 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 our focus on short-term self-employment as well as 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 researchers, 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%, and part-time employment by 10–30%. 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 result in less favorable subsequent 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 5-year windows examined are more severe than those associated with self-employment. Specifically, unemployment experience increases the probability of subsequent part-time employment by 14–40%, and of subsequent unemployment by 6–25%. 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 extent 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.

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