



From Own-Account Worker to Job Creator

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Abstract. This study aims to increase our understanding of the contribution of the self-employed to the job creation process by investigating the individual decision of hiring employees. Our framework considers the individual decision of becoming self-employed with employees from own-account self-employment, while other labour options such as paid employment, unemployment or inactivity are also considered. To this end, we apply multinomial logit models to data from the European Community Household Panel for the EU-15. The results suggest that informal processes for the acquisition of human capital (i.e., previous experience in the labour market or intergenerational transfers) present stronger effects on the decision of hiring employees than do the processes associated with formal education. In addition, we find that business earnings and economic growth have a strong positive effect on the likelihood of recruiting personnel, which supports the *prosperity-pull* argument. Finally, we also detect international divergences in this decision, which suggest the presence of specific regional factors at the institutional and/or cultural levels.

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1. Introduction

Governments around the world regard fostering entrepreneurship as a way of contributing to economic growth, innovation and the creation of jobs. In recent decades, Europe's entrepreneurial promotion policy has focused on the design of instruments that encourage people to enter self-employment to reduce Europe's productivity and entrepreneurial gaps with the US (European Commission 2003).

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Using the results of empirical literature on the determinants of self-employment as guidelines, these policies favour the choice of self-employment as an alternative to unemployment or paid employment.² These policies, however, cannot limit their objectives to achieving a temporary population of self-employed workers but must pay attention to mid- and long-term effects. This bias might be corrected by including specific incentives and instruments aimed at increasing the survival chances of self-employment. Indeed, the existing literature on self-employment survival provides some insights in this direction.³

However, together with the adequate promotion of transitions to self-employment and measures to favour survival, it is also necessary to focus on promoting the forms of self-employment that contribute to economic growth and job creation. Thus, the distinction between self-employment with and without employees (which the existing entrepreneurship research seems to have overlooked) allows researchers to distinguish between the self-employed workers who hire external labour and thus create jobs (employers) and those who work alone (own-account workers).⁴ Therefore, by stimulating the transitions from own-account worker to employer, the balance of European self-employment would be positively weighted towards employers rather than own-account workers. However, why do these policy portfolios treat promoting these transitions as a secondary issue? We might argue that this bias is the result of at least two sets of vectors.

First, entrepreneurial promotion policies have aimed to reduce the high and persistent unemployment rates (as happened in Europe during the 1980s and 1990s) in the service of active labour market policies (Pfeiffer and Reize 2000). The appropriateness of these policies has become a *hot* policy issue in the current crisis. Thus, some European governments are showing a renewed interest in the development and implementation of new start-up programmes, which may be distorting occupational choice. In this regard, the coexistence of incentives, schemes and other key elements, such as the lack of paid job opportunities in recessions, lower levels of educational attainment and/or strict levels of employment protection legislation, increase the likelihood of entering own-account work from unemployment (Román et al. 2010). However, if intended as entrepreneurship policy, these incentives aim not only to enhance self-

2. These programmes include, loan guarantee schemes; technology-transfer and innovation programmes; employment assistance programmes; and subsidised provision of business advice and assistance to small firms (Parker 2009).

3. See Millán *et al.* (2010) for a survey.

4. Earle and Sakova (2000) argue that it is useful to distinguish self-employed employers from own-account workers because the former represent clear cases of genuine entrepreneurship: they are creating jobs for others, implying that they have had some success in their businesses, that they have been able to secure capital and other inputs to work with their employees, and that they are most likely engaged in self-employment voluntarily. In contrast, the status of own-account workers is much less clear: although some of them may be successful entrepreneurs, others may instead be workers displaced from declining firms and sectors, forced to engage in whatever activity is necessary to ensure their survival.

employment but also favour the forms of self-employment that more demonstrably contribute to economic growth and job creation. Therefore, an adequate design of these incentives is necessary.

Second, the existing entrepreneurship research (which aims to serve as a policy guideline) seems to have overlooked the above distinction between entrepreneurs who hire external labour (employers) and entrepreneurs who work alone (own-account workers). As a consequence, to the best of our knowledge, there has been no analysis of the underlying determinants of the transitions from own-account worker to employer in the literature.

Addressing this issue is precisely the main aim of this work, that is, to identify the key factors for building a climate in which own-account workers can thrive by expanding their labour force. In the context of this analysis, other labour options such as paid employment, unemployment or inactivity are also considered. Thus, with a better understanding of this type of transition, we will be ready to design incentives and instruments that increase the contribution of the self-employed to job creation. To this end, multinomial logit models are applied to data from the European Community Household Panel for the EU-15.⁵

Our main empirical results support the existence of individual and macroeconomic factors that affect this (successful) decision. In particular, our results suggest that higher education, previous observed experience in the labour market, the presence of self-employed relatives, job tenure, hours of work and own-account work income have a positive impact on this transition. In addition, we observe that the unemployment rate has a strong negative impact on this type of transition, which supports the *prosperity-pull* argument. Finally, we detect international divergences in this kind of transition, which suggest the presence of specific regional factors at the institutional and/or cultural levels.

The remainder of this paper is structured as follows. Section 2 stresses the importance of the analysed transition and reviews the related literature. Section 3 describes the data, variables and sample design. Section 4 describes the econometric framework and Section 5 presents and discusses the main empirical results. Finally, the concluding remarks of the study are presented in Section 6.

2. From Own-Account Self-Employed to Job Creator

The term ‘own-account self-employed’ covers a diverse range of occupational realities, from artisans and farmers to the professional liberal and the high-technology consultant with an international clientele. Leaving aside some unique activities that, given their nature, are suited to own-account self-employment, the logical expansion of any entrepreneurial venture should result in a transition from own-account worker to employer.

5. The ECHP data are used with the permission of Eurostat (contract ECHP/2006/09, held with the Universidad de Huelva).

However, some elements can either foster or hinder the decision to become a job creator. On one hand, the character of demand shock (permanent or transitory) combined with the business' financial needs and labour costs play a key role in the viability of expansion. On the other hand, the self-employed worker's individual characteristics, such as gender, age, education, experience and degree of risk aversion, are additional elements to consider. In summary, entrepreneurial research should consider the following issues to analyse the individual decision to hire employees: (i) what are the underlying factors contributing to the transition from own-account work to employer?; (ii) how important are the financial issues concerning this decision?; and (iii) is there any business cycle effect?

The literature on the determinants of job creation by the self-employed remains rather limited: see, for example, Carroll et al. (2000) and Mathur (2010) for the US; and Westhead and Cowling (1995), Burke et al. (2000, 2002, 2009), Cowling et al. (2004) and Henley (2005) for the UK.

Carroll et al. (2000) investigated the effect of entrepreneurs' personal taxes on their use of labour and determined how substantial reductions in marginal tax rates affect entrepreneurs' hiring decisions and wage bills. Westhead and Cowling (1995) found empirical evidence to support the relationship between founder characteristics and the ability of small high-technology firms to create additional jobs.

Burke et al. (2000) explored the influence of individual characteristics on the propensity to become self-employed and on subsequent job and wealth creation. Burke et al. (2002) extended the analysis to disaggregate the results by gender, and Burke et al. (2009) completed the study with a disaggregation by region. Cowling et al. (2004) also focused on gender disaggregation and analysed the probability of being observed in self-employment and the probability of being an employer given self-employment.

Finally, using ordered probit models, Henley (2005) and Mathur (2010) presented micro-econometric evidence on the factors that influence small businesses' ability to create jobs. In contrast to the previously mentioned works, which reported linear results, these studies allowed the marginal effects of individual variables to vary over the job creation data range.

However, to the best of our knowledge, there has been no general econometric analysis of the transitions from own-account work to employer to date. In short, the previous literature is scarce and only adopted tangential approaches to the phenomena. Furthermore, the absence of an adequate dynamic dimension in these studies and their limitation to individual countries confirm the opportunity for our analysis.

3. Data, Variables and Sample Design

The data used come from the European Community Household Panel (ECHP). The ECHP is a panel of households referring to the EU-15⁶ covering the period 1994-2001. Every year all members of the selected households in each country are interviewed about issues relating to demographics, labour market, income and living conditions. The same questionnaire is used for all countries, which makes the information directly comparable.

The individuals in our dataset are asked about their employment status, which allow us to identify the employment transitions in our observation window (1994-2001). The main problem we face with this sample is how to distinguish between employers and own-account workers because this information is not directly available. However, the ECHP asks about the *number of regular paid employees in the local unit in the current job*. Thus, we consider self-employed with no employees as own-account workers and all other self-employed individuals as employers. Therefore, in our dataset, we consider transitions from own-account work to employer, paid employment, unemployment and inactivity. We take the own-account workers at $t-1$ that continue to be own-account workers at t as the reference category.⁷

Our final sample includes men and women between the ages of 21 and 59. We exclude workers in the agricultural industries from the analysis because of structural differences from the rest of the economy.

The empirical estimates include a set of explanatory variables related to gender, human capital (age, job tenure, previous observed experience and education), other personal characteristics (cohabitation status and number of children aged under 14), family background (presence of self-employed relatives), employment characteristics (business sector, hours of work and a control for full or part-time work), wealth (self-employment work income)⁸ and country dummies. We also introduce harmonised national unemployment rates from the OECD in an attempt to capture the state of the European economy.⁹

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6. We exclude France, Luxembourg and Sweden for different reasons. First, during the period 1997-2001, own-account workers cannot be distinguished from employers in France due to the high number of missing values we observe within the ECHP in the variable that allows making such distinction. Regarding Sweden and Luxembourg, the ECHP does not collect the information related to first waves, and missing values in relevant variables are present in other waves.
 7. Tables 1 and 2 (Appendix) present the distribution of observations and transitions across countries and periods. Table 4 (Appendix) summarises the mean values of transitions from own-account work, distinguishing by all different destination states: employership, paid employment, unemployment and inactivity.
 8. Incomes are corrected by purchasing power parities (comparability across countries) and harmonised consumer price indexes (comparability across time). In addition, this variable is lagged one year due to the possible endogeneity problem of the changes in these incomes related to business success or failure.
 9. We have obtained similar results by considering national employment rates and output gaps (OECD) as alternative measure of the macroeconomic conditions.

4. Econometric Framework

In order to provide a framework for the empirical analysis and because our data are individual specific, multinomial logit models are applied.¹⁰ Occupational choice models can be motivated by a random utility model. Let $Y_{i,t}$ be a random variable that indicates the choice made by individual i in period t . Each period, the i th own-account worker faces $J = 5$ choices: to continue as own-account worker, which is considered the reference category ($Y_{i,t}=0$); to switch to self-employment with employees ($Y_{i,t}=1$); to switch to paid employment ($Y_{i,t}=2$); to switch to unemployment ($Y_{i,t}=3$); and to switch to inactivity ($Y_{i,t}=4$). In this setting, suppose that the utility of choice j is:

$$U_{ij,t} = \beta'_j x_{i,t} + u_{ij}$$

The vector $X_{i,t}$ represents individual characteristics and economic conditions, β_j is the vector of coefficients associated with each choice to be estimated, u_{ij} is a disturbance term that includes the time-invariant unobserved heterogeneity (the person-specific effect).

If in period t the own-account worker makes choice j in particular, then we assume that $U_{ij,t}$ is the maximum among the J utilities. Hence the statistical model is driven by the probability that choice j is made in period t , conditioned on being own-account worker in period $t-1$, which is:

$$Pr(Y_{i,t}=j) = Pr(U_{ij,t} > \text{Max}\{U_{ik,t}\}_{k \neq j} | U_{i0,t-1} > \text{Max}\{U_{ik,t-1}\}_{k \neq 0})$$

McFadden (1974) showed that if (and only if) the J disturbances are independent and identically distributed with a type I extreme-value (Gumbel) distribution, i.e.:

$$F(u_{ij}) = \exp(-e^{-u_{ij}}),$$

then the model for occupational choice is:

$$Pr(Y_{i,t} = j) = \frac{e^{\beta_j x_{i,t-1}}}{\sum_{k=0}^4 e^{\beta_k x_{i,t-1}}}, j = 0,1,2,3,4$$

which leads to the multinomial logit model. With a convenient normalisation that sets $\beta_0=0$, the probabilities are:

$$Pr(Y_{i,t} = j) = \frac{e^{\beta_j x_{i,t-1}}}{1 + \sum_{k=1}^4 e^{\beta_k x_{i,t-1}}}, j = 0,1,2,3,4; \beta_0 = 0$$

10. This section draws especially on Greene (2003).

and the log-likelihood function is:

$$\ln L = \sum_i \sum_{j=0}^4 d_{ij,t} \ln \Pr(Y_{i,t} = j)$$

where $d_{ij,t}=1$ if alternative j is chosen by individual i in period t and 0 if not, for the possible outcomes. McFadden (1974) showed that the log-likelihood function is globally concave, which makes the maximisation problem straightforward.

Regarding the multinomial logit specifications, standard errors are adjusted for intra-individual correlation.¹¹ In addition, Table 6 reports the results of the Wald and likelihood ratio tests used to examine the null hypothesis that the coefficients of the alternatives do not differ significantly from each other for all possible combinations. In both tests, none of the categories should be combined because the null hypothesis was rejected. Therefore, the multinomial logit specification seems to be appropriate.

5. Results

This section presents the main results of our empirical analysis of the transition from own-account worker to job creator. In this context, our study also considers the following three destination states: paid employment, unemployment and status outside the labour force (economically inactive).¹²

Based on multinomial logit analyses, Table 3 shows four different specifications that serve as robustness checks for the obtained results. Together with demographic variables, national unemployment rates and country dummies, specification I includes as explanatory variables the educational attainment of the individual, the length of the spell as own-account worker, business sector dummies and some variables accounting for previous observed experience. Specification II also considers a variable capturing the self-employed worker's income, which served as a proxy for the business' financial state. Furthermore, it includes the number of weekly working hours, which we interpret as a proxy for the demand each business faces.¹³ Specification III substitutes the number of weekly working hours with a dummy which captures whether the individual

11. The multinomial logit model imposes the assumption of independence from irrelevant alternatives (IIA), which implies that the probability of choosing between two outcomes is not affected by the characteristics of the other alternatives. In this regard, McFadden (1974) argued that multinomial logit models should be used only in cases where the alternatives can plausibly be assumed to be distinct and weighted independently in the eyes of the decision maker. Under our view, the assumption of IIA in the context of our analysis is reasonable.

12. Within our sample, exits to inactivity involve education or training (5.8%); early retirement – before 59 years of age- (15%); doing housework, looking after children or other persons (45.8%); and some other activities (33.4%).

works part-time due to the high correlation we detected between these variables. Finally, in an attempt to identify gender effects in occupational choice, Specification IV includes interaction terms to capture the differentiated effect of cohabitation and the number of children under 14 for females.

We present results in the following manner: At the top of Table 3, the number of observations involved are reported. Below, results concerning each final destination for own-account workers (employership, paid employment, unemployment and inactivity) are independently presented. Each specification shows the corresponding predicted probabilities for the sample means of the continuous and discrete explanatory variables. Moreover, each specification is presented in a two-column format, in which marginal effects (and not coefficients) and t-statistics are reported.

The main empirical results can be summarised as follows. Considering the effect of demographic characteristics, we do not observe any effect of gender on the transitions to employership and unemployment. However, we observe that females are less likely to enter paid employment and more likely to leave the labour force (become economically inactive). We find that individuals aged between 21 and 30 years have a higher probability of becoming job creators and wage workers but that individuals over 50 years are more likely to become inactive. We do not find a significant age effect on transitions to unemployment. The variables that control for individuals living in couples and the number of children under 14 yield interesting effects when we intend to capture differentiated effects for males and females (see Specification IV). Thus, our results show that transitions to paid employment are less frequent for cohabiting females than they are for cohabiting males. In addition, the number of children under 14 increases transitions to unemployment for females and not for males. Finally, we find that transitions to inactivity are significantly more probable for women as the number of children under 14 increases and for cohabiting individuals. We conclude that the existence of traditional responsibilities for women must be behind these results.

The presence of self-employed relatives significantly increases the chances that own-account workers become employers, which reflects the importance of intergenerational transfers of human capital for business growth. On the other hand, we do not observe any effect of family background on transitions to paid employment, unemployment or inactivity.

Interestingly, we find a positive relationship between higher education and the probability that own-account workers expand the labour force. Similarly, the presence of this kind of education reduces inactivity chances. However, we find

13. Comparisons between specifications I and II show that the inclusion of the variables accounting for wealth and weekly working hours does not alter the obtained effects for other variables, which is consistent with an absence of endogeneity problems caused by these variables. In addition, a likelihood ratio test confirmed that the inclusion of these variables significantly improves the explanatory power of the model at the 1% significance level.

no significant effect for educational attainment in transitions to wage work or unemployment.

Based on our results for previous observed experience, European own-account workers are more likely to become employers when they have been self-employed in the past. We also find that previous experience reduces the likelihood of leaving self-employment by any exit route. This result confirms the absence of a *failure stigma*, which might be expected for those who were previously self-employed but had to exit that state. Similarly, human capital acquired in previous spells of paid employment increases business growth chances for own-account workers. However, this experience also increases the probability of switching back to wage work. Past spells of unemployment increases the probability that own-account workers would enter paid employment. Thus, previously unemployed own-account workers might prefer less risky labour states (i.e., wage work against own-account work) when they are available. Finally, as expected, previous unemployment increases the chances of re-entering unemployment but do not alter the likelihood of becoming employer.¹⁴

In terms of the relative importance of human capital for business growth, we observe that informal acquisition processes (i.e., previous experience in the labour market or intergenerational transfers) present stronger effects than do the processes associated with formal education.¹⁵

When we attempt to capture the effect of industrial affiliation, we observe that the probability of becoming employer is much lower for own-account workers in wholesale, hotels, restaurants, transport and other services than it is for those working in financial services or in the industrial and construction sectors. On the other hand, individuals in the construction sector have the highest probability of switching to wage work. We find no significant effect of business sector on exits to unemployment or inactivity.

We also analyse other variables such as weekly working hours. As noted above, we interpret this variable as a proxy of the existing demand each business faces. Thus, the number of working hours strongly increases the chances of entering employership but reduces the probability of exiting self-employment by any exit route. The summary statistics on weekly working hours for different transitions show that own-account workers who transition to employer work, on average, between 4.5 and 8.4 more hours per week than do those exiting to paid

14. Results concerning the impact of previous labour market experience need to be treated with some caution, given that this experience can be observed a maximum of seven years. However, the fact that recent experiences should present higher explanatory power than older ones suggests the inclusion of these variables in our analysis.

15. In particular, the probability of switching to employer for those who were self-employed or wage workers in the past increases 61% while the existence of relatives working as self-employed increases this probability by around 28%. On the contrary, the probability of entering employership has a 16% increase for those own-account workers with higher education (see Table 3, Appendix).

employment or unemployment or leaving the labour force (see Table 4, Appendix).

We obtain similar results when we substitute the number of weekly working hours by a dummy which captures whether the individual works part-time (see Specification III). Being a part-time worker reduces the chance of becoming employer but increases the likelihood of entering paid employment, unemployment and inactivity likelihood. Focusing on the main reasons for working less than 30 hours per week, 30% of the individuals declares doing housework and looking after children or other persons while around 20% wants but cannot find a full-time job (see Table 5, Appendix).

In terms of job tenure effect, our results show that more years of experience as an own-account worker increase the probability of becoming a job creator and reduce the chances of exiting self-employment. It is interesting to note that, on average, the own-account workers who become employers have between 2 and 4 more years of experience running their businesses than do those exiting to wage work, unemployment or inactivity (see Table 4, Appendix).

The incomes of own-account workers in the previous period also have a positive effect on transitions to employer and reduce exits to unemployment and inactivity. On one hand, this result supports the existence of liquidity constraint for business growth. On the other hand, it supports the idea that an own-account worker's successful development of an entrepreneurial venture should result in a transition to employer, which is the natural expansion of the business. Hence, business success (in terms of earnings) is a decisive element in the decision to hire or not to hire employees.

However, not just individual conditions affect this decision, but also the aggregated ones. By analysing the impact of business cycle, we find that economic growth has a clear positive impact on the likelihood of entering employership and reduces exits to unemployment. This result supports the *prosperity-pull* argument. We also obtain a positive cyclical effect for transitions out of the workforce. We might relate such decisions to the improving domestic economic situations that emerge in expansion periods.¹⁶ We find no significant effect of business cycle on the decision to enter wage employment.¹⁷

Finally, for country-specific effects, we find the greatest likelihood of becoming employer status in Finland, followed by Greece, Ireland and Spain. The

16. When unemployment rates increase a percentage point, transitions to employer and inactivity decrease by 7.3% and 4.8%, respectively, while exits to unemployment increase by around 7.2% (see Table 3, Appendix).

17. Lucas (1978) predicts that once entrepreneurs scale up production, expand employment, and bid up wages, relatively low-value own-account entrepreneurs draw out of entrepreneurship and into paid employment. In the same line, Rissman (2003) proposes a model that suggests that flows into self-employment are countercyclical and flows out of self-employment are procyclical. Therefore, the own-account self-employed may be a discouraged wage worker who finds his offered wages too low or his employment too sporadic in the wage sector. In this sense, our results do not support their view.

lowest probabilities are observed in the Netherlands, Denmark and the UK. Transitions to paid employment are more likely to occur in Spain, Portugal, the UK, Finland, the Netherlands and Denmark. Exits to unemployment are most probable in Greece. Finally, Germany, the UK, Spain, Austria and Ireland exhibit the highest likelihoods for transitions to inactivity.¹⁸ The existence of different scenarios for the regulatory environment –in particular, divergences in active labour market policies, the degree of employment protection and taxing frameworks- across countries might influence these results. Similarly, specific regional factors at the cultural level might also be involved. However, an analysis of these hypotheses is beyond the scope of the current study.

6. Conclusions

European entrepreneurial promotion policies reveal a marked bias in favour of measures that promote the entry of the unemployed or target groups into self-employment. However, they include a relatively low number of instruments oriented towards making workforce expansion more attractive to the self-employed.

We might argue that there are at least two important reasons to help us understand this fact. First, European governments have designed their entrepreneurship policies to reduce unemployment in the service of active labour market policies. Second, there is a lack of useful guidelines because existing entrepreneurship research has not analysed the determinants of the decision to hire external labour.

Thus, this paper investigated the underlying determinants of the transition from own-account worker to job creator. In this context, our study also considers the following three destination states: wage work, unemployment and exiting the labour force.

This study shows the influence of factors such as earnings or economic growth on job creation by the self-employed. Moreover, we observe that informal processes for the acquisition of human capital (i.e., previous experience in the labour market or intergenerational transfers) present stronger effects than do the processes associated with formal education. Therefore, it is necessary to foster the required entrepreneurial human capital to favour job creation by the self-employed. Furthermore, based on our finding that past spells of self-employment are one of the main drivers behind the decision to hire employees, it is perhaps logical to review the existing bankruptcy legislation with the aim of making restarting more attractive to entrepreneurs.

This study also shows that past spells of unemployment increase the likelihood of entering paid employment and the probability of switching back to

18. These results must be cautiously interpreted, taking into account the distribution of observations across countries for our exercises (see Table 1, Appendix).

unemployment. These results seem to confirm the view of self-employment as a *last resort* for low-skilled, unemployed individuals, who might return to unemployment when incentives disappear or enter paid employment when job offers are available.

Finally, one of the most interesting results refers to the existence of country-specific factors in Europe, which suggests the importance of international divergences at the institutional and/or cultural level. This result calls for further research to identify the exact underlying factors.

In conclusion, further studies on the determinants of the individual decisions to recruit personnel would help to improve the existing entrepreneurship policy and business environment and, consequently, would facilitate job creation by the self-employed. To this end, future studies might apply this framework of analysis to a broader range of countries and periods.

References:

- Burke, A. E., FitzRoy, F. R. and Nolan, M. A. (2000), "When Less is More; Distinguishing Between Entrepreneurial Choice and Performance", *Oxford Bulletin of Economics and Statistics*, 65, 567-587.
- Burke, A. E., FitzRoy, F. R. and Nolan, M. A. (2002), "Self-employment wealth and job creation: The roles of gender, non-pecuniary motivation and entrepreneurial ability", *Small Business Economics*, 19, 255-270.
- Burke, A. E., FitzRoy, F. R. and Nolan, M. A. (2009), "Is there a North-South Divide in Self-employment in England", *Regional Studies*, 43(4), 529-544.
- Carroll, R., Holtz-Eakin, D., Rider, M. and Rosen, H. S. (2000), "Income Taxes and Entrepreneurs' Use of Labour", *Journal of Labour Economics*, 18 (2), 324-351.
- Cowling, M., Taylor, M. and Mitchell, P. (2004), "Job Creators", *The Manchester School*, 72 (5), 601-617.
- Earle, J. S. and Sakova, Z. (2000), "Business start-ups or disguised unemployment? Evidence on the character of self-employment from transition economies", *Labour Economics*, 7, 575-601.
- European Commission (2003), "Green Paper. Entrepreneurship in Europe", Document based on COM (2003) 27 final, 21.01.2003, Enterprise Publications.
- Greene, W. H., (2003), *Econometric Analysis*, Fifth Edition, Prentice-Hall, New Jersey.
- Henley, A. (2005), "Job creation by the self-employed: the roles of entrepreneurial and financial capital", *Small Business Economics*, 25, 75-1196.
- Klepper, S. (1996), "Entry, exit, growth and innovation over the product life cycle", *American Economic Review*, 86, 562-83.
- Lucas, R. E. (1978), "On the size distribution of business firms", *Bell Journal of Economics*, 9, 508-23.
- McFadden, D., (1974), "Conditional logit analysis of qualitative choice behaviour", in P. Zarembka (ed.), *Frontiers in econometrics*. New York: Academic Press.
- Mathur, A. (2010), "Health insurance and job creation by the self-employed", *Small Business Economics*, 35, 299-317.
- Millán, J. M., Congregado, E. and Román, C. (2010), "Determinants of self-employment survival in Europe". *Small Business Economics* (forthcoming).
- Parker, S. C. (2009), *The Economics of Entrepreneurship*, Cambridge University Press, Cambridge.
- Pfeiffer, F. and Reize, F. (2000), "Business start-ups by the unemployed - an econometric analysis based on firm data", *Labour Economics*, 7, 629-663.
- Rissman, E. (2003), "Self-employment as an alternative to unemployment", *Federal Reserve Bank of Chicago*, WP 2003, 34.
- Román, C., Congregado, E. and Millán, J. M. (2010), "Start-up incentives: entrepreneurship policy or active labour market programme?", mimeo, Universidad de Huelva. Available at SSRN: <http://ssrn.com/abstract=1619990>.
- Westhead, P. and Cowling, M. (1995), "Employment Change in Independent Owner-Managed High Technology Firms in Great Britain", *Small Business Economics*, 7, 111-140.

APPENDIX

Variable definitions are reported below.

Dependent variables

Dependent variable	Dependent variable equals 1 for individuals who are own-account workers in period $t-1$ and become employers in period t . The variable equals 2 for individuals who are own-account workers in period $t-1$ and become wage workers in period t . The variable equals 3 for individuals who are own-account workers in period $t-1$ and become unemployed in period t . The variable equals 4 for individuals who are own-account workers in period $t-1$ and become inactive in period t . Finally, the variable equals 0 for individuals who are own-account workers in periods $t-1$ and t .
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Demographic characteristics

Female	Dummy equals 1 for females.
Age 21-30 (reference category)	Dummy equals 1 for individuals aged between 21 and 30 years old.
Age 31-40	Dummy equals 1 for individuals aged between 31 and 40 years old.
Age 41-50	Dummy equals 1 for individuals aged between 41 and 50 years old.
Age 50-59	Dummy equals 1 for individuals aged between 51 and 59 years old.
Cohabiting	Dummy equals 1 for cohabiting individuals.
Number of children under 14	Number of children aged under than 14 living within the household.
Relative(s) working as self-employed	Dummy equals to 1 if there are any in the household.

Education

No education / Very basic education (reference category)	Dummy equals 1 for illiterate, no schooling individuals, or individuals with primary schooling as highest education level achieved.
Primary schooling / Secondary schooling	Dummy equals 1 for individuals with secondary schooling as highest education level achieved.
University studies	Dummy equals 1 for individuals with university studies.

Business sector

Construction sector (reference category)	Dummy equals 1 for individuals whose codes of main activity of the local unit of the business is F (construction), by the Nomenclature of Economic Activities (NACE-93).
Industrial sector	Dummy equals 1 for individuals whose codes of main activity of the local unit of the business are C (mining and quarrying), D (manufactures) and E (electricity, gas and water supply), by the Nomenclature of Economic Activities (NACE-93).
Financial services	Dummy equals 1 for individuals whose codes of main activity of the local unit of the business are J (Financial intermediation) and K (real estate, renting and business activities), by the Nomenclature of Economic Activities (NACE-93).
Wholesale, hotels, restaurants and transport	Dummy equals 1 for individuals whose codes of main activity of the local unit of the business are G (wholesale and retail trade; repair of motor vehicles, motorcycles and personal/household goods), H (hotels and restaurants) and I (transport, storage and communication), by the Nomenclature of Economic Activities (NACE-93).
Other services	Dummy equals 1 for individuals whose codes of main activity of the local unit of the business are L (public administration and defense; compulsory social security), M (education), N (health and social work) and O-Q (other community, social and personal service activities; private households with employed persons; extra-territorial organizations and bodies), by the Nomenclature of Economic Activities (NACE-93).

Employment characteristics

Hours of work per week	Hours of work per week.
Part-time worker	Dummy equals 1 for individuals working less than 30 hours per week (unless the individual consider her work as full-time work).
Job tenure as own-account worker	Number of years as own-account worker.

Previous observed experience

Previous spell(s) as self-employed	Dummy equals 1 for individuals with observed previous spell(s) as self-employed.
Previous spell(s) as paid employed	Dummy equals 1 for individuals with observed previous spell(s) as paid employed.
Previous spell(s) as unemployed	Dummy equals 1 for individuals with observed previous spell(s) as unemployed.

Incomes

Incomes as own-account worker (1 lag)	Incomes earned as own-account worker during period $t-1$, converted to average euros of 1996, being corrected by purchasing power parity (across countries) and harmonised consumer price index (across time). Variable expressed in thousands of euros.
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Business cycle

National unemployment rate	Harmonised annual unemployment rate (source: OECD).
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Country dummies

Country name (Spain is the reference category)	Dummies equal 1 for individuals living in the named country (Austria, Belgium, Denmark, Finland, Germany, Greece, Ireland, Italy, Netherlands, Portugal, Spain and the United Kingdom).
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Table 1. Distribution of observations across countries

	All observations	Observations not switching	Observations switching from own-account worker TO			
			Employer	Paid employment	Unemployment	Inactivity
Austria	290	200	58	15	0	17
Belgium	396	319	57	9	4	7
Denmark	291	242	7	27	7	8
Finland	739	502	155	52	17	13
Germany	631	444	98	45	7	37
Greece	3,251	2,384	575	160	55	77
Ireland	696	503	120	35	15	23
Italy	2,123	1,678	255	95	43	52
Netherlands	594	494	3	58	10	29
Portugal	1,763	1,311	267	128	10	47
Spain	2,974	2,256	340	223	62	93
UK	1,444	1,105	83	163	16	77
Total	15,192	11,438	2,018	1,010	246	480

Table 2. Distribution of observations across periods

t-1 → t	All observations	Observations not switching	Observations switching from own-account worker TO			
			Employer	Paid employment	Unemployment	Inactivity
1994 → 1995	2,538	2,133	45	175	69	116
1995 → 1996	2,262	1,978	37	131	48	68
1996 → 1997	2,383	1,529	590	170	40	54
1997 → 1998	2,294	1,654	368	160	32	80
1998 → 1999	2,149	1,591	308	157	32	61
1999 → 2000	1,750	1,302	308	90	11	39
2000 → 2001	1,816	1,251	362	127	14	62
Total	15,192	11,438	2,018	1,010	246	480

Table 3. Transitions from own-account work

	Pr ($Y_{i,t} = \bar{j}$)							
Number of observations	11,966							
Specification	(I)		(II)		(III)		(IV)	
Log likelihood	-11,623.7		-11,547.6		-11,559.3		-11,542.7	
	TRANSITIONS TO EMPLOYER							
Number of transitions	2,018							
Predicted probability (y)	0.1097		0.1092		0.1087		0.1086	
Variables	dy/dx	t-stat.	dy/dx	t-stat.	dy/dx	t-stat.	dy/dx	t-stat.
Demographic characteristics								
Female	-0.0174	-2.97***	-0.0096	-1.55	-0.0107	-1.75*	-0.0059	-0.48
Age 31-40 years ⁽¹⁾	-0.0237	-3.14***	-0.0257	-3.44***	-0.0252	-3.38***	-0.0252	-3.39***
Age 41-50 years ⁽¹⁾	-0.039	-4.87***	-0.0411	-5.19***	-0.0403	-5.09***	-0.0404	-5.1***
Age 51-59 years ⁽¹⁾	-0.0467	-5.78***	-0.0467	-5.83***	-0.0461	-5.76***	-0.0465	-5.8***
Cohabiting	0.0164	2.44**	0.0156	2.33**	0.0162	2.43**	0.0186	2.3**
Differentiated effect of cohabiting for females							-0.0066	-0.46
Number of children under 14	-0.0015	-0.46	-0.0015	-0.48	-0.0014	-0.44	-0.0018	-0.49
Differentiated effect of the number of children under 14 for females							0.0017	0.25
Relatives working as self-employed	0.0311	4.79***	0.0301	4.67***	0.0304	4.71***	0.0306	4.7***
Education								
Secondary education ⁽²⁾	0.0073	1.13	0.0064	0.99	0.006	0.93	0.006	0.93
University studies ⁽²⁾	0.0187	2.2**	0.0175	2.05**	0.0159	1.88*	0.0159	1.88*
Business sector								
Industrial sector ⁽³⁾	0.0031	0.34	0.0012	0.14	0.0037	0.41	0.0037	0.41
Financial services ⁽³⁾	0.0049	0.47	0.0013	0.13	0.0032	0.31	0.0033	0.32
Wholesale, hotels, restaurants and transport ⁽³⁾	-0.0284	-3.87***	-0.0335	-4.52***	-0.0294	-4.03***	-0.0293	-4.02***
Other services ⁽³⁾	-0.0286	-3.3***	-0.0285	-3.3***	-0.0263	-2.99***	-0.0263	-3***
Employment characteristics								
Hours of work per week			6.85E-04	3.72***				
Part-time worker					-0.0432	-4.27***	-0.0431	-4.27***
Job tenure as own-account worker	0.0012	2.37**	0.0011	2.16**	0.0011	2.02**	0.0011	2.03**
Previous observed experience								
Previous spell(s) as self-employed	0.0699	14.2***	0.0668	13.45***	0.0661	13.34***	0.0661	13.36***
Previous spell(s) as paid employed	0.0651	6.78***	0.0669	6.89***	0.0651	6.77***	0.0651	6.76***
Previous spell(s) as unemployed	0.0036	0.6	0.0064	1.04	0.006	0.99	0.0058	0.96
Incomes								
Incomes as own-account worker (1 lag) ('000)			8.61E-04	3.55***	8.66E-04	3.59***	8.72E-04	3.62***
Business cycle								

National unemployment rate (%)	-0.008	-5.89***	-0.0077	-5.74***	-0.0076	-5.69***	-0.0076	-5.7***
Country dummies								
Austria ⁽⁴⁾	-0.0132	-0.62	-0.013	-0.61	-0.0108	-0.5	-0.0106	-0.49
Belgium ⁽⁴⁾	-0.0246	-1.6	-0.0252	-1.64	-0.0217	-1.38	-0.0215	-1.36
Denmark ⁽⁴⁾	-0.1035	-18.08***	-0.1029	-17.93***	-0.1023	-17.75***	-0.1022	-17.73***
Finland ⁽⁴⁾	0.076	3.84***	0.0802	4***	0.0786	3.97***	0.0785	3.97***
Germany ⁽⁴⁾	-0.0229	-1.61	-0.0273	-2**	-0.0258	-1.87*	-0.0257	-1.86*
Greece ⁽⁴⁾	0.0088	0.73	0.0113	0.93	0.0109	0.91	0.0108	0.9
Ireland ⁽⁴⁾	0.0049	0.33	0.0031	0.21	0.0039	0.27	0.004	0.27
Italy ⁽⁴⁾	-0.0295	-3.21***	-0.0266	-2.84***	-0.0285	-3.12***	-0.0285	-3.13***
Netherlands ⁽⁴⁾	-0.124	-34.16***	-0.1234	-34.02***	-0.1226	-33.49***	-0.1224	-33.49***
Portugal ⁽⁴⁾	-0.0403	-3.25***	-0.0347	-2.68***	-0.0347	-2.71***	-0.0347	-2.7***
United Kingdom ⁽⁴⁾	-0.0921	-12.76***	-0.0917	-12.79***	-0.0916	-12.88***	-0.0915	-12.87***
Reference categories: (1) Age 21-30, (2) No education or primary education, (3) Construction sector, (4) Spain								

TRANSITIONS TO PAID EMPLOYMENT								
Number of transitions	1,010							
Predicted probability (y)	0.0549		0.0544		0.0549		0.0546	
Variables	dy/dx	t-stat.	dy/dx	t-stat.	dy/dx	t-stat.	dy/dx	t-stat.
Demographic characteristics								
Female	-0.008	-1.94*	-0.0123	-2.96***	-0.0105	-2.49**	4.15E-04	0.06
Age 31-40 years ⁽¹⁾	-0.0135	-2.91***	-0.0128	-2.74***	-0.0131	-2.81***	-0.0132	-2.84***
Age 41-50 years ⁽¹⁾	-0.0155	-3.06***	-0.0151	-2.97***	-0.0154	-3.01***	-0.0159	-3.14***
Age 51-59 years ⁽¹⁾	-0.0184	-3.2***	-0.0189	-3.33***	-0.0189	-3.29***	-0.0199	-3.52***
Cohabiting	-0.0074	-1.44	-0.0067	-1.31	-0.0071	-1.39	-6.5E-04	-0.11
Differentiated effect of cohabiting for females							-0.0162	-2.06**
Number of children under 14	-7.8E-04	-0.35	-7.1E-04	-0.33	-9.4E-04	-0.43	-0.0017	-0.65
Differentiated effect of the number of children under 14 for females							0.0019	0.42
Relatives working as self-employed	-0.007	-1.68*	-0.0067	-1.62	-0.0069	-1.65*	-0.0059	-1.39
Education								
Secondary education ⁽²⁾	0.0042	0.87	0.0041	0.87	0.0043	0.9	0.0041	0.87
University studies ⁽²⁾	0.0055	1.02	0.0048	0.9	0.0059	1.1	0.0057	1.06
Business sector								
Industrial sector ⁽³⁾	-0.0133	-2.51**	-0.0119	-2.2**	-0.0136	-2.57**	-0.0135	-2.54**
Financial services ⁽³⁾	-0.0144	-2.77***	-0.0132	-2.5**	-0.0142	-2.72***	-0.014	-2.69***
Wholesale, hotels, restaurants and transport ⁽³⁾	-0.0305	-5.97***	-0.0251	-4.87***	-0.0298	-5.83***	-0.0295	-5.79***
Other services ⁽³⁾	-0.0119	-2.09**	-0.0128	-2.29**	-0.0134	-2.4**	-0.0135	-2.44**
Employment characteristics								
Hours of work per week			-6.8E-04	-4.69***				
Part-time worker					0.0243	2.53**	0.0251	2.6***
Job tenure as own-account worker	-0.0025	-6.09***	-0.0025	-6.07***	-0.0025	-5.93***	-0.0025	-5.94***

Previous observed experience								
Previous spell(s) as self-employed	-0.0288	-6.25***	-0.0271	-5.87***	-0.0272	-5.85***	-0.027	-5.82***
Previous spell(s) as paid employed	0.0399	5.82***	0.0394	5.78***	0.0402	5.81***	0.0398	5.77***
Previous spell(s) as unemployed	0.0166	3.78***	0.0151	3.49***	0.0157	3.6***	0.0154	3.54***
Incomes								
Incomes as own-account worker (1 lag) ('000)			-1.7E-04	-0.74	-2.2E-04	-0.94	-2.2E-04	-0.96
Business cycle								
National unemployment rate (%)	-0.001	-0.99	-0.001	-1	-0.0011	-1.1	-0.0011	-1.12
Country dummies								
Austria ⁽⁴⁾	-0.028	-2.73***	-0.0269	-2.57**	-0.0285	-2.83***	-0.0281	-2.78***
Belgium ⁽⁴⁾	-0.0395	-5.81***	-0.038	-5.33***	-0.0399	-5.97***	-0.0394	-5.84***
Denmark ⁽⁴⁾	-0.0107	-0.82	-0.01	-0.76	-0.0113	-0.88	-0.0104	-0.79
Finland ⁽⁴⁾	-0.0067	-0.79	-0.0079	-0.95	-0.0072	-0.86	-0.0066	-0.78
Germany ⁽⁴⁾	-0.0225	-2.87***	-0.0206	-2.52**	-0.0222	-2.79***	-0.0218	-2.73***
Greece ⁽⁴⁾	-0.0157	-2.17**	-0.0159	-2.23**	-0.0163	-2.28**	-0.0163	-2.28**
Ireland ⁽⁴⁾	-0.0263	-3.86***	-0.0267	-3.99***	-0.0268	-3.98***	-0.0266	-3.95***
Italy ⁽⁴⁾	-0.0251	-4.12***	-0.0266	-4.53***	-0.0255	-4.22***	-0.0254	-4.23***
Netherlands ⁽⁴⁾	-0.0069	-0.54	-0.0091	-0.74	-0.0099	-0.8	-0.0094	-0.76
Portugal ⁽⁴⁾	-0.0032	-0.27	-0.0057	-0.5	-0.0057	-0.49	-0.0058	-0.51
United Kingdom ⁽⁴⁾	-0.0039	-0.39	-0.0036	-0.35	-0.0039	-0.39	-0.0037	-0.37
<i>Reference categories: (1) Age 21-30, (2) No education or primary education, (3) Construction sector, (4) Spain</i>								

TRANSITIONS TO UNEMPLOYMENT								
Number of transitions	246							
Predicted probability (y)	0.0059		0.0050		0.0054		0.0069	
Variables	dy/dx	t-stat.	dy/dx	t-stat.	dy/dx	t-stat.	dy/dx	t-stat.
Demographic characteristics								
Female	-5.1E-05	-0.06	-0.0011	-1.61	-0.001	-1.33	-7.1E-04	-0.42
Age 31-40 years ⁽¹⁾	-9E-04	-0.87	-5.5E-04	-0.6	-6E-04	-0.61	-8.2E-04	-0.65
Age 41-50 years ⁽¹⁾	-1.6E-04	-0.14	-4.2E-06	0	-5.1E-05	-0.05	-8.3E-05	-0.06
Age 51-59 years ⁽¹⁾	0.0024	1.4	0.0018	1.25	0.0018	1.18	0.002	1.03
Cohabiting	-0.0036	-2.62***	-0.0028	-2.37**	-0.003	-2.41**	-0.0027	-1.43
Differentiated effect of cohabiting for females							-0.0023	-1.21
Number of children under 14	2.54E-04	0.49	2.11E-04	0.48	1.83E-04	0.39	-3.4E-04	-0.47
Differentiated effect of the number of children under 14 for females							0.0016	1.43
Relatives working as self-employed	-7E-04	-0.79	-7.3E-04	-0.98	-7.4E-04	-0.92	-8.5E-04	-0.8
Education								
Secondary education ⁽²⁾	-0.0014	-1.66*	-0.0011	-1.5	-0.0011	-1.45	-0.0015	-1.49
University studies ⁽²⁾	-0.0018	-1.76*	-0.0014	-1.66*	-0.0014	-1.49	-0.0018	-1.53
Business sector								
Industrial sector ⁽³⁾	6.89E-05	0.05	2E-04	0.15	-1.1E-04	-0.08	-1.4E-04	-0.08

Financial services ⁽³⁾	-0.0021	-1.61	-0.0015	-1.3	-0.0018	-1.48	-0.0023	-1.46
Wholesale, hotels, restaurants and transport ⁽³⁾	-1.2E-04	-0.1	6.6E-04	0.63	1.05E-04	0.1	1.6E-04	0.12
Other services ⁽³⁾	-1.2E-04	-0.08	-3.2E-04	-0.26	-5.3E-04	-0.4	-7.5E-04	-0.44
Employment characteristics								
Hours of work per week			-9.3E-05	-3.57***				
Part-time worker					0.0048	2.46**	0.0061	2.43**
Job tenure as own-account worker	-3.9E-04	-4.18***	-2.6E-04	-3.21***	-2.7E-04	-3.09***	-3.4E-04	-3.08***
Previous observed experience								
Previous spell(s) as self-employed	-0.0077	-5.54***	-0.0051	-4.29***	-0.0054	-4.27***	-0.007	-4.28***
Previous spell(s) as paid employed	-0.001	-1.06	-0.0011	-1.36	-0.0011	-1.31	-0.0014	-1.28
Previous spell(s) as unemployed	0.0076	5.25***	0.0056	4.51***	0.0061	4.56***	0.0078	4.56***
Incomes								
Incomes as own-account worker (1 lag) ('000)			-2.8E-04	-4.01***	-3.1E-04	-4.12***	-4E-04	-4.12***
Business cycle								
National unemployment rate (%)	4.26E-04	1.97**	3.69E-04	1.99**	3.84E-04	1.92*	5.04E-04	1.96**
Country dummies								
Austria ⁽⁴⁾	-0.0101	-10.49***	-0.0089	-9.14***	-0.0091	-9.29***	-0.009	-9.24***
Belgium ⁽⁴⁾	0.0018	0.4	0.0017	0.44	0.0011	0.28	0.0016	0.32
Denmark ⁽⁴⁾	0.0075	1.04	0.0081	1.15	0.008	1.1	0.0109	1.13
Finland ⁽⁴⁾	0.0032	1.2	0.0027	1.17	0.003	1.19	0.004	1.22
Germany ⁽⁴⁾	2.72E-04	0.09	0.002	0.56	0.0018	0.51	0.0025	0.53
Greece ⁽⁴⁾	0.0051	1.97**	0.0042	1.9*	0.0046	1.92*	0.006	1.94*
Ireland ⁽⁴⁾	0.0026	0.95	0.0027	1.05	0.0029	1.03	0.0038	1.06
Italy ⁽⁴⁾	0.004	1.56	0.003	1.42	0.0037	1.54	0.0048	1.55
Netherlands ⁽⁴⁾	0.0068	0.98	0.0048	0.88	0.0049	0.87	0.0065	0.89
Portugal ⁽⁴⁾	-0.0013	-0.53	-0.0017	-0.87	-0.0018	-0.88	-0.0024	-0.87
United Kingdom ⁽⁴⁾	1.27E-04	0.05	7.5E-04	0.31	9.2E-04	0.35	0.0013	0.37
Reference categories: (1) Age 21-30, (2) No education or primary education, (3) Construction sector, (4) Spain								

TRANSITIONS TO INACTIVITY								
Number of transitions	480							
Predicted probability (y)	0.0206		0.0197		0.0201		0.0199	
Variables	dy/dx	t-stat.	dy/dx	t-stat.	dy/dx	t-stat.	dy/dx	t-stat.
Demographic characteristics								
Female	0.047	10.37***	0.0363	8.84***	0.0385	9.05***	0.0133	2.15**
Age 31-40 years ⁽¹⁾	-0.0038	-1.23	-0.0033	-1.08	-0.0037	-1.19	-0.0035	-1.13
Age 41-50 years ⁽¹⁾	-0.0026	-0.81	-0.0027	-0.86	-0.0031	-0.98	-0.002	-0.61
Age 51-59 years ⁽¹⁾	0.0242	4.04***	0.022	3.86***	0.0213	3.77***	0.0232	3.93***
Cohabiting	0.0082	3.72***	0.0074	3.38***	0.0078	3.54***	-0.0023	-0.5
Differentiated effect of cohabiting for females							0.0209	2.42**
Number of children under 14	0.001	0.81	7.02E-04	0.59	4.12E-04	0.34	-0.0016	-0.81
Differentiated effect of the number of children under 14 for females							0.0037	1.64

Relatives working as self-employed	-0.0017	-0.77	-0.0011	-0.5	-0.0011	-0.51	-0.0018	-0.85
Education								
Secondary education ⁽²⁾	-0.0024	-0.95	-0.0026	-1.08	-0.0024	-0.98	-0.0023	-0.94
University studies ⁽²⁾	-0.0056	-2.16**	-0.0058	-2.35**	-0.0054	-2.11**	-0.0053	-2.08**
Business sector								
Industrial sector ⁽³⁾	0.0091	1.48	0.0093	1.56	0.008	1.38	0.0076	1.34
Financial services ⁽³⁾	-0.0023	-0.48	-5.7E-04	-0.12	-0.0013	-0.27	-0.0016	-0.33
Wholesale, hotels, restaurants and transport ⁽³⁾	0.0048	1.11	0.0089	2.06**	0.0062	1.47	0.0059	1.4
Other services ⁽³⁾	0.01	1.63	0.008	1.42	0.0066	1.21	0.0064	1.18
Employment characteristics								
Hours of work per week			-4.6E-04	-5.9***				
Part-time worker					0.0282	4.38***	0.0266	4.28***
Job tenure as own-account worker	-8E-04	-3.82***	-7.1E-04	-3.49***	-7.1E-04	-3.46***	-6.8E-04	-3.34***
Previous observed experience								
Previous spell(s) as self-employed	-0.0156	-5.61***	-0.0132	-5.06***	-0.0125	-4.78***	-0.0123	-4.76***
Previous spell(s) as paid employed	-0.0049	-1.89*	-0.0046	-1.83*	-0.0042	-1.59	-0.0038	-1.42
Previous spell(s) as unemployed	-0.0013	-0.57	-0.0023	-1.06	-0.0021	-0.92	-0.002	-0.87
Incomes								
Incomes as own-account worker (1 lag) ('000)			-2.7E-04	-1.91*	-2.9E-04	-2**	-2.6E-04	-1.85*
Business cycle								
National unemployment rate (%)	-0.001	-1.82*	-0.0011	-1.94*	-0.0011	-2.01**	-0.0011	-1.94*
Country dummies								
Austria ⁽⁴⁾	-0.0043	-0.59	-0.0035	-0.48	-0.0047	-0.67	-0.0048	-0.69
Belgium ⁽⁴⁾	-0.0136	-3.75***	-0.0121	-3.15***	-0.0135	-3.9***	-0.0135	-4.03***
Denmark ⁽⁴⁾	-0.0131	-3.35***	-0.0117	-2.8***	-0.0123	-3***	-0.0124	-3.12***
Finland ⁽⁴⁾	-0.0143	-5.51***	-0.0139	-5.65***	-0.0138	-5.27***	-0.0139	-5.43***
Germany ⁽⁴⁾	0.0023	0.32	0.0042	0.56	0.0024	0.34	0.0021	0.3
Greece ⁽⁴⁾	-0.0098	-2.7***	-0.01	-2.91***	-0.0096	-2.68***	-0.0094	-2.62***
Ireland ⁽⁴⁾	-0.0051	-1.08	-0.0059	-1.38	-0.0065	-1.49	-0.0063	-1.45
Italy ⁽⁴⁾	-0.0077	-2.25**	-0.0086	-2.76***	-0.008	-2.41**	-0.0078	-2.34**
Netherlands ⁽⁴⁾	-0.0083	-1.69*	-0.0102	-2.57**	-0.0111	-2.85***	-0.0112	-2.92***
Portugal ⁽⁴⁾	-0.0136	-3.85***	-0.0145	-4.58***	-0.0148	-4.55***	-0.0143	-4.38***
United Kingdom ⁽⁴⁾	0.0033	0.5	0.0031	0.49	0.0038	0.58	0.0036	0.56
<i>Reference categories: (1) Age 21-30, (2) No education or primary education, (3) Construction sector, (4) Spain</i>								

Notes: *** denotes significance at the 1% level; ** denotes significance at the 5% level; * denotes significance at the 10% level.

Table 4. Descriptive statistics of the transitions from own-account worker

Final destination	Not switching	Employer	Paid employment	Unemployment	Inactive
Number of observations	11,438	2,018	1,010	246	480
Demographic characteristics					
Females	28.93%	25.72%	26.34%	30.89%	64.79%
Average age	41.9	40.6	38	38.7	43.4
Age 21-30 years	13.38%	17.34%	27.23%	28.86%	15.42%
Age 31-40 years	31.27%	33.4%	32.97%	29.27%	26.25%
Age 41-50 years	34.35%	31.47%	26.73%	24.8%	24.79%
Age 51-59 years	21%	17.79%	13.07%	17.07%	33.54%
Cohabiting	81.05%	81.32%	73.66%	66.26%	84.38%
Number of children under 14	0.68	0.71	0.66	0.62	0.62
Relatives working as self-employed	25.03%	31.67%	23.17%	24.39%	27.71%
Education					
No education / Very basic education	51.87%	46.73%	46.24%	52.84%	53.33%
Primary schooling / Secondary schooling	28.25%	31.71%	28.71%	29.27%	27.71%
University studies	19.88%	21.56%	25.05%	17.89%	18.96%
Business sector					
Construction sector	14.3%	16.35%	22.57%	15.04%	7.08%
Industrial sector	11.92%	15.02%	12.57%	11.79%	12.08%
Financial services	12.02%	14.07%	15.25%	8.94%	8.96%
Wholesale, hotels, restaurants and transport	46.84%	42.72%	33.47%	48.78%	47.5%
Other services	14.92%	11.84%	16.14%	15.45%	24.38%
Employment characteristics					
Average hours of work per week	49	50.2	45.7	44.1	41.8
Average job tenure as own-account worker	9.6	9.5	5.9	5.6	7.6
Part-time worker	5.62%	2.68%	8.51%	14%	21.46%
Previous observed experience					
Previous spell(s) as self-employed	70.83%	83.4%	54.65%	39.84%	54.58%
Previous spell(s) as paid employed	12.07%	20.07%	32%	17.07%	13.96%
Previous spell(s) as unemployed	26.86%	26.52%	32.85%	56.07%	23.51%
Incomes					
Average annual own-account work incomes	€9,685	€10,800	€7,633	€4,304	€6,240
Business cycle					
National unemployment rate	10.34%	10.14%	10%	11.63%	9.89%
Country					
Austria	1.75%	2.87%	1.49%	0%	3.54%
Belgium	2.79%	2.82%	0.88%	1.63%	1.46%
Denmark	2.12%	0.35%	2.67%	2.84%	1.67%
Finland	4.39%	7.68%	5.15%	6.91%	2.71%
Germany	3.88%	4.86%	4.46%	2.85%	7.71%
Greece	20.84%	28.49%	15.84%	22.34%	16.04%
Ireland	4.4%	5.95%	3.47%	6.1%	4.79%
Italy	14.67%	12.64%	9.41%	17.48%	10.83%
Netherlands	4.32%	0.15%	5.74%	4.07%	6.04%

Portugal	11.46%	13.23%	12.67%	4.07%	9.79%
Spain	19.72%	16.85%	22.08%	25.2%	19.38%
United Kingdom	9.66%	4.11%	16.14%	6.5%	16.04%

Table 5. Main reason for working less than full time (less than 30 hours)

	Observations not switching	Observations switching from own-account worker TO				Total
		Employer	Paid employment	Unemployment	Inactivity	
Undergoing education or training	13	3	4	2	4	26 (2.8%)
Housework, looking after children or other persons	200	20	19	8	28	275 (29.9%)
Personal illness or disability	31	2	1	1	10	45 (4.9%)
Want but cannot find a full-time job	113	11	34	17	13	188 (20.4%)
Do not want to work more hours	91	8	5	3	22	129 (14%)
Other reasons	187	10	20	4	23	244 (26.5%)
Not available	7	0	3	0	3	13 (1.4%)
Total	642	54	86	35	103	920 (100%)

Table 6. Chi-squared tests for multinomial logit specifications

Departure from own-account work				
Wald and LR tests for combining outcomes				
H ₀ : All coefficients except intercepts associated with given pair of outcomes are 0 (i.e., categories can be collapsed).				
Wald test	(I)	(II)	(III)	(IV)
Combining: Employer & Paid employment	625.056 (0.00)	667.521 (0.00)	653.866 (0.00)	658.311 (0.00)
Combining: Employer & Unemployment	418.178 (0.00)	463.398 (0.00)	463.128 (0.00)	465.657 (0.00)
Combining: Employer & Inactivity	709.847 (0.00)	773.329 (0.00)	748.769 (0.00)	738.426 (0.00)
Combining: Employer & Own-account work	616.674 (0.00)	636.934 (0.00)	636.709 (0.00)	637.25 (0.00)
Combining: Paid employment & Unemployment	138.053 (0.00)	153.672 (0.00)	153.953 (0.00)	154.424 (0.00)
Combining: Paid employment & Inactivity	399.065 (0.00)	404.847 (0.00)	403.7 (0.00)	412.881 (0.00)
Combining: Paid employment & Own-account work	585.688 (0.00)	606.641 (0.00)	595.687 (0.00)	606.849 (0.00)
Combining: Unemployment & Inactivity	234.644 (0.00)	237.684 (0.00)	237.16 (0.00)	224.405 (0.00)
Combining: Unemployment & Own-account work	254.072 (0.00)	285.978 (0.00)	283.87 (0.00)	289.17 (0.00)
Combining: Inactivity & Own-account work	440.675 (0.00)	490.642 (0.00)	496.657 (0.00)	501.491 (0.00)
Likelihood Ratio test	(I)	(II)	(III)	(IV)
Combining: Employer & Paid employment	761.785 (0.00)	810.51 (0.00)	795.852 (0.00)	804.968 (0.00)
Combining: Employer & Unemployment	464.164 (0.00)	530.614 (0.00)	527.21 (0.00)	532.011 (0.00)
Combining: Employer & Inactivity	814.094 (0.00)	891.091 (0.00)	883.678 (0.00)	886.327 (0.00)
Combining: Employer & Own-account work	806.355 (0.00)	828.611 (0.00)	831.408 (0.00)	832.066 (0.00)
Combining: Paid employment & Unemployment	160.34 (0.00)	184.166 (0.00)	184.478 (0.00)	185.202 (0.00)
Combining: Paid employment & Inactivity	452.794 (0.00)	460.024 (0.00)	459.966 (0.00)	478.642 (0.00)
Combining: Paid employment & Own-account work	617.537 (0.00)	643.479 (0.00)	627.561 (0.00)	639.457 (0.00)
Combining: Unemployment & Inactivity	272.884 (0.00)	276.474 (0.00)	276.124 (0.00)	275.505 (0.00)
Combining: Unemployment & Own-account work	286.738 (0.00)	334.514 (0.00)	328.512 (0.00)	333.404 (0.00)
Combining: Inactivity & Own-account work	480.441 (0.00)	535.873 (0.00)	530.806 (0.00)	543.378 (0.00)

Note: p-values are shown in parentheses.

