

Dependent self-employed individuals: are they different from paid employees?

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Abstract

Purpose – This study focusses on dependent self-employment, which covers a situation where a person works for the same employer as a typical worker whilst on a self-employment contractual basis, i.e. without a traditional employment contract and without certain rights granted to “regular” employees.

Design/methodology/approach – The research exploits the individual-level dataset of 35 European countries extracted from the 2017 edition of the European Labour Force Survey (EU LFS) and compares the characteristics of employees and dependent self-employed individuals. Methodologically, the study relies on the estimation of a multivariate logistic regression model.

Findings – The main hypothesis assuming that dependent self-employed work most often in low-skilled occupations was empirically supported. There was also a non-linear (u-shaped) relationship between the years of accumulated experience (with a turning point at 35 years) and the likelihood of being dependent self-employed. Other results showed that dependent self-employed are less likely to be women and the dependent self-employed are more likely born outside of the countries where the dependent self-employed participate in the labour markets.

Originality/value – The study contributes to the field by adopting a comparable definition of dependent self-employment and exploiting the recent theoretical support of The Work Precarity Framework. The phenomenon should still be addressed by policymakers and labour office representatives, aiming to protect, primarily, vulnerable lower-skilled workers. The ongoing research should study the longitudinal dimension of dependent self-employment with a focus on motivational aspects.

Keywords Dependent self-employment, Heterogeneity of entrepreneurs, Bogus, Fake, False, Sham, Pseudo or involuntary self-employed

Paper type Research paper

1. Introduction

Given the proliferation of technological change and the appearance of new forms of employment, relations in the labour market have been altered fundamentally, including the complexity of self-employment. Growing attention is paid to the different forms of self-employment, which on the one hand, may be perceived as a way to circumvent labour

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regulations (Sargeant, 2017; Baker *et al.*, 2018; MacDonald and Giazitzoglu, 2019), described as precarious work, with less stability, higher risk and uncertain income (Putniņš and Sauka, 2011; Aldén and Hammarstedt, 2016; Moore and Newsome, 2018; Conen and Schippers, 2019; Hernanz and Carrasco, 2021; Heyes and Tomlinson, 2021; Kitschelt and Rehm, 2022) but on the other hand, a way how to allow individuals to strive for more independence and freedom (Rustagi, 2013; Allen and Curington, 2014; Hagqvist *et al.*, 2015; Murgia and Pulignano, 2021). Another perspective highlights the importance of self-employed persons working as freelancers, their role in enabling entrepreneurial attitudes (van Stel and de Vries, 2015; Burke *et al.*, 2020) and their impact on the productivity and efficiency of other organisations (Popiel, 2017; Bologna, 2018; Drahokoupil and Fabo, 2019; Pichault and McKeown, 2019).

A burgeoning research stream focusses on motives, which explain why people choose self-employment as their career choice. In general, the push and pull factors are mentioned, which suggest two opposite drivers of becoming self-employed (Segal *et al.*, 2005; Murnieks *et al.*, 2020). Extensive research by Burke (2011, 2015) documents the variety amongst the self-employed labour force, which cover both less skilled vulnerable workers and well-educated, highly skilled professionals and freelancers. Similarly, Bögenhold and Klinglmair (2016, p. 844) note in their study that: “the category of self-employment includes very privileged positions as well as very marginal ones, coexisting in the same category at the same time”. Other scholars (Bögenhold, 2019; van Stel and van der Zwan, 2019; Dvouletý, 2020; van Stel *et al.*, 2021) also confirm the heterogeneous nature of self-employed individuals regarding income level, occupation, education, dependency and security level.

Based on these observations, some recent studies (Skrzek-Lubasińska and Szaban, 2019; Ciešlik and Dvouletý, 2019) attempted to capture the diverse nature of people classified as self-employed into such categories as job creators, solo self-employed professionals and freelancers, dependent (also associated with several normative connotations and terms like fake, false, bogus, or pseudo) self-employed, part-time or hybrid self-employed. Each of these categories must be clearly defined; otherwise, the scholarly discussion will not move further and the contradictory arguments regarding solo self-employment will remain.

This study focusses on one of these identified categories of self-employment – dependent self-employment, which is associated with the most problematic labour market-related aspects (Behling and Harvey, 2015; Moore and Newsome, 2018; Horodnic and Williams, 2019a, b; Millán *et al.*, 2020). Dependent self-employment covers a situation where a person conducts the same tasks and works for the same employer as a typical worker whilst on a self-employment contractual basis, i.e. without a traditional employment contract and without certain rights granted to “regular” employees (Burke, 2011; Román *et al.*, 2011; Thörnquist, 2015). Such a working relationship is being used in order to circumvent labour market regulations and for tax evasion purposes (Millán *et al.*, 2018; Moore and Newsome, 2018; Koufopoulou *et al.*, 2019).

Thus, it is not surprising that there is a significant interest of policymakers in this phenomenon related to both monitoring and potential policy responses. The issue was noted several times, for example, in reports of the European Parliament (Directorate General for Internal Policies), the International Labour Organisation (ILO) or the Organisation for Economic Development and Coordination (OECD) (OECD, 2000; Eichhorst *et al.*, 2013; ILO, 2016) and the current policy debate is driven mainly by the neoliberal approach towards public policymaking (Moisander *et al.*, 2018). The 2015 statistics from the European Working Conditions Survey (EWCS) show that 55% of self-employed without employees in Europe are dependent on the main contractor and/or work without any authority (Williams and Horodnic, 2019, p. 73). However, these striking numbers were later calibrated in the Eurostat (2018) report on self-employment in Europe, which included additional conditions required to find the accurate and statistically feasible definition of dependent self-employment. Ciešlik and Dvouletý (2019, p. 299) summarise these conditions as follows: individuals are called dependent self-employed if “they work full-time as solo self-employed for one client only (or one client is

dominating, i.e. generating 75% or more income) and a (dominating) client decides their working hours". If we apply this definition, we see that the size of the issue is not that large, as indicated by [Williams and Horodnic \(2019\)](#) or earlier by [Williams and Lapeyre \(2017\)](#), but still considerable. Data from the 2017 European Labour Force Survey (EU LFS) show that only 5% of solo self-employed are dependent ([Eurostat, 2018](#); [Cieřlik and Dvouletý, 2019](#)).

Therefore, this paper focusses on dependent workers as defined in [Cieřlik and Dvouletý \(2019, p. 299\)](#) and explores whether they systematically differ from paid employees. The need for a deeper investigation of dependent self-employment drives the primary motivation for this research. Therefore, we use the individual-level dataset of 35 European countries extracted from the 2017 edition of the LFS and examine the determinants of dependent self-employment. Our methodological approach is based on employing a rich range of socio-economic characteristics and estimation of a logistic regression model determining the likelihood of being dependent self-employed. Unlike most previous studies, we pay attention to the professional status of the labour force and find linkages between occupational characteristics and the inclination to work as dependent self-employed. In this way, we provide a novel empirical contribution to the knowledge on the characteristics and nature of this group of self-employed persons based on the rich and vast cross-country dataset.

The rest of the article is organised as follows. The next section reviews the existing studies dealing with dependent self-employment and introduces the central tested hypothesis. This section is followed by an introduction to the 2017 LFS dataset and a description of the analysed variables. Then we present findings from the estimated logistic regression model, which we discuss in the article's final section, including implications for future research and policymakers.

2. Background and hypothesis development

A good starting point for clarifying the relationship between employment, economic dependency and self-employment is a recent book edited by [Williams and Horodnic \(2019\)](#). [Williams and Horodnic \(2019\)](#) note that the previously published studies use different kinds of terms for capturing dependent self-employment. However, these often very normative terms, such as "bogus", "fake", "false", "sham", "involuntary", "misclassified", or "pseudo" self-employment (in German Scheinselbständigkeit, c. f. [Behrmann, 2021](#)) or "disguised" employment, tend to have almost identical meaning. In particular, these all terms describe a situation where a person conducts the same tasks and works for the same employer as a typical worker but on a self-employment contractual basis, i.e. without a traditional employment contract ([Román *et al.*, 2011](#); [Wickham and Bobek, 2016](#); [Adriaenssens and Hendrickx, 2019](#); [Carrasco and Hernanz, 2021](#)). We emphasise that to advance the existing research, the scholarly community needs to shift from using normative terminology to working only with the dependent self-employment term as a unified term used in this study from now on. The previous wordings were mentioned explicitly to illustrate how diverse is the existing work on the economic dependency of self-employed. In addition, we clarify that by a traditional employment contract, we mean a legally acceptable document signed by two parties, (potential) employee and employer, for a definite or indefinite period, determining the employment relationship, work-related duties and wage or salary paid to an employee ([Simon, 1951](#); [Ojala *et al.*, 2018](#)).

Then we need to concentrate on the working definition of dependent self-employment. According to the [European Foundation for the Improvement of Living and Working Conditions – Eurofound \(2017\)](#), in most cases, the dependent forms of self-employment are distinguished based on three criteria: (1) working for only one client, (2) having authority to hire staff, (3) having the authority to make important strategic decisions ([Eurofound, 2017](#)). This initial definition was later calibrated by Eurostat and summarised in a study by [Cieřlik and Dvouletý \(2019, p. 299\)](#), noting that it is crucial to combine one client (or dominant client) condition with the decision on working hours to capture the most endangered solo

self-employed. In other words, to statistically cover those whom the employer pushes to work under a self-employment contract (Nikulin, 2021).

Consequently, dependent self-employment implies a disguised employment relationship. It is argued that false self-employment is, therefore, a misuse of genuine self-employment relationship and is motivated by the desire of the employer to avoid taxes, collective agreements or other legal responsibilities, having thus precarious character (Thörnquist, 2011, 2015; Wagner and Berntsen, 2016; Heyes and Hastings, 2017; Allan *et al.*, 2021) and it makes self-employed to bear the risks of work and receive limited social benefits (e.g. holiday/sickness pay) and statutory entitlements (Kalleberg and Vallas, 2017, p. 1). Besides, they may also experience fear and uncertainty regarding the continuity of their working and social relationships (Allan *et al.*, 2021). The main channels through which the precarity may be observed are personal dependence if the main (only) contractor regulates the time, place and organisation of work (Muehlberger, 2007b) as well as economic dependence, where the costs and risk are transferred from the customer to the self-employed (Thörnquist, 2015). That is why these falsely classified self-employed often do not carry out entrepreneurial activities but perform tasks ordered by a customer at a designated place and time (Eichhorst *et al.*, 2013; Thörnquist, 2015; Gialis *et al.*, 2017).

Still, it needs to be acknowledged that the type of working contract is a result of mutual agreement between employer and future (dependent) self-employed, despite that the bargaining powers of each of the sides are not equal and depend on several factors (Pulignano, 2017; Horodnic and Williams, 2019a). As described by the economic theory of the labour market (Chiang, 1986; Kugler and Saint-Paul, 2004; Foss *et al.*, 2007), the business owners and their managers (employers) aim to minimise the personnel costs, thus candidates willing to work as dependent self-employed, whilst delivering the same level of work as staffed employees, will be preferred. Industrial and organisational psychology scholars (Duffy *et al.*, 2016; Kim *et al.*, 2019) use the psychology of working theory (PWT) to describe factors that explain work choices and hiring decisions. Allan *et al.* (2021) recently derived PWT from The Work Precarity Framework, which also includes factors that moderate precarious working relationships. The following potential moderators are included in the developed framework: work volition; resources and capital; social support; and social class (Allan *et al.*, 2021, p. 5) and may serve as predictors of dependent self-employment. Notably, not only individual characteristics but also the economic and social conditions, employment protection legislation and industry-specific factors influence the proportions of dependent self-employed. These structural factors also include levels of labour market flexibilisation, privatisation and the concentration of economic power in global value chains (Muehlberger, 2007a; Román *et al.*, 2011; Eichhorst *et al.*, 2013; Moisaner *et al.*, 2018; Williams and Horodnic, 2019; Wright *et al.*, 2019).

However, the empirical findings on the role of these factors are relatively scarce currently as the data availability is considerably limited. Up to date, most extensively, the authors worked with the EWCS survey data. An analysis by Williams and Horodnic (2018) based on the 2015 edition of the EWCS revealed that predominantly, men, older workers and those employed in the private sector have a greater probability of working as dependent self-employed. The authors also observed considerable variations across sectors: the highest share of dependent self-employed was observed in agriculture, forestry and fishing (22%), arts, entertainment, recreation and other service activities (14%) and professional, scientific and administrative workers, where the proportion was 11% (Williams and Horodnic, 2018). When analysing the inclinations to dependent self-employment by occupations with both available waves of EWCS (i.e. 2010 and 2015 data), Williams and Horodnic (2019) found that managers are less likely to be dependent self-employed in comparison to skilled agricultural, forestry and fishing workers, but more likely when compared to clerical support workers. However, the authors failed to empirically support a hypothesis assuming that lower-skilled occupations are more likely to be associated with dependent self-employment (Williams and Horodnic, 2019). The most recent study by Kösters and Smits (2021) was based on Dutch LFS data and the conducted analysis

also failed to support this assumption. These results are contradictory to the earlier established findings of Muehlberger (2007a), Fehring (2014) or Thörnquist (2015), arguing in favour of this relationship. Thus, it is an interesting research question to see whether the established patterns and theoretical expectations of PWT changed or were only time- and/or context-specific (Eichhorst *et al.*, 2013; Carrasco and Hernanz, 2021; Allan *et al.*, 2021). Therefore, we particularly state the following hypothesis to be verified:

H1. Dependent self-employed individuals are more likely to work in low-skilled professions.

3. Data

The research is based on the 2017 edition of the European Union Labour Force Survey (EU LFS) data. The EU LFS is a representative survey managed by the national statistical authorities of 35 countries [1]. Eurostat created the harmonised dataset and the 2017 edition was already used by researchers studying self-employment recently because it covers specific aspects of entrepreneurial behaviour (Dvouletý, 2020). Details about the questionnaire, data collection and all variables can be accessed online at the Eurostat website (Eurostat, 2018, 2019, 2020).

We focus on the phenomenon of dependent self-employment, so we extract from the whole 2017 LFS dataset information about individuals who are full-time employees and add those who meet the definition of dependent self-employment, as described by Cieřlik and Dvouletý (2019). Therefore, by dependent self-employed individuals, we mean in our sample those: “*who work full-time as solo self-employed for one client only (or one client is dominating, i.e. generating 75% or more income) and a (dominating) client decides their working hours*” (Cieřlik and Dvouletý, 2019, p. 299). The final dataset includes information about 278,708 economically active persons aged between 15 and 64 years pursuing a single job. The number of observations, however, varies depending on the availability of the remaining variables. The definitions of included variables of interest are available in Table 1 and descriptive statistics of the sample can be found in Table 2. Initially, we observe that the proportion of dependent self-employed individuals is relatively low; they constitute only 0.3% of the whole sample. This proportion is lower than the official LFS statistics because not all respondents have available data and we focussed our analysis only on full-time employed and self-employed individuals. The proportions differ across studied countries (see Appendix), but the variance seems to be relatively stable, not indicating any extremes. The highest proportions are observed in Romania (0.9%) and Italy (0.8%) and the lowest in Switzerland (0.04%) and Finland (0.04%). The analysed characteristics of individuals (see Table 1) include traditional determinants of labour market participation (Jenkins *et al.*, 2003; Cipollone *et al.*, 2014) and self-employment engagement (Cowling *et al.*, 2019; van Stel *et al.*, 2021), particularly respondent’s age, gender, nationality, education, years of experience, marital status, partner, household and children-related characteristics and degree of urbanisation of the area of living.

4. Analysis and results

Our analysis aims to explore whether dependent self-employed persons systematically differ from paid employees, with a particular focus on an individual’s professional status. To achieve our research goal, we estimate a multivariate logistic regression model with the dependent variable capturing dependent self-employment status. The econometric model is estimated on a sample of full-time employees (dependent variable = 0) and dependent self-employed only (dependent variable = 1). We present the obtained results in Table 3. The standard errors of the estimated coefficients are robust and reported estimates were also adjusted for the relative size of the labour force of the included 35 countries. The

Variable	Definition
Dependent Self-employment	Variable equals one if the respondent works full-time as a solo self-employed and works for one client only (or one is dominating, i.e. generating 75% or more income) and a (dominating) client decides his/her working hours
Age	Respondent's age, classified into several age categories, reflecting a range between 15 and 64 years, coded as a set of dummy variables
Female	Variable coded as one if the respondent's gender is a female
Nationality non-Native	Variable equals one if the respondent holds a different nationality than the native
Education	Set of dummy variables according to ISCED (International Standard Classification of Education, 2011) 2011 classification
Skill-level Classification of Professions	Set of dummy variables according to ISCO (International Standard Classification of Occupations, International Labour Organization, 2008) 0–8 classification of professions based on the skill levels grouped into four ILO categories, i.e. low, medium and high-skilled professions (without managerial professions) and managers (highest level)
Years of Experience	Respondent's accumulated years of experience in the current company or organisation
Marital Status	Set of dummy variables according to respondent's marital status: widowed, divorced or legally separated; single or married
Partner/spouse living in the same household	Dummy variable, which equals 1 if the respondent lives together with his/her spouse/partner
Number of persons in the Household	A variable that reflects the number of persons living in respondent's household
Number of children in the household aged less than 15 years	A variable that reflects the number of children under 15 years old in respondent's household
Degree of Urbanisation	A set of dummy variables describing whether the respondent lives in cities; towns and suburbs; or in rural area
Country	Respondent's country of residence

Source(s): Own calculations based on the Labour Force Survey (LFS) ad-hoc module 2017 data ([Eurostat, 2018](#))

Table 1.
List of variables

econometric model also includes a series of country dummies, which were found to be statistically significant. However, they are not reported for parsimonious reasons. According to the Chi-square test of joint significance, the model was found to be statistically significant ([Menard, 2001](#)). Therefore, there are statistically significant variables which differentiate dependent self-employed persons from paid employees.

We find that dependent self-employment occurs less likely amongst women, but it does not seem to be associated with age. Interestingly, dependent self-employed are more likely to be born outside of the countries where they participate in the labour markets. Furthermore, the obtained results do not imply any relationship with the level of education. However, we observe a statistically significant association with the skill levels of professions and a non-linear (u-shaped) relationship with the years of accumulated experience (with a turning point at 35 years). The higher the skill level of a profession is, the lower the probability of being dependent self-employed. Thus, the lowest propensity is according to the obtained estimates for managerial professions, whilst the highest is for low-skilled occupations. Such a finding is in line with the stated hypothesis, which is, thus, based on our research sample empirically supported. Our results indicate a positive association between the number of persons living in the household and the likelihood of being dependent self-employed. However, the remaining family-related variables were not found to be statistically significant.

Variable	Frequency (%)	N
Dependent self-employed (=1)	0.3	326,330
15–19 years of age (=1)	1.5	326,330
20–24 years of age (=1)	6.7	326,330
25–29 years of age (=1)	11.7	326,330
30–34 years of age (=1)	12.5	326,330
35–39 years of age (=1)	12.9	326,330
40–44 years of age (=1)	13.1	326,330
45–49 years of age (=1)	13.3	326,330
50–54 years of age (=1)	12.9	326,330
55–59 years of age (=1)	10.3	326,330
60–64 years of age (=1)	5.0	326,330
Female (=1)	40.9	326,330
Nationality non-Native (=1)	8.1	326,082
Less than Primary Education (=1)	0.4	325,177
Primary Education (=1)	2.1	325,177
Lower Secondary Education (=1)	13.3	325,177
Upper Secondary Education (=1)	43.8	325,177
Post-secondary Non-tertiary Education (=1)	3.7	325,177
Short-cycle Tertiary Education (=1)	6.2	325,177
Bachelor's or Equivalent Level (=1)	13.9	325,177
Master's or Equivalent Level (=1)	15.5	325,177
Doctoral or Equivalent Level (=1)	1.2	325,177
Low-skilled Professions (=1)	7.6	325,481
Medium-skilled Professions (=1)	47.6	325,481
High-skilled Professions without Managers (=1)	38.6	325,481
High-skilled Professions–Managers (=1)	6.2	325,481
Widowed, divorced or legally separated (=1)	9.0	326,191
Single (=1)	39.0	326,191
Married (=1)	52.0	326,191
Partner/spouse living in the same household (=1)	65.6	278,708
Cities (Densely populated area) (=1)	42.5	326,330
Towns and suburbs (Intermediate populated area) (=1)	33.6	326,330
Rural (Thinly populated area) (=1)	23.9	326,330

Variable	Mean	SD	Min	Max	N
Years of Experience	10.5	10.1	0	50	326,330
Number of persons in the Household	3.0	1.3	1	17	278,708
Number of children in the household aged less than 15 years	0.5	0.8	0	10	278,708

Note(s): Post-stratification weights applied

Dependent self-employed and wage employed, 15–64 years

Source(s): Own elaboration based on the Labour Force Survey (LFS) ad-hoc module 2017 data (Eurostat, 2018)

Table 2.
Descriptive statistics

5. Discussion and conclusions

This research contributed to the state of knowledge on dependent self-employment from the perspective of the 2017 EU LFS individual-level data covering 35 countries. The multivariate analysis was used to determine whether dependent self-employed persons systematically differ from paid employees and whether dependent self-employment occurs more amongst the low-skilled professions. The obtained results from the estimated logistic regression model showed that the highest probability of being dependent self-employed was for the low-skilled occupations, thus favouring the stated hypothesis. Put together with the non-linear u-shaped) relationship with the years of accumulated experience (with a turning point at 35 years), we document the importance of an individual's resources and capital as a part of the newly

Independent variables/Dependent Self-employment = 1 (i.e. works full-time as solo self-employed and working for one client only (or one is dominating, i.e. generating 75% or more income) and a (dominating) client decides his/her working hours)

20–24 years of age	–0.227 (0.411)
25–29 years of age	0.492 (0.403)
30–34 years of age	0.111 (0.411)
35–39 years of age	0.460 (0.409)
40–44 years of age	0.564 (0.419)
45–49 years of age	0.325 (0.419)
50–54 years of age	0.594 (0.420)
55–59 years of age	0.356 (0.431)
60–64 years of age	0.951* (0.438)
Female	–0.747*** (0.104)
Nationality non-Native	0.522*** (0.148)
Primary Education	–0.149 (0.545)
Lower Secondary Education	0.0465 (0.492)
Upper Secondary Education	–0.0756 (0.491)
Post-secondary Non-tertiary Education	0.937 (0.600)
Short-cycle Tertiary Education	–0.238 (0.527)
Bachelor’s or Equivalent Level	–0.251 (0.519)
Master’s or Equivalent Level	0.170 (0.528)
Doctoral or Equivalent Level	–0.0607 (0.678)
Low-skilled Professions	1.250*** (0.287)
Medium-skilled Professions	1.058*** (0.264)
High-skilled Professions without Managers	1.150*** (0.255)
Years of Experience	–0.0577*** (0.0140)
Years of Experience Squared	0.000835* (0.000402)
Number of persons in the Household	0.150*** (0.0302)
Widowed, divorced or legally separated	0.136 (0.175)

(continued)

Table 3.
Determinants of
dependent self-
employment

Independent variables/Dependent Self-employment = 1 (i.e. works full-time as solo self-employed and working for one client only (or one is dominating, i.e. generating 75% or more income) and a (dominating) client decides his/her working hours)

Married	−0.0919 (0.180)
Partner/spouse living in the same household	−0.0832 (0.140)
Number of children in the household aged less than 15 years	−0.0374 (0.0632)
Cities (Densely populated area)	0.0173 (0.102)
Towns and suburbs (Intermediate density area)	0.00426 (0.122)
Constant	−7.752*** (0.744)
Country dummies	Yes
Sample description	Full-time employees and dependent self-employed
Observations	277,424
Prob > χ^2	0.000
Pseudo R^2	0.082
Akaike information criterion (AIC)	6334.7
Bayesian information criterion (BIC)	6903.5

Note(s): Robust logistic regression estimates. Pooled sample of LFS countries. Countries included: Austria, Belgium, Bulgaria, Switzerland, Cyprus, Czech Republic, Germany, Denmark, Estonia, Spain, Finland, France, Greece, Croatia, Hungary, Ireland, Iceland, Italy, Lithuania, Luxembourg, Latvia, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Sweden, Slovenia and the United Kingdom. Post-stratification weights applied. Robust standard errors are in parentheses, stat. significance is reported as follows: + $p < 0.10$, * $p < 0.05$, ** $p < 0.01$ and *** $p < 0.001$

Turning point for *Years of Experience* and *Years of Experience Squared* \approx 35 years

Reference groups for dummy variables: *Age (15–19 years)*; *Male*; *Native of own Country*; *Less than Primary Education*; *Managers*; *Single*; *Partner/spouse does not live in the same household*; *Rural area (Thinly populated area)*

Source(s): STATA 14, own estimates based on the Labour Force Survey (LFS) ad-hoc module 2017 data (Eurostat, 2018)

Table 3.

established Work Precarity Framework by [Allan et al. \(2021\)](#). In line with the PWT ([Duffy et al., 2016](#)), we see that people working in low-skilled occupations and, in addition, those being inexperienced (or “over experienced”) face much more difficult situations when negotiating their work conditions, often ending in the dependent self-employment contract. [Eichhorst et al. \(2013\)](#) add that given the lower levels of experience and skills, the individuals lack the capacity to negotiate better conditions with their employers. Thus, being dependent self-employed goes hand in hand with higher levels of precarity, including lower social protection, work security and increased uncertainty ([Thörnquist, 2015](#); [Wagner and Berntsen, 2016](#)). These observations align with the earlier research on dependent self-employment ([Muehlberger, 2007a](#); [Böheim and Muehlberger, 2009](#); [Fehringer, 2014](#)), highlighting its push character and increased volatility of persons working under these conditions. The push (necessity) aspect of dependent self-employed seems to be also more pronounced for individuals born outside of the country they work, who might find it even more challenging to secure an income and are willing to accept even worse working and financial conditions ([Allan et al., 2021](#)) as assumed earlier by [Williams and Horodnic \(2018\)](#) but not empirically validated. The gender dimension of dependent self-employment is

relatively consistent over past studies, indicating that males are more inclined to opt for it. As emphasised earlier, given the low-skilled profile, the dependent self-employed males often work in manual jobs in construction or manufacturing industries (Eichhorst *et al.*, 2013; Williams and Horodnic, 2018; Kösters and Smits, 2021).

The contribution of this study to the current state of the art is in the adoption of the unified definition of dependent self-employment and in the theoretical underpinning of the phenomenon in The Work Precarity Framework, which should also be used in ongoing research to maintain comparability of future studies. The current state of knowledge on dependent self-employment might be only moved forward by using the same terms, i.e. dependent self-employment, and by following the working definitions of the phenomenon, ensuring analytical rigour and comparability of (future) research findings. Otherwise, we agree with the previous researchers on the problematic aspects of dependent self-employment, which should be treated separately from the population of self-employed persons. However, the provided empirical findings are based on a cross-country sample and, thus, validate the previously obtained evidence also from the international (European) perspective, as the previous findings were driven mostly by single-country studies. This also enhances the contribution of our research study. Being dependent self-employed may represent only a temporary episode on the transition to long-term employment (Böheim and Muehlberger, 2009); however, when considered a long-term job, the harmful effects could accumulate even more and significantly influence mental and physical well-being (Allan *et al.*, 2021). Therefore, policymakers and labour market representatives must proceed in increasing awareness about the phenomenon. The role of continuous onsite controls and regulatory enforcement leading to the mitigation of dependent self-employment has been articulated many times by previous studies (Böheim and Muehlberger, 2009; Thörnquist, 2015; Williams and Horodnic, 2018). It is vital to spread information about the potentially harmful effects of dependent self-employment, for example, through the labour market office representatives, who often interact with the unemployed or individuals at risk of unemployment.

Nevertheless, policymakers also need to focus on the second aspect of the problem – employers who consider offering dependent contracts to their employees or those who favour them. There is a need to tighten the controlling mechanisms to decrease the number of dependent self-employed workers and protect vulnerable persons, as recently emphasised by Kösters and Smits (2021). Researchers and scholars could investigate to what extent country-level institutional, regulatory and control mechanisms determine the national levels of dependent self-employment (see Appendix) and their development over time as we observe variation in the rates of dependent self-employment in our sample. Based on our summary statistics, we suggest future research to test a hypothesis assuming a negative relationship between the quality of institutions and the rates of dependent self-employment. Finally, we need to acknowledge the cross-sectional dimension of the study as a severe limitation, preventing us from tracking the employment transitions of dependent self-employed, which could provide even more robust results regarding the duration of dependent self-employment. In particular, it would be interesting to see whether the more significant proportions of self-employed stay in dependency for shorter periods and how the proportions and duration differ across the regions, for example, developed vs those underdeveloped. Primary research could also focus on those individuals who work only part-time, as this study provided insights only from employed and self-employed who work full-time. We call for more research on the multiple jobs holding phenomenon (Boeri *et al.*, 2020), asking if some dependent self-employed combine their primary job with other occupations and how they cope with it. This includes individuals who combine their main paid job with entrepreneurial activity, linked in the scholarly literature with the term hybrid entrepreneurs (Pollack *et al.*, 2019; Dvoutely and Bögenhold, 2022; Asante *et al.*, 2022). Our research is also limited by the

potential biases caused by the self-declaring information from the respondents, even though the sample size is large and the survey was distributed by professionals representing national statistical authorities. More research is also needed to better capture the situations and motivations of individuals agreeing to become dependent self-employed. As we studied the European (institutional and political) context of dependent self-employment, future research could also more extensively address the parallels, including historical roots, between dependent self-employment in the global and North and South, which was acknowledged by the ILO in its Home Work Convention C177 in 1996 (Boris and Zimmermann, 2016). Another research area worth investigating in forthcoming studies is the role of structural factors determining dependent self-employment, such as levels of labour market flexibilisation, privatisation and the concentration of economic power in global value chains (Moisander et al., 2018). This amplifies the need to better understand dependent self-employment across sectors and linkages with particular occupations in horizontal and vertical ways. Such research could combine the neoliberal policymaking framework and the individual Work Precarity Framework in the multilevel analysis.

Note

1. The 2017 LFS covers Austria, Belgium, Bulgaria, Switzerland, Cyprus, Czech Republic, Germany, Denmark, Estonia, Spain, Finland, France, Greece, Croatia, Hungary, Ireland, Iceland, Italy, Lithuania, Luxembourg, Latvia, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Sweden, Slovenia and the United Kingdom.

References

- Adriaenssens, S. and Hendrickx, J. (2019), “Bad jobs’: a case study of toilet attendants”, *Employee Relations*, Vol. 41 No. 3, pp. 489-505.
- Aldén, L. and Hammarstedt, M. (2016), “Discrimination in the credit market? Access to financial capital among self-employed immigrants”, *Kyklos*, Vol. 69 No. 1, pp. 3-31.
- Allan, B.A., Autin, K.L. and Wilkins-Yel, K.G. (2021), “Precarious work in the 21st century: a psychological perspective”, *Journal of Vocational Behavior*, Vol. 126, 103491.
- Allen, W.D. and Curington, W.P. (2014), “The self-employment of men and women: what are their motivations?”, *Journal of Labor Research*, Vol. 35 No. 2, pp. 143-161, doi: [10.1007/s12122-014-9176-6](https://doi.org/10.1007/s12122-014-9176-6).
- Asante, E.A., Danquah, B., Oduro, F., Affum-Osei, E., Twumasi, M.A., Azunu, C. and Li, C. (2022), “Entrepreneurial career persistence of hybrid entrepreneurs: the opposing moderating roles of wage work-to-entrepreneurship enrichment and entrepreneurship-to-wage work enrichment”, *Journal of Vocational Behavior*, Vol. 132, 103660.
- Baker, M., Égert, B., Fulop, G. and Mourougane, A. (2018), “To what extent do policies contribute to self-employment?”, Working Papers, OECD Economics Department, Paris, doi: [10.1787/18151973](https://doi.org/10.1787/18151973), available at: <https://www.oecd-ilibrary.org/content/paper/74c044b1-en>
- Behling, F. and Harvey, M. (2015), “The evolution of false self-employment in the British construction industry: a neo-Polanyian account of labour market formation”, *Work, Employment and Society*, Vol. 29 No. 6, pp. 969-988.
- Behrmann, M. (2021), “Vertragsstrukturen in der Kultur- und Kreativwirtschaft”, in Behrmann, M. (Ed.), *Creative Industry Management*, Springer Gabler, Berlin, Heidelberg, pp. 169-205.
- Bögenhold, D. (2019), “From hybrid entrepreneurs to entrepreneurial billionaires: observations on the socio-economic heterogeneity of self-employment”, *American Behavioral Scientist*, Vol. 63 No. 2, pp. 129-146.
- Bögenhold, D. and Klinglmair, A. (2016), “Independent work, modern organisations and entrepreneurial labor: diversity and hybridity of freelancers and self-employment”, *Journal of Management and Organization*, Vol. 22 No. 6, pp. 843-858, doi: [10.1017/jmo.2016.29](https://doi.org/10.1017/jmo.2016.29).

- Böheim, R. and Muehlberger, U. (2009), "Dependent self-employment: workers between employment and self-employment in the UK", *Zeitschrift für ArbeitsmarktForschung*, Vol. 42 No. 2, pp. 182-195.
- Boeri, T., Giupponi, G., Krueger, A.B. and Machin, S. (2020), "Solo self-employment and alternative work arrangements: a cross-country perspective on the changing composition of jobs", *Journal of Economic Perspectives*, Vol. 34 No. 1, pp. 170-195.
- Bologna, S. (2018), *The Rise of the European Self-Employed Workforce*, Mimesis International, Milan.
- Boris, E. and Zimmermann, S. (2016), "The international labour organization and the gender of work", in Steans, J. and Tepe, D. (Eds), *Handbook on Gender in World Politics*, Edward Elgar Publishing, Cheltenham.
- Burke, A. (2011), "The entrepreneurship enabling role of freelancers: theory with evidence from the construction industry", *International Review of Entrepreneurship*, Vol. 9 No. 3, pp. 1-28.
- Burke, A. (2015), "Introduction: a freelancing and self-employment research agenda", in Burke, A. (Ed.), *The Handbook of Research on Freelancing and Self-Employment*, Senate Hall Academic Publishing, Dublin, pp. 3-8.
- Burke, A., Zawwar, I. and Hussels, S. (2020), "Do freelance independent contractors promote entrepreneurship?", *Small Business Economics*, Vol. 55, pp. 415-427, doi: [10.1007/s11187-019-00242-w](https://doi.org/10.1007/s11187-019-00242-w).
- Carrasco, R. and Hernanz, V. (2021), *Dependent Self-Employment across Europe: Involuntariness, Country's Wealth and Labor Market Institutions*, University Carlos III of Madrid, Department of Economics, Madrid, available at: <http://hdl.handle.net/10016/31788>
- Chiang, S.H. (1986), "Cost savings, wages and the growth of the firm", *The Economic Journal*, Vol. 96 No. 383, pp. 798-807.
- Ciešlik, J. and Dvouletý, O. (2019), "Segmentation of the population of the solo self-employed", *International Review of Entrepreneurship*, Vol. 17 No. 3, pp. 281-304.
- Cipollone, A., Patacchini, E. and Vallanti, G. (2014), "Female labour market participation in Europe: novel evidence on trends and shaping factors", *IZA Journal of European Labor Studies*, Vol. 3 No. 1, pp. 1-40.
- Conen, W. and Schippers, J. (2019), *Self-employment as Precarious Work: A European Perspective*, Edward Elgar Publishing, Cheltenham.
- Cowling, M., Millán, J.M. and Yue, W. (2019), "Two decades of European self-employment: is the answer to who becomes self-employed different over time and countries?", *Journal of Business Venturing Insights*, Vol. 12 No. 2019, e00138, doi: [10.1016/j.jbvi.2019.e00138](https://doi.org/10.1016/j.jbvi.2019.e00138).
- Drahokoupil, J. and Fabo, B. (2019), "Outsourcing, offshoring and the deconstruction of employment: new and old challenges", in Serrano-Pascual, A. and Jepsen, M. (Eds), *The Deconstruction of Employment as a Political Question*, Palgrave Macmillan, Cham, pp. 33-61.
- Duffy, R.D., Blustein, D.L., Diemer, M.A. and Autin, K.L. (2016), "The psychology of working theory", *Journal of Counseling Psychology*, Vol. 63 No. 2, pp. 127-148.
- Dvouletý, O. (2020), "Classifying self-employed persons using segmentation criteria available in the labour force survey (LFS) data", *Journal of Business Venturing Insights*, Vol. 14 No. 2020, e00199, doi: [10.1016/j.jbvi.2020.e00199](https://doi.org/10.1016/j.jbvi.2020.e00199).
- Dvouletý, O. and Bögenhold, D. (2022), "Exploring individual and family-related characteristics of hybrid entrepreneurs", *Entrepreneurship Research Journal*, Vol. 12 No. 4, p. 31.
- Eichhorst, W., Braga, M., Famira-Mühlberger, U., Gerard, M., Horvath, T., Kahanec, M., Kahancová, M., Kendzia, M.J., Martišková, M., Monti, Pedersen, J.L., Stanley, J., Vandeweghe, B., Wehner, C. and White, C. (2013), *Social Protection Rights of Economically Dependent Self-Employed Workers*, WIFO, Bonn, available at: [https://www.europarl.europa.eu/RegData/etudes/etudes/join/2013/507449/IPOL-EMPL_ET\(2013\)507449_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/etudes/join/2013/507449/IPOL-EMPL_ET(2013)507449_EN.pdf)

- European Foundation for the Improvement of Living and Working Conditions - Eurofound (2017), *Sixth European Working Conditions Survey – Overview Report (2017 Update)*, European Foundation for the Improvement of Living and Working Conditions, Eurofound, Dublin.
- Eurostat (2018), “Labour Force Survey (LFS) ad-hoc module 2017 on the self-employed persons — assessment report — 2018 edition”, available at: <https://ec.europa.eu/eurostat/documents/7870049/9439020/KS-39-18-011-EN-N.pdf/eabf6f91-01a1-4234-8a0a-43c13c3bd920>
- Eurostat (2019), “Labour force survey (LFS) database user guide”, available at: <https://ec.europa.eu/eurostat/documents/1978984/6037342/EULFS-Database-UserGuide.pdf>
- Eurostat (2020), “Labour force survey”, available at: <https://ec.europa.eu/eurostat/web/microdata/european-union-labour-force-survey>
- Fehringer, E. (2014), “Tackling false (bogus) self-employment”, *Politics and Society*, Vol. 32 No. 1, pp. 7-39.
- Foss, K., Foss, N.J. and Klein, P.G. (2007), “Original and derived judgment: an entrepreneurial theory of economic organisation”, *Organisation Studies*, Vol. 28 No. 12, pp. 1893-1912.
- Gialis, S., Tsampra, M. and Leontidou, L. (2017), “Atypical employment in crisis-hit Greek regions: local production structures, flexibilisation and labour market re/deregulation”, *Economic and Industrial Democracy*, Vol. 38 No. 4, pp. 656-676, doi: [10.1177/0143831X15586815](https://doi.org/10.1177/0143831X15586815).
- Hagqvist, E., Toivanen, S. and Vinberg, S. (2015), “Time strain among employed and self-employed women and men in Sweden”, *Society, Health and Vulnerability*, Vol. 6 No. 1, doi: [10.3402/shv.v6.29183](https://doi.org/10.3402/shv.v6.29183).
- Hernanz, V. and Carrasco, R. (2021), *Dependent Self-Employment across Europe: Involuntariness, Country's Wealth and Labor Market Institutions No. 31788*, Universidad Carlos III de Madrid. Departamento de Economía, available at: <https://e-archivo.uc3m.es/handle/10016/11>
- Heyes, J. and Hastings, T. (2017), *The Practices of Enforcement Bodies in Detecting and Preventing Bogus Self-Employment*, Queen's Management School, Belfast, available at: <https://pure.qub.ac.uk/en/publications/the-practices-of-enforcement-bodies-in-detecting-and-preventing-b>
- Heyes, J. and Tomlinson, M. (2021), “Underemployment and well-being in Europe”, *Human Relations*, Vol. 74 No. 8, pp. 1240-1266.
- Horodnic, I.A. and Williams, C.C. (2019a), “Evaluating the working conditions of the dependent self-employed”, *International Journal of Entrepreneurial Behaviour and Research*, Vol. 26 No. 2, pp. 326-348, doi: [10.1108/IJEBR-07-2018-0445](https://doi.org/10.1108/IJEBR-07-2018-0445).
- Horodnic, I.A. and Williams, C.C. (2019b), “Evaluating policy approaches for tackling informal entrepreneurship”, *Journal of Small Business and Enterprise Development*, Vol. 26 No. 4, pp. 595-611.
- International Labour Organization - ILO (2008), “Skill-level classification of professions”, available at: https://www.ilo.org/ilostat-files/Documents/description_OCU_EN.pdf (accessed 21 July 2021).
- International Labour Organization - ILO (2016), *Non-Standard Employment Around the World: Understanding Challenges, Shaping Prospects*, International Labour Organization, Geneva.
- International Standard Classification of Education (2011), “ISCED 2011 classification”, available at: <http://uis.unesco.org/sites/default/files/documents/international-standard-classification-of-education-isced-2011-en.pdf> (accessed 21 July 2021).
- Jenkins, A., Vignoles, A., Wolf, A. and Galindo-Rueda, F. (2003), “The determinants and labour market effects of lifelong learning”, *Applied Economics*, Vol. 35 No. 16, pp. 1711-1721.
- Kalleberg, A. and Vallas, S. (2017), “Probing precarious work: theory, research, and politics”, in Kalleberg, A.L. and Vallas, S.P. (Eds), *Precarious Work*, Emerald Publishing Limited (Research in the Sociology of Work), pp. 1-30, doi: [10.1108/S0277-283320170000031017](https://doi.org/10.1108/S0277-283320170000031017).
- Kim, H.J., Duffy, R.D., Lee, S., Lee, J. and Lee, K.H. (2019), “Application of the psychology of working theory with Korean emerging adults”, *Journal of Counseling Psychology*, Vol. 66 No. 6, p. 701.
- Kitschelt, H.P. and Rehm, P. (2022), “Polarity reversal: the socioeconomic reconfiguration of partisan support in knowledge societies”, *Politics and Society*, 00323292221100220.

- Kösters, L. and Smits, W. (2021), "False self-employment: the role of occupations", *International Journal of Manpower*, Vol. 42 No. 2, pp. 322-337.
- Koufopoulou, P., Williams, C.C., Vozikis, A. and Souliotis, K. (2019), "Shadow Economy: definitions, terms and theoretical considerations", *Advances in Management and Applied Economics*, Vol. 9 No. 5, pp. 35-57.
- Kugler, A.D. and Saint-Paul, G. (2004), "How do firing costs affect worker flows in a world with adverse selection?", *Journal of Labor Economics*, Vol. 22 No. 3, pp. 553-584.
- MacDonald, R. and Giazitzoglu, A. (2019), "Youth, enterprise and precarity: or, what is, and what is wrong with, the "gig economy"?", *Journal of Sociology*, Vol. 55 No. 4, pp. 724-740.
- Menard, S. (2001), *Applied Logistic Regression Analysis*, SAGE Publications, Thousand Oaks, London.
- Millán, A., Millán, J.M. and Román, C. (2018), "Are false own-account workers less job satisfied than true ones?", *Applied Economics Letters*, Vol. 25 No. 13, pp. 945-950, doi: [10.1080/13504851.2017.1388902](https://doi.org/10.1080/13504851.2017.1388902).
- Millán, A., Millán, J.M. and Caçador-Rodrigues, L. (2020), "Disclosing 'masked employees' in Europe: job control, job demands and job outcomes of 'dependent self-employed workers'", *Small Business Economics*, Vol. 55, pp. 461-474.
- Moisander, J., Groß, C. and Eräranta, K. (2018), "Mechanisms of biopower and neoliberal governmentality in precarious work: mobilising the dependent self-employed as independent business owners", *Human Relations*, Vol. 71 No. 3, pp. 375-398.
- Moore, S. and Newsome, K. (2018), "Paying for free delivery: dependent self-employment as a measure of precarity in parcel delivery", *Work, Employment and Society*, Vol. 32 No. 3, pp. 475-492, doi: [10.1177/0950017018755664](https://doi.org/10.1177/0950017018755664).
- Muehlberger, U. (2007a), "Dependent self-employment: workers on the Border between employment and self-employment", in *Dependent Self-Employment: Workers on the Border between Employment and Self-Employment*, Palgrave MacMillan, New York, pp. 1-217, October, doi: [10.1057/9780230288782](https://doi.org/10.1057/9780230288782).
- Muehlberger, U. (2007b), "Hierarchical forms of outsourcing and the creation of dependency", *Organization Studies*, Vol. 28 No. 5, pp. 709-727, doi: [10.1177/0170840607078119](https://doi.org/10.1177/0170840607078119).
- Murgia, A. and Pulignano, V. (2021), "Neither precarious nor entrepreneur: the subjective experience of hybrid self-employed workers", *Economic and Industrial Democracy*, Vol. 42 No. 4, pp. 1351-1377.
- Murnieks, C.Y., Klotz, A.C. and Shepherd, D.A. (2020), "Entrepreneurial motivation: a review of the literature and an agenda for future research", *Journal of Organizational Behavior*, Vol. 41 No. 2, pp. 115-143.
- Nikulin, D. (2021), "The determinants of false self-employment: a survey of polish enterprises the determinants of false self-employment: a survey of polish enterprises", *Eastern European Economics*, Vol. 59 No. 1, pp. 70-81, doi: [10.1080/00128775.2020.1782754](https://doi.org/10.1080/00128775.2020.1782754).
- Ojala, S., Nätti, J. and Lipiäinen, L. (2018), "Types of temporary employment: an 8-year follow-up of labour market attachment", *Social Indicators Research*, Vol. 138 No. 1, pp. 141-163.
- Organisation for Economic Co-operation and Development - OECD (2000), "Employment outlook, employment outlook", OECD Publishing, Paris, doi: [10.1787/empl_outlook-2000-en](https://doi.org/10.1787/empl_outlook-2000-en).http://dx.doi.org/10.1787/empl_outlook-2000-en
- Pichault, F. and McKeown, T. (2019), "Autonomy at work in the gig economy: analysing work status, work content and working conditions of independent professionals", *New Technology, Work and Employment*, Vol. 34 No. 1, pp. 59-72.
- Pollack, J.M., Carr, J.C., Michaelis, T.L. and Marshall, D.R. (2019), "Hybrid entrepreneurs' self-efficacy and persistence change: a longitudinal exploration", *Journal of Business Venturing Insights*, Vol. 12, e00143.
- Popiel, P. (2017), "'Boundaryless' in the creative economy: assessing freelancing on Upwork", *Critical Studies in Media Communication*, Vol. 34 No. 3, pp. 220-233.
- Pulignano, V. (2017), "Precarious work, regime of competition and the case of Europe", in *Research in the Sociology of Work*, Emerald Publishing, Bingley, Vol. 31, pp. 33-60.

- Putniņš, T.J. and Sauka, A. (2011), "Size and determinants of shadow economies in the Baltic States", *Baltic Journal of Economics*, Vol. 11 No. 2, pp. 5-25.
- Román, C., Congregado, E. and Millán, J.M. (2011), "Dependent self-employment as a way to evade employment protection legislation", *Small Business Economics*, Vol. 37 No. 3, pp. 363-392, doi: [10.1007/s11187-009-9241-3](https://doi.org/10.1007/s11187-009-9241-3).
- Rustagi, P. (2013), "Changing patterns of labour force participation and employment of women in India", *Indian Journal of Labour Economics*, Vol. 56 No. 2, pp. 215-241.
- Sargeant, M. (2017), "The gig economy and the future of work", *Ejournal of International and Comparative Labour Studies*, Vol. 6 No. 2, pp. 1-12.
- Segal, G., Borgia, D. and Schoenfeld, J. (2005), "The motivation to become an entrepreneur", *International Journal of Entrepreneurial Behavior and Research*, Vol. 11 No. 1, pp. 42-57.
- Simon, H.A. (1951), "A formal theory of the employment relationship", *Econometrica: Journal of the Econometric Society*, Vol. 19 No. 3, pp. 293-305.
- Skrzek-Lubasińska, M. and Szaban, J.M. (2019), "Nomenclature and harmonised criteria for the self-employment categorisation. An approach pursuant to a systematic review of the literature", *European Management Journal*, Vol. 37 No. 3, pp. 376-386, doi: [10.1016/j.emj.2018.11.001](https://doi.org/10.1016/j.emj.2018.11.001).
- Thörnquist, A. (2011), "False Self-employment: a topical but old labour market problem", in *Precarious Employment in Perspective: Old and New Challenges to Working Conditions in Sweden*, Peter Lang Publishing Group, Brussels, pp. 101-129.
- Thörnquist, A. (2015), "False self-employment and other precarious forms of employment in the 'grey area' of the labour market", *International Journal of Comparative Labour Law and Industrial Relations*, Vol. 31 No. 4, pp. 411-429.
- van Stel, A. and de Vries, N. (2015), "The economic value of different types of solo self-employed: a review", in Burke, A. (Ed.), *The Handbook of Research on Freelancing and Self-Employment*, Senate Hall Academic Publishing Dublin, Ireland, pp. 77-84.
- van Stel, A. and van der Zwan, P. (2019), "Analyzing the changing education distributions of solo self-employed workers and employer entrepreneurs in Europe", *Small Business Economics*, Vol. 55, pp. 429-445, doi: [10.1007/s11187-019-00243-9](https://doi.org/10.1007/s11187-019-00243-9).
- van Stel, A., Barrientos-Marín, J., Caçador-Rodrigues, L., Millán, A. and Millán, J.M. (2021), "Measuring performance differentials across entrepreneurship types", *International Entrepreneurship and Management Journal*. doi: [10.1007/s11365-021-00755-5](https://doi.org/10.1007/s11365-021-00755-5) (forthcoming).
- Wagner, I. and Berntsen, L. (2016), "Restricted rights: obstacles in enforcing the labour rights of mobile EU workers in the German and Dutch construction sector", *Transfer*, Vol. 22 No. 2, pp. 193-206, doi: [10.1177/1024258916636025](https://doi.org/10.1177/1024258916636025).
- Wickham, J. and Bobek, A. (2016), "Bogus self-employment in the Irish construction industry", available at: https://www.nerinstitute.net/download/pdf/james_wickham_tcd_paper.pdf
- Williams, C. and Horodnic, I.A. (2018), "Evaluating the prevalence and distribution of dependent self-employment: some lessons from the European working conditions survey", *Industrial Relations Journal*, Vol. 49 No. 2, pp. 109-127, doi: [10.1111/irj.12206](https://doi.org/10.1111/irj.12206).
- Williams, C.C. and Horodnic, I.A. (2019), *Dependent Self-Employment: Theory, Practice and Policy*, Edward Elgar Publishing, Cheltenham.
- Williams, C. and Lapeyre, F. (2017), "Dependent self-employment: trends, challenges and policy responses in the EU", ILO Employment Working Paper no. 228, International Labour Organization, Geneva, available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3082819
- Wright, C., Wood, A., Trevor, J., McLaughlin, C., Huang, W., Harney, B., Geelan, T., Colfer, B., Chang, C. and Brown, W. (2019), "Towards a new web of rules: an international review of institutional experimentation to strengthen employment protections", *Employee Relations*, Vol. 41 No. 2, pp. 313-330.

Further reading

Stewart, A. and Stanford, J. (2017), "Regulating work in the gig economy: what are the options?", *The Economic and Labour Relations Review*, Vol. 28 No. 3, pp. 420-437, doi: [10.1177/1035304617722461](https://doi.org/10.1177/1035304617722461).
 Williams, C.C. and Oz-Yalaman, G. (2021), "The coronavirus pandemic, short-term employment support schemes and undeclared work: some lessons from Europe", *Employee Relations*, Vol. 43 No. 3, pp. 630-643.

Appendix

Variable	Frequency (%)
Austria	0.16
Belgium	0.21
Bulgaria	0.13
Switzerland	0.04
Cyprus	0.39
Czech Republic	0.69
Germany	0.10
Denmark	0.11
Estonia	0.14
Spain	0.17
Finland	0.04
France	0.10
Greece	0.10
Croatia	0.05
Hungary	0.06
Ireland	0.24
Iceland	0.14
Italy	0.80
Lithuania	0.12
Luxembourg	0.15
Latvia	0.28
Malta	0.30
Netherlands	0.29
Norway	0.11
Poland	0.44
Portugal	0.09
Romania	0.89
Sweden	0.10
Slovenia	0.39
United Kingdom	0.78

Note(s): Post-stratification weights applied

Sample of dependent self-employed and wage employed, 15–64 years, $N = 326,330$

Source(s): Own elaboration based on the Labour Force Survey (LFS) ad-hoc module 2017 data (Eurostat, 2018)

Table A1.
 Proportions of dependent self-employed on employed and self-employed individuals across studied countries in our dataset

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