EUI WORKING PAPERS

RS
C

The Labour Market Consequences of
Self-Employment Spells: European Evidence

Ari Hyytinen and Petri Rouvinen

EUROPEAN UNIVERSITY INSTITUTE

Robert Schuman Centre for Advanced Studies
European Forum 2004-2005

EUROPEAN UNIVERSITY INSTITUTE, FLORENCE

ROBERT SCHUMAN CENTRE FOR ADVANCED STUDIES

The Labour Market Consequences of Self-Employment Spells:
European Evidence

ARI HYYTINEN AND PETRI ROUVINEN

Robert Schuman Centre for Advanced Studies

The Robert Schuman Centre for Advanced Studies carries out disciplinary and interdisciplinary research in the areas of European integration and public policy in Europe. It hosts the annual European Forum. Details of this and the other research of the centre can be found on:
http://www.iue.it/RSCAS/Research/.

Research publications take the form of Working Papers, Policy Papers, Distinguished Lectures and books. Most of these are also available on the RSCAS website:
http://www.iue.it/RSCAS/Publications/.

The EUI and the RSCAS are not responsible for the opinion expressed by the author(s).

European Forum

The European Forum was set up by the High Council of the EUI in 1992 with the mission of bringing together at the European University Institute, for a given academic year, a group of experts to conduct comparative and interdisciplinary research on a specific topic, which is chosen annually, under the supervision of annual scientific director(s).

This Working Paper has been written in the context of the 2004-2005 European Forum programme on 'The Role of Universities in the Innovation Systems', the overall direction and coordination of which was carried out by Professor Rikard Stankiewicz, EUI, and Dr Aldo Geuna, EUI and SPRU, University of Sussex.

The growing role of universities in the 'knowledge economy' is well known. A dynamic and well-balanced academic system is a key engine of innovation and economic development. Doubts persist however as to whether Europe's universities are fully capable of fulfilling that role. The members of the Forum approached these issues by focusing on the following research themes: (1) Universities and the changing dynamics of knowledge production; (2) Patterns of the division of labour in research and innovation system; (3) The internal organisation of academic systems: tensions and adaptations; and (4) Diversity, innovativeness, and the governance of academic systems.

For further information:
E-mail: forinfo@iue.it
http://www.iue.it/RSCAS/Research/EuropeanForum/Index.shtml

Abstract

Hundreds of thousands of Europeans enter self-employment each year, but because self-employment spells are typically brief, many of them exit soon after entry. We examine how those who return to paid-employment fare on the labour market using the European Community Household Panel (ECHP). Like earlier evidence for the US, ours indicate that, in general, brief spells of self-employment do not increase average hourly earnings upon return to paid-employment. For highly educated men, an additional year of self-employment actually decreases their earnings by 4–5% relative to a year of continued wage employment. We also find that brief spells of self-employment are associated with increased probability of part-time employment upon returning to the wage sector, which may be interpreted as difficulties in re-entering the wage sector. There is also some indication that men returning to paid-employment after a spell of self-employment have lower job-related satisfaction and a worse financial situation when compared to those who continued in the wage sector. While the 'stigma of failure' that stems from the self- and/or unemployment spells is higher for the more educated rather than for the less educated, the difference in these effects suggests that, as compared to self-employment, unemployment is more detrimental for the more educated. We also document that while self-employed, better educated men are more likely to seek new (paid) employment. This finding suggests that for them, self-employment might in part be unemployment in disguise.

Introduction

Each year, hundreds of thousands of Europeans enter self-employment and start their own businesses, although many of them exit shortly thereafter.[1] According to *Business demography in Europe* (EC, 2004), three-year survival rates of European enterprises born in 1998 ranged from 53.5% (Denmark) to 66.9% (Norway), the lowest survival rates being in general in the services sector, such as in the hotel and restaurant business.[2] Smallest businesses and self-employment ventures are terminated even sooner than that: the death rates of European born small (0–4 employees) enterprises was in 2000 about 4–5 times higher than those of slightly larger (5–9 employees) enterprises.[3] In Britain, as many as 50% of the self-employment ventures started in the early 1990s did not survive their first two years in business (Taylor, 1999). What happens to those Europeans who exit self-employment after a short spell? What are the longer-term consequences faced by those leaving self for paid employment? In particular, what is the effect of self-employment experience on (subsequent) wage and non-wage outcomes, such as job security, job satisfaction and personal financial security? While there is some evidence for the US on how those who revert back to the paid-employment sector fare upon return (Bruce & Schuetze, 2004; Evans & Leighton, 1989; Williams, 2000), no corresponding analyses exist for Europe. The aim of this paper is to fill this gap in the literature.

Not knowing the labour market consequences of short self-employment spells for Europeans is an unfortunate state of affairs for three reasons: Firstly, understanding them helps us to see better the incentives of Europeans to enter self-employment in the first place. The conventional view is that forward looking individuals choose the occupation that offers them the greatest expected utility, i.e., they switch from paid to self-employment if the expected lifetime utility from remaining in the former falls short of the utility in the latter. Although a primary source of the difference in the expected utility is the potential difference between expected earnings in the two occupations (Evans & Jovanovic, 1989; Parker, 2004), recent analyses from the U.S. suggest that on average, monetary returns of self-employment are low (e.g., Hamilton, 2000; Moskowitz & Vissing-Jorgensen, 2002).[4] For this and other reasons, it has been suggested that that non-pecuniary benefits, such as being one's own boss, must have a strong influence on the decision to become self-employed both in the US and also in European countries (Blanchflower, 2000; Blanchflower & Oswald, 1998; Parker, 2004; Taylor, 1996). Yet one can argue that another possibility arises: short spells in self-employment may be viewed as a human-capital enhancement or job training program, in which people acquire new skills enhancing their productivity and yielding returns upon reverting back to wage work. Self-employment can also be a part of an (extended) job-shopping process (Manning, 2003), by which individuals try to work themselves into better jobs through the process of active labour market search. Were these the case, neither the low returns while self-employed nor the frequent entry into self-employment (despite the prospect of quick exit) would be a puzzle. The alternative view of the consequences of the short self-employment spells is that they stagnate previously acquired job-specific skills (and erode people's human capital), leading to reduced earnings (or employment prospects) after exiting (Bruce & Schuetze, 2004; Williams, 2000). Exiting self-employment may endow an individual with a stigma of failure, which hardly improves his position in any market he enters upon return, be it the capital (Landier, 2002) or the labour market (Gromb & Scharfstein, 2002), both of which are probably imperfectly informed about the reasons of exit. Were this is the case, the low returns while self-employed and the frequent entry into self-employment (despite the prospect of quick exit) would be an even more complicated puzzle.

The second reason for why it is important to know something about the labour market consequences of short self-employment spells in Europe is that self-employment may in fact be unemployment in disguise (Earle & Sakova, 2000) and a way to reduce the costs of having been displaced from paid-employment.[5] How desirable that is from an individual's and society's point of view, depends not only on the increase in the standard of living achieved by avoiding unemployment through self-employment, but also on the type of labour market consequences that short spells of self-

employment have.[6] Self-employment may, for example, be a better means than unemployment to maintain (specific) human capital over the periods when paid-employment is not available (Bruce & Schuetze, 2004). Comparing the labour market effects of spells of self-employment to the effects of spells in unemployment can thus shed light on the likely effectiveness of a number of self-employment assistance programs aimed at preventing unemployment spells. To the best of our knowledge, very little—if anything—is known about the differences in these effects in Europe.

The third reason for why we focus on the labour market consequences of short self-employment spells in Europe is that it has been argued that European labour in particular are hostile to dynamism, and thus also to returning entrepreneurs, at least when compared to the US. While there are plenty of anecdotes, hard evidence is surprisingly difficult to come by. We deliver such evidence and a comparison to some recent results from the US.

Our basic empirical set-up borrows heavily from the earlier work done with US data, especially Bruce and Schuetze (2004). We estimate the effects of a brief self-employment experience on subsequent wage outcomes using a large panel data and by examining labour market flows within a five-year window. Our data comes from the *European Community Household Panel* (ECHP), which allows us to track flows from paid-employment either to self-employment or to unemployment, and back to paid-employment for almost all EU-15 countries. Like Bruce and Schuetze (2004), we control for selection into self-employment, provide additional insights by studying non-wage outcomes, such as the probability of not being able to revert back to full-time paid-employment, and compare the labour market effects of spells of self-employment to the effects of spells in unemployment. Besides providing the first European evidence on these effects, we extend the previous analyses in two ways. First, our analysis covers a wider set of non-wage outcomes than in the previous studies: in addition to the likelihood of not finding work and doing reduced hours after entrepreneurship, we consider the effects of short self-employment spells on job security, job satisfaction and personal financial security, using indicators that are available from ECHP. Secondly, we study whether the effects of short self or unemployment spells are different for the highly educated than for the less educated. To the best of our knowledge, no earlier study has shed light on the way human capital influences these outcomes.

Our main findings are as follows: like the earlier evidence for the US, reported in Bruce and Schuetze (2004), ours indicate that after controlling for unobserved differences in productivity in the wage sector, brief spells of self-employment do not, in general, increase average hourly earnings upon return to paid-employment. We document that for highly educated European men, an additional year of self-employment actually decreases their earnings by 4–5% relative to a year of continued wage employment. Even this estimate is, however, conservative when compared to the range reported in Bruce and Schuetze (2004) for the US. Thus, European entrepreneurs do not seem to suffer from a disproportionately bad 'stigma of failure' upon return to the labour market, relative to their US counterparts.

We also find that brief spells of self-employment are associated with increased probability of part-time employment upon returning to the wage sector. There is also some indication that, for men returning to paid-employment after a spell of self-employment, job-related satisfaction is lower and their financial situation is worse when compared to those continuing in the wage sector. We also find some evidence that self-employment seems to be unemployment in disguise, especially for highly educated males: While self-employed, they are more likely to search for a new job in paid-employment than the less educated.

In the next Section, we describe our data and present a descriptive analysis of the frequency and duration of self- and unemployment spells in Europe. In Section 3 we investigate the effects of brief self- and unemployment spells on wages upon returning into paid-employment. In section 4 we study non-wage outcomes. In Section 5, brief conclusions are offered.

Data

The data for this study is drawn from the *User Data Base* (UDB) of ECHP by *Eurostat* (2003a) providing compatible (input-harmonised) pan-European data on living conditions, well-being, and the financial situation of private households and their members.[7] The 8 annual waves of ECHP cover the EU-15 countries in 1994–2001, although Austria joined the survey at wave 2 in 1995, Finland at wave 3 in 1996, and Sweden at wave 4 in 1997. Furthermore, for Germany, Luxembourg, and the UK the data is mostly from their reasonably ECHP-comparable national surveys.[8] The Swedish survey is not a panel but rather a series of cross-sections, so it is excluded from this study. The data for Belgium and the Netherlands is based on the continuation of ECHP's predecessors.

In ECHP the self-defined main activity status (UDB: PE001)—on the basis of the most time spent—of the target person at the time of the interview is defined to be one of the following (Eurostat, 2003b, p. 210):[9]
–   working with an employer in paid-employment (15+ hours per week; PE001 code 1),
–   working with an employer in paid apprenticeship (15+ hours per week; PE001 code 2),
–   working with an employer in training under special schemes related to employment (15+ hours per week; PE001 code 3),
–   self-employment (15+ hours per week; PE001 code 4),[10]
–   unpaid work in a family enterprise (15+ hours per week; PE001 code 5),
–   in education or training (PE001 code 6),
–   unemployed (PE001 code 7),
–   retired (PE001 code 8),
–   doing housework, looking after children or other persons (PE001 code 9),
–   in community or military service (PE001 code 10),
–   other economically inactive (PE001 code 11),
–   working less than 15 hours (PE001 code 12),
–   not applicable (PE001 code -8), or
–   missing (PE001 code -9).

Bruce and Schuetze (2004) suggest considering the labour market consequences of brief spells of self-employment—in practise those occurring within a moving 5-year window of 6 annual observations. The sample constructed for this study is designed to be as comparable as possible with their US study. Thus, only 18–65-year olds ($18 \leq$ PD003 ≤ 65 throughout the window) in paid-employment (PE001 code 1) in the beginning (1996) and end (2001) of the only feasible five-year window (1996–2001) as well as in paid- (PE001 code 1), self- (PE001 code 4), or unemployment (PE001 code 7) in the intermediate years (1997–2000) are included in our sample.[11] In ECHP this group consists of 25,238 individuals. By country, Ireland (835) and Greece (1,210) have the smallest number of included individuals, whereas Germany (3,096) and the UK (2,484) have the largest.

Table 1 presents percentages of those who entered neither self-employment nor unemployment (Never Self-Employed or Unemployed), entered self-employment and possibly unemployment (Ever Self-Employed), and entered unemployment and possibly self-employment (Ever Unemployed) within the window. Note that these percentages are conditional on being in paid-employment in the end years. The last 1985–1990 window of Bruce and Schuetze (2004) is provided for comparison. The Table shows that both in the EU and the US those in paid-employment rarely experience brief spells of self-employment or unemployment; nevertheless roughly one in twenty Europeans and one in ten Americans did so within the 5-year windows considered. While in the US, spells of self-employment and unemployment are roughly equally common, in the EU four out of five such spells are unemployment spells. Especially among European females, self-employment spells are rare indeed.[12]

Table 1: Frequencies of Labour Market Experiences

Region: Years	Males			Females		
	Never Self-Employed or Unemployed	Ever Self-Employed	Ever Unemployed	Never Self-Employed or Unemployed	Ever Self-Employed	Ever Unemployed
EU-14: 1996–2001	94.44%	1.56%	4.17%	95.36%	0.70%	4.04%
US: 1985–1990	89.46%	5.33%	5.67%	93.94%	2.42%	3.64%

Notes: Refers to those in paid-employment at the endpoints of the 5-year window indicated in the first column. Entries are percentages of individuals with the labour market experience specified in the column header, as defined in the text. The entries do not add up to 100%, as a small number of individuals were both self-employed and unemployed within the window. *Sources:* The authors' calculations using ECHP for the EU; Bruce and Schuetze (2004) for the US.

Table 2 presents the durations of self-employment experiences. In both Europe and the US most are self-employed for only 1 year: in the EU this is true for 55% of spells for males and 65% of spells for females. Note that these figures are not general survival rates per se, as by definition in these data sets all those in self-employment exit by the end year of the window, i.e., return to paid-employment. These figures nevertheless compare rather well to Taylor's (1999) estimates of the one-year survival rates of British self-employment ventures in the early 1990s. His estimates show that 59% of the self-employment spells of men last one year and that the corresponding rate for women is 63%. Overall, Table 2 suggests that self-employment spells in Europe are somewhat longer than in the US.

Table 2: Durations of Self-Employment Experiences

Region: Years	Self-employment experience							
	Males				Females			
	1 year	2 years	3 years	4 years	1 year	2 years	3 years	4 years
EU-14: 1996–2001	55.13%	27.78%	12.39%	4.70%	65.28%	18.06%	11.11%	5.56%
US: 1985–1990	76.60%	10.64%	12.77%	0.00%	100.00%	0.00%	0.00%	0.00%

Notes: Figures in the Table refer to those in paid-employment at the endpoints of the five-year window indicated in the first column, and that have at least some self-employment experience in the intermediate years. Entries are percentages of individuals having the number of years in self-employment specified in the column header. *Sources*: The authors' calculations using ECHP for the EU; Bruce and Schuetze (2004) for the US.

Wage Outcomes

Table 3 reports average hourly wages at the end-point of the five-year window for individuals in our sample, separating those who remained in paid-employment for the entire five-year period and those who had a spell either in self-employment or in unemployment, but who returned to paid-employment by the end of the window. In the EU, the hourly wages of those returning to paid-employment from self-employment are only about three-fourths to four-fifths of the corresponding wages of those that remained in paid-employment. For US males, but not for females, the difference in wages associated with self-employment experience is considerably less—only about five per cent. Average hourly wages of the group with unemployment experience are lower than those of the group with self-employment experience.

Table 3: Average Hourly Wages by Labour Market Experiences

Region: Years, type	Males			Females		
	Never Self-Employed or Unemployed	Ever Self-Employed	Ever Unemployed	Never Self-Employed or Unemployed	Ever Self-Employed	Ever Unemployed
EU-14: 1996–2001, net	€10.49	€7.76	€6.91	€9.13	€6.84	€6.69
EU-14: 1996–2001, gross	€13.56	€10.65	€8.97	€12.04	€9.56	€8.67
US: 1985–1990, gross	$17.32	$16.66	$15.95	$12.77	$9.79	$8.31

Notes: Figures in the Table refer to average nominal gross (gr.) or net hourly earnings in euros (€) or US dollars ($) at the endpoint of the five-year window indicated in the first column. The column headings as defined in Table 1. Since—besides the currency and the reference point—the concept of hourly earnings is not identical in the EU and the US studies, the levels should not be compared directly. *Sources*: The authors' calculations using ECHP for the EU; Bruce and Schuetze (2004) for the US.

To obtain a more nuanced picture of the effects of brief self- and unemployment spells on wages, we now turn to multivariate regressions. Before reporting the regression results, we describe the dependent and independent variables, and provide a set of descriptive statistics for them.

Table 4 describes the variables to be used in the multivariate analysis. The dependent variable is the logarithm of the hourly wage at the end of the window. Both net and gross hourly wages are considered, although the latter is not available for Luxembourg. Following Williams (2000) and Bruce and Schuetze (2004), we use the logarithm of (either net or gross) hourly wage at the beginning of the five-year window to control for the potential endogeneity of self-employment and unemployment experience. The rationale of this control is that workers who become either self-employed or unemployed for a short spell may do so because of their low productivity (and thus poor earnings capacity) in the wage sector. The assumption is that the wage at the beginning of the five-year window captures this time-invariant unobserved individual heterogeneity and the self-selection it induces. Were this selection not controlled for, a wage difference (should it exist) between the group of individuals who remained the entire period in paid-employment and the group of individuals with self-employment or unemployment experiences, might simply be due to the difference in the average productivity of the individuals in these two groups. We will report our regressions both with and without this control to learn something about the nature of selection in the short self-employment and unemployment spells.

The independent variables are similar to those used by Bruce and Schuetze (2004), and we offer here only a brief description of them: the independent variable of most interest to us is the years spent in self-employment within the window, as well as the years spent in unemployment. The reference point is an individual remaining in paid-employment throughout the window. A number of other independent variables are used to control for (observable) individual heterogeneity: both age and tenure are controlled for, and their effects are allowed to be non-linear. As the union membership - variable employed by Bruce and Schuetze (2004) is unavailable from ECHP, a membership in a club or an organisation is used as a proxy. As an individual's race is unavailable, being born abroad is used as a proxy. The education dummies are qualitatively similar to those used by Bruce and Schuetze (2004). The married dummy is used, although ECHP also has more versatile information on cohabitation status. The number of children is defined in a round-about way; its cut-off is two years lower than that of Bruce and Schuetze (2004). There are minor inconsistencies in the definitions of capital income across countries, but since all of the estimated specifications include country dummies, this should not be a source of concern here. As a direct counterpart of the metropolitan statistical area indicator employed in the US study is unavailable, a similar dummy indicating location in a densely-populated area is constructed. The unemployment rate is defined at the finest NUTS level available in ECHP (112 regions in total), which is somewhat less refined than the county level used by Bruce and Schuetze (2004).

Table 4: Construction of the Variables

Variable	Description	Unit[a]	Time	Construction[b]	Bruce et al.[c]
Wage, net, start or end	Worker's net hourly wage	Log €, nominal	1996, 2001	Monthly net wage & salary (PI211M) / Weekly working hours (PE005) * 4	–
Wage, gr., start or end	Worker's gross hourly wage	Log €, nominal	1996, 2001	Monthly gr. wage & salary (PI211MG) / Weekly working hours (PE005) * 4	Ln(Wage)
Self-empl. years	Years in self-employm. in the window	Count, years	1997–2000	Status: self-empl. (PE001 = 4), count of years between the endpoints	Years Self-Employed
Unempl. years	Years in unemploym. in the window	Count, years	1997–2000	Status: unemployed (PE001 = 7), count of years between the endpoints	Years Unemployed
Age	Worker's age	Count, years	1996	Worker's age at the time of the interview (PD003)	Age
Age^2	Worker's age (above) squared	Years^2 per 1000	1996	Worker's age (above) squared per thousand	Age-sq./1000
Tenure	Worker's tenure	Count, years	1996	(Interv. year, mnth (PG007; PG006) – job start year, mnth (PE011; PE012))/12	Tenure
Tenure^2	Worker's tenure (above) squared	Years^2 per 1000	1996	Worker's tenure (above) squared per thousand	Tenure sq./1000
Tenure unavail.[d]	Worker's tenure (above) unavailable	Dummy	1996	Worker's tenure (above) unavailable (coded zero in Tenure and its square)	–
Club member[e]	Member of a club or an organisation	Dummy	1996	A sport, entertainment or other club, group or org. member (PR002 = 1)	Union
Born abroad[f]	Worker is born abroad	Dummy	1996	Person has been born abroad (PM001 = 4 or 6)	Non-White
Education, med.	Has a bachelor or equiv. degree	Dummy	1996	Highest completed educ.: 2nd stage of secondary (ISCED 3, PT022 = 2)	Some college
Education, high	Has a master or eq. or higher degree	Dummy	1996	Highest completed educ.: recognised 3rd level (ISCED 5–7, PT022 = 1)	College Graduate
Married	Worker is married	Dummy	1996	Present marital status: married (PD005 = 1)	Married
Number of kids	Number of household members under 16	Count, heads	1996	Number of household members (HD001) – those 16 or above (HD002)	Number of kids
Capital income[g]	Household's net capital income	€1,000, nominal	1996	Net capital income (HI121, gross amount for Finland and France)	Capital inc./1000
Densely pop.[h]	Household in a densely pop. area	Dummy	1996	Urb. (HG016 = 1); Community (HG017 = 3); Dens. (REGIO d3densit ≥ 500)	MSA
Unemployment[i]	Local unemployment rate (NUTS aggr.)	Per cent	1996	Regional (ECHP NUTS aggr.) unemployment rate (REGIO un3rt)	Unempl. rate

Notes: (a) Units (except for currency; Tenure in years rather than in months) correspond to Bruce and Schuetze (2004); (b) the codes in parentheses refer to variables in ECHP, with the two exceptions extracted from the Eurostat New Cronos REGIO database; (c) the column indicates the nearest corresponding variable of Bruce and Schuetze (2004)—major dissimilarities are documented in a note attached to the variable name; (d) the problem of unavailable tenure information (7.9% of the individuals) is circumvented by replacing missing values of Tenure and Tenure2 by zero and coding the Tenure unavail. dummy indicating when such replacements have been made; (e) ECHP does not record respondents union membership used in Bruce and Schuetze (2004)—while the 'replacement' variable employed here is believed to be correlated union membership, it is dissimilar; (f) ECHP does not record respondents race, which is used in Bruce and Schuetze (2004)—while the replacement is correlated with non-white race, it is dissimilar; (g) Capital income is missing for 0.09% of the individuals—missing values are replaced by zero; (h) in order to avoid the problem of missing values, the dummy is coded as follows: set to 1 for households located in a 'densely-populated area' (code 1) in terms of 'degree of urbanisation' (HG016) and to 0 for other non-missing values; for the still missing observations set to 1 for households whose 'village or town' (HG017) is 'larger town' (code 3) and to 0 for other non-missing values; for the still missing values REGIO's population density is used to construct a regional (NUTS aggregates, HG015) densely-populated dummy (with the cut-off of at least 500 inhabitants per km2, as suggested by Eurostat); (i) REGIO's regional unemployment rate; if unavailable, the national unemployment rate is used instead.

Table 5 presents the descriptive statistics of the sample. Among other things the Table suggests that an average male is self-employed for about a week and a half within the five-year window (i.e., for

2.6% of a year), whereas an average female is self-employed for only a couple of days (i.e. for 1.1% of a year). A comparison of our European sample to the US sample used in Bruce and Schuetze (2004) suggests that the self-employment frequency is clearly lower in Europe than in the US: The corresponding figures for the US range from 5.3% to 13.2% for males and from 2.4% to 4.2% for females. In our European sample, individuals are also on average older; have longer tenure; are more educated; are more often married; and have fewer children than the individuals in the US sample of Bruce and Schuetze (2004). The average regional EU unemployment rate is in our sample almost twice as high as the corresponding US country-level figure.

Table 5: Descriptive Statistics

Variable	Males					Females				
	Obs.	Mean	S. dev.	Min.	Max.	Obs.	Mean	S. dev.	Min.	Max.
Wage, net, end	14979	2.178	0.562	-2.318	5.438	10259	2.062	0.543	-2.260	4.895
Wage, gr., end	14153	2.462	0.630	-1.789	6.071	9871	2.352	0.605	-1.682	5.395
Wage, net, start	14979	1.929	0.598	-2.660	5.159	10259	1.807	0.564	-3.018	4.762
Wage, gross, st.	14153	2.203	0.670	-2.176	5.694	9871	2.091	0.637	-2.998	5.309
Self-empl. years	14979	0.026	0.233	0	4	10259	0.011	0.151	0	4
Unempl. years	14979	0.057	0.309	0	4	10259	0.056	0.305	0	4
Age	14979	38.052	9.361	18	60	10259	37.575	9.344	18	60
Age^2	14979	1.536	0.724	0.324	3.600	10259	1.499	0.712	0.324	3.600
Tenure	14979	8.094	6.571	0	18	10259	7.469	6.315	0	18
Tenure^2	14979	0.109	0.119	0.000	0.324	10259	0.096	0.113	0.000	0.324
Tenure unavail.	14979	0.083	0.277	0	1	10259	0.073	0.260	0	1
Club member	14979	0.428	0.495	0	1	10259	0.339	0.473	0	1
Born abroad	14979	0.023	0.151	0	1	10259	0.028	0.165	0	1
Education, med.	14979	0.397	0.489	0	1	10259	0.374	0.484	0	1
Education, high	14979	0.245	0.430	0	1	10259	0.299	0.458	0	1
Married	14979	0.701	0.458	0	1	10259	0.626	0.484	0	1
Number of kids	14979	0.948	1.068	0	9	10259	0.794	0.956	0	8
Capital income	14979	0.451	2.394	0	163.914	10259	0.481	2.474	0	163.914
Densely pop.	14979	0.342	0.474	0	1	10259	0.388	0.487	0	1
Unemployment	14979	10.102	5.802	3.2	31.2	10259	9.963	5.156	3.2	31.2

Notes: Exchange rates as provided in ECHP. As the Italian figures are in 1,000 of liras, the exchange rate is divided by 1,000. *Source:* The authors' calculations using ECHP.

Table 6 represents ordinary least squares (OLS) estimates of the model with the natural logarithm of the male (columns 1–4) or female (columns 5–8) worker's average hourly net (columns 1, 2, 5, and 6) or gross (columns 3, 4, 7, and 8) wage as the dependent variable. The model is estimated with (even numbered columns) and without (odd numbered columns) the initial period wage as a control variable (see above for discussion). The variance-covariance matrix has been estimated using White's (1980) heteroscedasticity-consistent estimator.[13]

Table 6: Regression Results of the Wage Model

Variable	Males				Females			
	Wage, net, end		Wage, gr., end		Wage, net, end		Wage, gr., end	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Wage, net, start		.593 ***				.643 ***		
Wage, gr., start				.622 ***				.670 ***
Self-empl. years	-.051 ***	-.021 +	-.051 ***	-.028 **	-.121 ***	-.055 +	-.124 **	-.064 +
Unempl. years	-.122 ***	-.079 ***	-.128 ***	-.082 ***	-.098 ***	-.056 ***	-.111 ***	-.066 ***
Age	.019 ***	-.004 *	.021 ***	-.006 **	.028 ***	-.002	.030 ***	.000
Age^2	-.211 ***	.030	-.245 ***	.048 +	-.337 ***	.004	-.377 ***	-.021
Tenure	-.005 **	-.011 ***	-.003	-.011 ***	-.002	-.011 ***	-.001	-.012 ***
Tenure^2	.700 ***	.694 ***	.673 ***	.711 ***	.765 ***	.708 ***	.783 ***	.770 ***
Tenure unavail.	.028 +	-.026 *	.041 **	-.034 **	.024	-.023	.017	-.029 +
Club member	.043 ***	.017 ***	.052 ***	.018 ***	.048 ***	.015 **	.058 ***	.016 **
Born abroad	-.023	-.019	-.022	-.023	-.038 *	-.021	-.034 +	-.023
Education, med.	.152 ***	.069 ***	.153 ***	.064 ***	.190 ***	.069 ***	.200 ***	.069 ***
Education, high	.442 ***	.210 ***	.482 ***	.218 ***	.442 ***	.165 ***	.482 ***	.174 ***
Married	.070 ***	.016 **	.059 ***	.012 *	-.026 ***	-.021 ***	-.027 ***	-.026 ***
Number of kids	.010 ***	.004 +	.006 *	.004 +	-.004	-.004	-.013 ***	-.007 **
Capital income	.007 **	.004 ***	.009 ***	.005 ***	.005 ***	.004 **	.006 ***	.004 **
Densely pop.	.054 ***	.021 ***	.069 ***	.027 ***	.053 ***	.022 ***	.065 ***	.026 ***
Unemployment	-.010 ***	-.004 ***	-.012 ***	-.005 ***	-.004 ***	-.001	-.006 ***	-.002 **
A constant and country dummies included in all specifications (complete results available upon request).								
Observations	14979	14979	14153	14153	10259	10259	9871	9871
Adjusted R^2	0.60	0.75	0.64	0.79	0.54	0.73	0.59	0.78

Notes: Entries are White (1980) heteroscedasticity-consistent OLS coefficient estimates. The dependent variable as indicated in the column header. Estimated with Stata 8.2 SE for Windows. ***, **, *, and $^+$ respectively indicate statistical significance at 1, 5, 10, and 15 per cent levels. *Source:* The authors' estimates based on ECHP.

Our results for Europe are in general very similar to those obtained by Bruce and Schuetze (2004) for the US. Considering first the columns in which there is no control for endogeneity in Table 6 (the odd numbered columns), we find that self-employment experience is associated with reduced wages upon returning to paid-employment. The coefficients range from -0.05 (men) to -0.12 (women) and are statistically significant at better than 5% level. We obtain a similar, negative relation for unemployment experience. The coefficient of the *unemployment years* variable is for men larger in absolute value (i.e., more negative) than the coefficient of the *self-employment years* variable. The opposite holds for women.

Turning then to the columns in which the (logarithm of) hourly wage at the beginning of the five-year window is included among the regressors (the even numbered columns), we find that this control for endogeneity obtains a significant and positive coefficient, and that its size is close to what is reported in Bruce and Schuetze (2004). We find that both men and women select 'negatively' into self-employment: the coefficients of the *self-employment years* variable are clearly smaller in the specifications controlling for endogeneity. With one exception (column 4, significant at 5% level) the coefficients of the *self-employment years* are not significant at 10% level. Albeit measured imprecisely, these coefficient estimates suggest that an additional year in self-employment reduces the post self-employment wage by about 2–3% for a male and by about 5–6% for a female compared to a year of continued paid-employment. The findings of Bruce and Schuetze (2004) suggest that—after

controlling for endogeneity and taking the most recent wave (i.e., 1985–1990)—the US equivalent is 11% (significant at the 5% level) for a male and 13% (not significant at the 5% level) for a female.[14] It thus appears that the stigma of discontinued self-employment, while present in both continents is possibly *less* severe in European labour markets.

The coefficients of unemployment experiences are significant at the 1% level even after controlling for endogeneity. However, both men and women select 'negatively' into unemployment, as the coefficients are smaller in the specifications controlling for endogeneity. An additional year in unemployment reduces the post unemployment wage by about 8% for a male and by about 5–6% for a female, compared to a year of continued paid-employment. In the US the stigma associated with an additional year in unemployment tends to be larger in magnitude compared to that of self-employment; the most recent comparable numbers for the US from Bruce and Schuetze (2004) are 16% (significant at the 5% level) for a male and 9% (not significant at the 5% level) for a female.

The coefficient estimates on the other variables—not to be discussed in great detail here—are consistent with Bruce and Schuetze (2004) as well as with most other reported wage regressions we are aware of.

So far we have allowed the consequences of self- and unemployment spells to differ only by gender. Yet we cannot exclude the possibility that the effects of lost experience in paid-employment are heterogeneous. Williams (2000) argues, for example, that individuals' ability to maintain their human capital outside paid-employment may vary across industries and would-be wage occupations. We consider therefore the related possibility that the effects of self-employment and unemployment spells depend on the (initial) level of formal education an individual has. Formal education is a proxy for individuals' general (and sometimes also industry-specific) human capital, because educational investments are a primary means to accumulate it. The processes of maintenance and depreciation of this type of human capital are, however, less well understood. While it is the finite lifespan of individuals that ultimately causes their general human capital to depreciate, the rate of that depreciation can well depend on whether one is in paid or self-employment. Self-employment may, for example, be a means to maintain human capital when wage-sector employment is not available (Bruce & Schuetze, 2004). This view suggests that self-employment may be unemployment in disguise (Earle & Sakova, 2000), especially for those who have a lot to lose in terms of general human capital. The alternative outcome of short self-employment spells for the highly educated is that self-employment stagnates previously acquired professional skills, leading to a reduced wage after exiting.

Table 7 provides evidence that, as far as males are concerned, brief spells of self-employment have more detrimental labour market consequences for the more educated, rather than for the less educated, i.e., for those not holding a master equivalent or a higher degree. There is, however, a rather clear gender difference, as the findings are sharper for males: for the highly educated males, the self-employment stigma is now statistically significant at the 10% level also in the specifications controlling for endogeneity: An additional year of self-employment reduces (according to these specifications) wages by 4–5%. For the less educated, the effect is smaller or almost non-existent. For them, the coefficients are statistically significant only in the specifications not controlling for endogeneity.

The effects are even more pronounced for unemployment—and now highly statistically significant for males across the board: after controlling for endogeneity, an additional year of unemployment reduces the wage of the highly educated about 14–16%. This reduction is 7–9 percentage points lower for the less educated. This difference is statistically significant at better than 5% level.

As shown in the Table, the *difference* between the effects of self-employment and unemployment spells, i.e., the self-employment–unemployment stigma gap, is positive both for the highly and less educated males. This finding suggests that brief spells of unemployment are more detrimental in terms of lost wage income than brief spells of self-employment. The difference in the two effects appears to be somewhat larger for the better educated males, but it is statistically significant only in the specifications not controlling endogeneity, and even there only marginally so.

As for females, the evidence is more mixed. If anything, we do not find any significant differences between the highly and less educated, after controlling for endogeneity.

Table 7: Regression Results of the Model with Separate Labour Market Experience Measures for the Highly Educated and Others

Variable	Males				Females			
	Wage, net, end		Wage, gr., end		Wage, net, end		Wage, gr., end	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Wage, net, start		.592 ***				.643 ***		
Wage, gr., start				.621 ***				.670 ***
Education, med.	.152 ***	.069 ***	.153 ***	.064 ***	.190 ***	.069 ***	.200 ***	.069 ***
Education, high	.442 ***	.210 ***	.482 ***	.218 ***	.442 ***	.165 ***	.482 ***	.174 ***
Self-em., Educ., high[a]	-.095 ***	-.043 *	-.103 ***	-.050 *	-.095	-.044	-.085	-.058
Self-em., Educ., not h.[b]	-.036 **	-.013	-.033 *	-.021 +	-.137 ***	-.061 +	-.147 ***	-.067
S.-em., Ed., h. – not h. [c]	*-.059* *	*-.030*	*-.070* *	*-.029*	*.042*	*.017*	*.062*	*.009*
Unem., Educ., high[a]	-.242 ***	-.146 ***	-.277 ***	-.164 ***	-.153 ***	-.038	-.186 ***	-.065 **
Unem., Educ., not h.[b]	-.110 ***	-.072 ***	-.112 ***	-.073 ***	-.087 ***	-.059 ***	-.096 ***	-.066 ***
Unem.., Ed., h. – not h. [c]	*-.132* ***	*-.074* **	*-.165* ***	*-.091* ***	*-.066* **	*.021*	*-.090* ***	*.001*
Self – unem., Ed., high [d]	*.147* ***	*.103* ***	*.174* ***	*.114* ***	*.058*	*-.006*	*.101*	*.007*
Self – unem., Ed., not h. [d]	*.073* ***	*.059* ***	*.079* ***	*.052* ***	*-.050*	*-.002*	*-.051*	*-.001*
S. – un., Ed., h. – not h. [e]	*.074* +	*.044*	*.095* *	*.062*	*.108*	*-.004*	*.152*	*.008*

Also including: Age, Age^2, Tenure, Tenure^2, Tenure unavail., Club member, Born abroad, Married, Number of kids, Capital income, Densely pop., Unemployment as well as a constant term and country dummies (complete results available upon request).

Observations	14979	14979	14153	14153	10259	10259	9871	9871
Adjusted R^2	0.61	0.75	0.65	0.79	0.54	0.73	0.59	0.78

Notes: Entries not in italics are White (1980) heteroscedasticity-consistent OLS coefficient estimates. Entries in italics are differences of coefficient estimates as indicated in the first column—the performed t-tests and their significance levels have the same interpretation as those of the coefficient estimates. Some output not reported in the interest of space (complete results available upon request). The dependent variable as indicated in the column header. Estimated with Stata 8.2 SE for Windows. ***, **, *, and + respectively indicate statistical significance at 1, 5, 10, and 15 per cent levels. (a) Self-Employment or Unemployment Years interacted with Education, High. (b) Self-Employment or Unemployment Years interacted with 1 minus Education, High. (c) The difference between the Self-Employment or Unemployment Years coefficients of the highly educated (Education, high = 1) and others (Education, high = 0); indicates the difference in the self-employment or unemployment experience stigma—if negative, the stigma is worse for the highly educated. (d) Indicates the self-employment–unemployment 'stigma gap' for the highly educated and others—if positive, the stigma of unemployment is larger than that of self-employment. (e) The difference between the stigma gaps of highly educated and others—if positive the gap for the highly educated is larger suggesting that in relative terms the labour market consequences of unemployment, as compared to self-employment, are worse for them than to those not highly educated. Source: The authors' estimates based on ECHP.

Non-Wage Outcomes

Table 8 reports a number of non-wage end-of-window outcomes of self-employment and unemployment experience. The first two sections of the Table focus on the labour market outcomes considered initially by Bruce and Schuetze (2004). The first section studies part-time employment. In the EU, part-time employment of males appears to be at least seven times rarer and of females twice rarer than in the US. In both, part-time employment is more common among those with self-employment or unemployment experience. The second section considers the probability of unemployment (conditional on being in paid-employment in the initial period). Compared to the US, it is higher in the EU across the board. Obviously it is high for those with unemployment experience.

Interestingly, it also is at least twice as high for those with self-employment experience, as compared to the total sample.[15]

Table 8: Non-Wage Outcomes of Self- and Unemployment Experience

Region: Year	Males			Females		
	All	Ever Self-Employed	Ever Unemployed	All	Ever Self-Employed	Ever Unemployed
(1) Labour market outcome: in part-time (PE005C = 2) employment at the end of the period [a]						
EU-14: 2001	1.07%	2.90%	1.53%	13.42%	21.43%	16.32%
US: 1990	7.35%	9.43%	21.67%	25.68%	44.44%	35.00%
(2) Labour market outcome: unemployed (PE001 = 7) at the end of the period [b]						
EU-14: 2001	2.92%	6.92%	30.19%	3.78%	7.23%	36.72%
US: 1990	1.93%	5.36%	7.69%	2.06%	0.00%	9.09%
(3) Satisfaction outcome: satisfied with work of main activity (PK001 = 4, 5, 6) [c]						
EU-14: 2001	82.87%	76.67%	74.23%	85.01%	72.46%	79.78%
(4) Satisfaction outcome: satisfied with present job in terms of type of work (PE033 = 4, 5, 6) [c]						
EU-14: 2001	84.64%	80.95%	82.51%	86.71%	73.91%	82.51%
(5) Satisfaction outcome: satisfied with present job in terms of job security (PE032 = 4, 5, 6) [c]						
EU-14: 2001	81.99%	68.10%	62.37%	84.96%	73.91%	69.32%
(6) Satisfaction outcome: satisfied with amount of leisure time (PK004 = 4, 5, 6) [c]						
EU-14: 2001	65.61%	48.42%	59.17%	64.42%	61.40%	64.92%
(7) Financial outcome: satisfied with financial situation (PK002 = 4, 5, 6) [c]						
EU-14: 2001	68.84%	54.98%	49.49%	71.37%	62.32%	57.10%
(8) Financial outcome: The worker's household is able to make ends meet (HF002 = 4, 5, 6) [c]						
EU-14: 2001	60.14%	44.24%	38.05%	65.05%	50.72%	49.20%
(9) Financial outcome: There is normally money to save in the worker's household (HF013 = 1) [c]						
EU-14: 2001	55.65%	37.29%	41.88%	58.51%	46.67%	47.47%

Notes: Entries are percentages of individuals with the condition specified in the subheadings appearing in *italics*. The figures in the above Table are calculated using the non-missing observations of the specified variable. The figures are end-year values as specified in the first column. (a) Refers to those in paid-employment (not self-employed or unemployed, here also including those working under 15 hours a week) at the end of the window—otherwise the sample is constructed as described in the previous sections. (b) Refers to those in or seeking paid-employment (not self-employed, here also including unemployed and those working under 15 hours a week) at the end of the window—otherwise the sample is constructed as described in the previous sections. (c) The same sample as in the previous sections is employed. *Source:* The authors' calculations based on ECHP.

Sections 3 through to 6 in Table 8 consider satisfaction in relation to labour market outcomes, which is not considered in previous studies. Satisfaction with work in main activity (Section 3), satisfaction with present job in terms of type of work (Section 4) and job security (Section 5) as well as satisfaction with available leisure time (Section 6). With one exception,16 the picture is uniform across the four measures: as compared to those in continuous paid-employment, the ones with self-

employment or unemployment experience are less satisfied with their paid-employment at the end of the five-year window (i.e., in 2001). As shown in Sections 7 through to 9, self-employment and unemployment experiences are associated with that household's dissatisfaction with financial situation (Section 7), inability to make ends meet (Section 8) and inability to save money (Section 9).

Table 9 considers non-wage consequences in a multivariate context. In this Table, the dependent variables and the samples are defined as in Table 8. Independent variables are as in the endogeneity-controlling net wage columns (2) and (6) in Table 6, with the following adjustments. Firstly, in order to ease interpretation, the self-employment and unemployment years variables are re-coded as dummies indicating whether the person did or did not have self-employment or unemployment experience within the window. Secondly, the initial period value of the dependent variable is included as a further control of endogeneity and unobserved individual effects.

For both males and females, the probability of part-time employment is over two and a half times higher for those having self-employment experience. The estimates suggest that the probability is one and a half times higher for those having unemployment experience, although the ratio for males is not significant.[17] Naturally, within-window unemployment also enormously increases its probability at the end.

As for the other non-wage outcomes in a multivariate context, for males—but not for females—we find some indication that job-related satisfaction is lower and financial situation is worse for those with self-employment experience. For example, for those who have self-employment experience, the probability of being normally able to save money is only 0.593 times that of the corresponding probability of those who have no such experience. This difference is significant at 1% level. Those with self-employment experience are also less satisfied with their financial situation, but this effect of self-employment experience is statistically not significant.

Table 9: Regression Results of the Non-Wage Models

Variable	Males		Females	
	Ever Self-Employed	Ever Un-employed	Ever Self-Employed	Ever Un-employed
(1) Dependent variable: in part-time employment at the end of the period				
	2.713 **	1.609	2.662 ***	1.570 ***
(2) Dependent variable: unemployed at the end of the period				
	1.922 *	26.472 ***	1.207	35.330 ***
(3) Dependent variable: satisfied with work of main activity				
	.964	1.002	.701	1.058
(4) Dependent variable: satisfied with present job in terms of type of work				
	1.081	.908	.652	1.119
(5) Dependent variable: satisfied with present job in terms of job security				
	.660 **	.571 ***	.788	.597 ***
(6) Dependent variable: satisfied with amount of leisure time				
	.700 **	1.072	1.305	1.219
(7) Dependent variable: satisfied with financial situation				
	.800	.771 **	1.254	.810 [+]
(8) Dependent variable: The worker's household is able to make ends meet				
	.831	.626 ***	.874	.769 **
(9) Dependent variable: There is normally money to save in the worker's household				
	.593 ***	.766 ***	.920	.803

Notes: Entries are partial odds ratios of heteroscedasticity consistent logit estimations. A unit increase in the variable (here switching from not having self-employment or unemployment experience to having it) increases the probability of the event defined by the dependent variable by the number of times the coefficient indicates. Estimated with Stata 8.2 SE for Windows. ***, **, *, and [+] respectively indicate statistical significance at 1, 5, 10, and 15 per cent levels. *Source:* The authors' estimates based on ECHP.

Our analysis has thus far revealed that as far as males are concerned, brief spells of self-employment have more detrimental labour market consequences for the more educated rather than for the less educated: An additional year of self-employment reduces (according to these specifications) wage earnings by 4–5%. For the less educated, the effect is smaller or almost non-existent. The difference is similar for brief spells of unemployment, suggesting that in particular highly educated men suffer in terms of lost wage upon returning to paid-employment after a short unemployment spell. Moreover, the analysis of non-wage outcomes showed that brief spells of self-employment are associated with increased probability of part-time employment upon returning to the wage sector. There is also some indication that, for men returning to paid-employment after a spell of self-employment, job-related satisfaction is lower and their financial situation is worse when compared to those continuing in the wage sector.

To shed further light on the differences between the more and less educated, we will explore if they are 'pushed' to self-employment in an effort to avoid unemployment. Table 10 suggests that this may indeed be the case: The probability of looking for a (new) job while in self-employment is as much as ten percentage points higher for the highly educated than for the others. The difference is statistically significant at 1% level. This finding suggests that self-employment seems to be unemployment in disguise, especially for highly educated males.

Table 10: Probabilities of Looking for a Job while Self-Employed

Variable	Males			Females		
	Educ., High[a]	Others[b]	Difference [c]	Educ., High[a]	Others[b]	Difference [c]
Looking for a job (PS001 = 1, 3, 5)[d]	18.75%	8.37%	10.38% ***	8.00%	3.23%	4.78%

Notes: Refers to the self-employment years of the individuals in the sample used in the wage outcomes section of this paper. Entries *not* in italics are the percentages of the individuals looking for a (new) job at the time. Entries in *italics* are differences (c) between the estimates for the highly educated (a) and others (b). The performed t-tests and their significance levels may be interpreted in the usual manner: ***, **, *, and [+] respectively indicate statistical significance at 1, 5, 10, and 15 per cent levels. *Source:* The authors' estimates based on ECHP.

Conclusions

Hundreds of thousands of Europeans enter self-employment each year, but self-employment spells are typically brief. Many of the new entrepreneurs therefore exit soon after entry. How do those who return to wage employment fare on the labour market? We addressed this question using the European Community Household Panel (ECHP), which covers almost all EU-15 countries and allows us to track flows from paid-employment to self-employment and unemployment, and the subsequent returns back to the wage sector. This paper provides the first European evidence in this regard, and builds upon the recent analyses of Williams (2000) and Bruce and Schuetze (2004), who deliver similar evidence for the US.

Our data suggests that about half of self-employment spells last only one year. Those who return to paid-employment do not earn more, and earn possibly less, than those who continued in the wage sector. However, a rather large part of this difference appears to be due to negative selection: our estimations suggest that those with low personal productivity, and thus with low wages in paid-employment, are more likely to transit into self-employment or unemployment. Like the earlier evidence for the US, ours indicates that after controlling for unobserved differences in productivity in the wage sector, brief spells of self-employment do not in general increase average hourly earnings upon return to paid-employment. For highly educated men, an additional year of self-employment actually decreases their earnings by 4–5% relative to a year of continued wage employment. Even this estimate is, however, conservative when compared to the range reported in Bruce and Schuetze (2004) for the US. Exiting European entrepreneurs do not seem to suffer from a disproportionately bad stigma of failure upon return to the labour market relative to their US counterparts.

Our analysis of non-wage outcomes showed that brief spells of self-employment are associated with increased probability of part-time employment upon returning to the wage sector. There is also some indication that, for men returning to paid-employment after a spell of self-employment, job-related satisfaction is lower and their financial situation is worse when compared to those continuing in the wage sector.

While both self-employment and unemployment stigma are higher for the more educated rather than for the less educated, the self-employment–unemployment 'stigma gap' is also larger for the more educated. This finding indicates that, as compared to self-employment, unemployment is more detrimental for the highly educated. We document that for the latter, the probability of looking for a

(new) job while self-employed is also higher. Because the more educated European self-employed are more likely to be in the process of searching for a new job in paid-employment, they may then consider self-employment to be a form of unemployment in disguise.

Ari Hyytinen
ETLA and University of Jyväskylä
Email: ari.hyytinen@etla.fi

Petri Rouvinen
EUI/RSCAS and ETLA
Email: petri.rouvinen@etla.fi

References

Blanchflower, D. G. (2000). 'Self-Employment in OECD Countries', *Labour Economics, 7*(5), 471-505.

Blanchflower, D. G., & Oswald, A. J. (1998). 'What Makes an Entrepreneur?' *Journal of Labor Economics,* 16(1), 26-60.

Bruce, D., & Schuetze, H. J. (2004). 'The Labor Market Consequences of Experience in Self-Employment', *Labour Economics,* 11(5), 575-598.

Earle, J. S., & Sakova, Z. (2000). 'Business Start-Ups or Disguised Unemployment? Evidence on the Character of Self-Employment from Transition Economies', *Labour Economics,* 7(5), 575-601.

EC. (2004). *Business Demography in Europe*. Luxembourg: Office for Official Publications of the European Communities.

Eurostat. (2003a). ECHP UDB manual: European Community Household Panel Longitudinal Users' Database, Waves 1 to 8, Survey years 1994 to 2001. *Doc. Pan 168/2003-12.*

Eurostat. (2003b). ECHP UDB: Description of variables, Data Dictionary, Codebook and Differences between Countries and Waves. *Doc. Pan 166/2003-12.*

Evans, D. S., & Jovanovic, B. (1989). 'An Estimated Model of Entrepreneurial Choice under Liquidity Constraints', *Journal of Political Economy,* 97(4), 808-827.

Evans, D. S., & Leighton, L. S. (1989). 'Some Empirical Aspects of Entrepreneurship', *American Economic Review,* 79(3), 519-535.

Gromb, D., & Scharfstein, D. (2002). Entrepreneurship in Equilibrium. *NBER Working Paper, 9001.*

Hamilton, B. H. (2000). 'Does Entrepreneurship Pay? An Empirical Analysis of the Returns of Self-Employment', *Journal of Political Economy,* 108(3), 604-631.

Kletzer, L. G. (1998). 'Job Displacement', *Journal of Economic Perspectives,* 12(1), 115-136.

Landier, A. (2002). Entrepreneurship and the Stigma of Failure. *University of Chicago, mimeo.*

Manning, A. (2003). *Monopsony in Motion: Imperfect Competition in Labor Markets*. Princeton, NJ: Princeton University Press.

Moskowitz, T. J., & Vissing-Jorgensen, A. (2002). 'The Returns to Entrepreneurial Investment: A Private Equity Premium Puzzle?' *American Economic Review,* 92(4), 745-778.

Parker, S. C. (2004). *The Economics of Self-Employment and Entrepreneurship*. Cambridge, UK: Cambridge University Press.

Pyy-Matikainen, M., Sisto, J., & Reijo, M. (2004). *The ECHP Study in Finland: Quality Report* (Vol. Living Conditions 2004:1). Helsinki: Statistics Finland.

Taylor, M. P. (1996). 'Earnings, Independence or Unemployment: Why Become Self-Employed?' *Oxford Bulletin of Economics and Statistics,* 58(2), 253-266.

Taylor, M. P. (1999). 'Survival of the Fittest? An Analysis of Self-Employment Duration in Britain', *Economic Journal,* 109(454), C140-C155.

White, H. (1980). 'A Heteroscedasticity-Consistent Covariance Matrix Estimator and a Direct Test for Heteroscedasticity', *Econometrica,* 48(4), 817-838.

Williams, D. R. (2000). 'Consequences of Self-Employment for Women and Men in the United States', *Labour Economics,* 7(5), 665-687.

Endnotes

1   Business demography in Europe (EC, 2004), a publication by The Enterprise Directorate-General of the European Commission and Eurostat, tracks the number of genuine enterprise births and deaths by using harmonised data on business demography within the European Union. In the seven participating countries (Denmark, Spain, Italy, Luxemburg, the Netherlands, Finland and Sweden), the total number of enterprise births was on average about 664,000 between 1999-2001. There were about 89 newly born enterprises in the whole of the business economy for every 10,000 inhabitants aged between 20 and 59 years old in these EU countries, providing us with a rough indicator of the average density of birth rate.

2   These numbers refer to the countries participating countries listed in Endnote 1; see Business demography in Europe (EC, 2004), Tables 4.3 and 4.11.

3   See Business demography in Europe (EC, 2004), Table 5.6.

4   In his recent study, Hamilton (2000) shows that (at least in the US) many workers are willing to enter and remain in self-employment despite the fact that they end up earning a substantially lower income than they would have earnt in paid-employment. A primary reason for this is that paid-employment would offer, on average, both higher initial wages and faster wage growth. Moskowitz and Vissing-Joergensen (2002) show that the risk/return trade-off of entrepreneurial investments in the US has on average been worse than for that of investments made on public stock markets.

5   For a survey of the labour market consequences of getting displaced from a job, see Kletzer (1998); see also Manning (2003, pp. 144-148).

6   Of course, we should also take into account the associated reduction in the deadweight loss of taxation due to the smaller public spending on unemployment benefits.

7   The official documentation is available at http://forum.europa.eu.int/irc/dsis/echpanel/info/data/information.html. User-to-user documentation is available at http://epunet.essex.ac.uk/echp.php.

8   For these national surveys are used throughout, as the countries only implemented the first three waves of the ECHP from 1994 to 1996.

9   Whereas PE001 defines the status at the time of the interview, the 'calendar of activities' records the monthly status January (PC001) through December (PC012) in the year preceding the survey, in a less detailed manner. The monthly status information is not, however, available for the Netherlands or Sweden, and is only partially available for France. The most frequent activity last year (PC013) is also among the calendar entries but it is not available for the Netherlands or Sweden. The calendar information is not exploited in this paper, although it offers some potentially interesting avenues for further research.

10   As the definition of self-employment status is crucial for our analysis, it is worthwhile to discuss it in some detail. In the ECHP, self-employed persons (or entrepreneurs) are defined as those engaged in economic activities for the acquisition of income on their own account and risk. Those working in an unlimited, limited, or partnership company are considered entrepreneurs if they alone (or with their families) own at least half of the company (as reported in Pyy-Matikainen, Sisto, & Reijo, 2004). In the ECHP, those temporarily absent are considered working if there is an arrangement for their return to work. Those absent for over half of a year are considered working only if receiving pay. Those employed in highly seasonal activities are not considered to be working during the off-season. Self-employment status is nevertheless intact if the place of work or equipment for business is maintained. As the self-employment reported main activity status is mutually exclusive, defining self-employment seems trivial (PE001 code 4). There are, however, at least two potentially important caveats. Firstly, entrepreneurs owning alone or with their immediate family less than half of their companies are not included in the definition of self-employed. This may result to the exclusion of especially high-tech and/or growth-orientated entrepreneurs that often have a number of founders (and thus stock holders) and/or have received significant external funding by selling their stock to outside parties. Secondly, as the main activity status is defined at the time of the interview on the basis of most time spent, the role of part-time entrepreneurship at the time of the interview and activity during the rest of the year is unclear. In the European context these are not likely to be major problems as far as the overall level of entrepreneurial activity is concerned, but may bias results, e.g., if one were to study economic effects of entrepreneurial activity.

11   As the employment status must be known for all six years, only individuals interviewed in all the years in the window can be considered.

12   It should be noted that those entering but not exiting self-employment or unemployment within the window are not included in the sample employed.

13 In the tests the null hypotheses of homoscedasticity (not shown) are rejected in all specifications at one per cent level.

14 It should be noted that the female self-employment estimate of Bruce and Schuetze (2004)—facing the problem of very small sample sizes—has to be treated with caution, as it is statistically significant for only one of the seven 5-year windows considered.

15 This does not hold, however, for US females. Due to the low number of observations, however, this non-finding is in doubt.

16 Satisfaction with the amount of leisure time is slightly higher for females having unemployment experience.

17 Recall here that part-time employment is quite rare among European males.