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# **Self-employment, the informal economy and the marginalisation thesis: some evidence from the European Union**

## **Abstract**

### **Purpose**

The aim of this paper is to evaluate which groups of the self-employed engage in the informal economy. Until now, self-employed people participating in the informal economy have been predominantly viewed as marginalised populations such as those on a lower income and living in deprived regions (i.e., the “marginalisation thesis”). However, an alternative emergent “reinforcement thesis” conversely views the marginalised self-employed as less likely to do so. Until now, no known studies have evaluated these competing perspectives.

### **Methodology**

To do this, we report a 2013 survey conducted across 28 countries involving 1,969 face-to-face interviews with the self-employed about their participation in the informal economy.

### **Findings**

Using multilevel mixed-effects logistic regression analysis, the finding is that the marginalisation thesis applies when examining characteristics such as the age, marital status, tax morality, occupation and household financial circumstances of the self-employed engaged in the informal economy. However, when gender and regional variations are analysed, the reinforcement thesis is valid. When characteristics such as the urban-rural divide and educational level are analysed, no evidence is found to support either the marginalisation or reinforcement thesis.

### **Research Implications/Limitations**

The outcome is a call for a more nuanced understanding of the marginalisation thesis that the self-employed participating in the informal economy are largely marginalised populations.

### **Originality/value**

This is the first extensive evaluation of which self-employed groups participate in the informal economy.

**Keywords:** informal sector; undeclared work; shadow economy; self-employment; entrepreneurship; marginalisation; Europe.

## **Introduction**

How common is it for the self-employed to operate in the informal economy? Is it a work practice more common amongst some groups of the self-employed than others? If so, which groups of self-employed are more likely to work in the informal economy? This paper seeks answers to these questions. In recent years, a burgeoning literature has highlighted how the

self-employed display a greater propensity to operate in the informal economy and that much work in the informal economy is conducted on a self-employed basis (Barbour and Llanes, 2013; Copisarow, 2004, Copisarow and Barbour, 2004; ILO, 2013; Llanes and Barbour, 2007; Williams et al., 2011). Until now however, two contrasting views have prevailed in the literature regarding which groups of the self-employed participate in the informal economy. On the one hand, the predominant view is that the self-employed who participate in the informal economy are largely what are loosely referred to as the “marginalised” self-employed, such as those on a low-income and struggling to get-by (Barbour and Llanes, 2013; Brill, 2011; Katungi et al. 2006; Llanes and Barbour, 2007). This is here referred to as the “marginalisation thesis”. On the other hand however, an alternative view, termed the “reinforcement thesis”, asserts the inverse, namely that the marginalised self-employed are less likely to engage in informal work and thus that the informal economy reinforces, rather than reduces, the economic disparities found within the self-employed (Pahl, 1984; Williams et al., 2011). Until now nevertheless, no known studies have evaluated these competing perspectives. Here therefore, the intention is to fill that gap.

In the first section therefore, the competing perspectives regarding which groups of the self-employed participate in the informal economy are reviewed, namely the dominant marginalisation thesis, which holds that it is predominantly marginalised groups, and the emergent reinforcement thesis which argues that the marginalised self-employed are less likely to do so and that such work is disproportionately undertaken by relatively affluent, better educated and more professional groups of the self-employed. Identifying that no known studies have evaluated these competing viewpoints, the second section begins to fill this gap by introducing the methodology used in an extensive 2013 Eurobarometer survey that examines the participation of the self-employed in the informal economy across 28 European countries. The third section then reports the descriptive findings on which groups of the self-

employed display a greater propensity to participate in the informal economy followed in the fourth section by a multilevel mixed-effects logistic regression analysis to identify the self-employed displaying a greater propensity to engage in the informal economy when other characteristics are held constant. The fifth and final section then concludes by discussing the theoretical and policy implications of the findings, revealing the need for a more nuanced theoretical understanding and calling for a more variegated approach by policy-makers when targeting the self-employed in order to tackle the informal economy.

At the outset however, the informal economy needs to be defined. Reflecting the consensus in the scholarly and policy literature, this paper defines the informal economy as paid activities not declared to the authorities for tax, social security and/or labour law purposes (Dekker et al., 2010; European Commission, 2007; OECD, 2012; Schneider, 2008; Schneider and Williams, 2013; Williams, 2005, 2006). If the activities differ in additional ways to the formal economy, then they are not defined as the informal economy. For example, if the goods and/or services exchanged are illegal (e.g., illegal drugs), then this is here treated as part of the wider ‘criminal’ economy rather than the informal economy (McElwee et al., 2014; Smith and McElwee, 2013), and if the activities are unpaid then they are part of the separate unpaid economy. There nevertheless remain some blurred boundaries, such as when the rewards for work are in the form of gifts or an in-kind reciprocal favour, rather than money. In this paper however, gifts or in-kind favours are excluded. Only paid activities not declared to the authorities for tax, social security and/or labour law purposes are included.

### **Self-employment, the informal economy and the marginalisation thesis**

Over the past few decades, there has been widespread recognition that the informal economy remains a sizeable segment of the global economy (ILO, 2002a,b, 2013; Jütting and Laiglesia, 2009; Schneider, 2008; Williams, 2013, 2014b). Indeed, an OECD report estimates that of the

three billion working population worldwide, nearly two-thirds (1.8 billion) have their main employment in the informal economy (Jütting and Laiglesia, 2009). A large proportion of these operate on a self-employed basis. This was first recognised in a third (majority) world context where a vast number of micro-entrepreneurs, street hawkers and petty traders operate in the informal economy (Cross, 2000; Cross and Morales, 2007; De Soto, 1989, 2001; ILO, 2002a; Williams and Shahid, 2014). Indeed, the ILO (2002b) estimate that the self-employed constitute 70 per cent of those operating in the informal economy in sub-Saharan Africa, 62 per cent in North Africa, 60 per cent in Latin America and 59 per cent in Asia. Over the past decade or so moreover, this understanding that many operating in the informal economy are self-employed has also spread to both post-socialist transition economies (Chavdarova, 2014; Round et al., 2008; Williams et al., 2012, 2013) as well as the western world (Evans et al., 2006; Katungi et al., 2006; Small Business Council, 2004; Snyder, 2004; Williams, 2005, 2006, 2007, 2010; Williams et al., 2011).

The outcome has been that a new sub-discipline of entrepreneurship scholarship has emerged over the past decade or so focused upon this previously ignored group of entrepreneurs who conduct some or all of their transactions in the informal economy (Aidis et al., 2006; Barbour and Llanes, 2013; Bureau and Fendt, 2011; Dellot, 2012; Kus, 2014; Mróz, 2012; Thai and Turkina, 2013; Webb et al., 2013; Williams, 2006). This literature on informal entrepreneurship has sought to understand not only the magnitude of entrepreneurship in the informal economy (Autio and Fu, 2014; Williams, 2013) but also the differing degrees of informalisation of such entrepreneurs (De Castro et al., 2014; Williams and Shahid, 2014). Until now however, the major focus of this scholarship has been upon explaining entrepreneurship in the informal economy (Chen, 2012; Hudson et al., 2012; Williams et al., 2012). This has been analysed either by evaluating whether they are necessity- and/or opportunity-driven (Adom, 2014; Williams, 2009), or by explaining the prevalence of

informal entrepreneurship to result from the asymmetry between the codified laws and regulations of a society's formal institutions and the norms, values and beliefs that constitute its informal institutions (Webb et al., 2009, 2013, 2014; Welter and Smallbone, 2011; Williams and Shahid, 2014; Williams and Vorley, 2014).

In this burgeoning literature on informal entrepreneurship, competing views have thus emerged on the reasons for the self-employed participating in the informal economy. On the one hand, there is an 'exclusion' perspective which depicts those participating in informal self-employment/entrepreneurship as doing so out of necessity and as a last resort due to few other choices being available to them (Copisarow, 2004; Llanes and Barbour, 2007). On the other hand, there is an 'exit' perspective which depicts them as doing so in order to voluntarily exit the formal economy, not least so as to avoid the costs, time and effort of formal registration (Cross, 2000; Gerxhani, 2004; Maloney, 2004; Snyder, 2004). Recently moreover, others have synthesised these contrasting viewpoints by examining the ratio of necessity-to-voluntary informal self-employment and also by arguing that exit and exclusion can be both co-present in entrepreneurs' rationales (e.g., Adom, 2014; Williams, 2010).

Based on such views of their motives and rationales, two competing perspectives can thus be identified regarding the characteristics of the self-employed participating in the informal economy, namely the marginalisation and reinforcement theses. Here, each is reviewed in turn.

#### Marginalisation thesis

The "marginalisation thesis" holds that the self-employed operating in the informal sector are predominantly marginalised populations (Barbour and Llanes, 2013; Brill, 2011; Dellot, 2012; Katungi et al., 2006). This applies when considering both where such self-employment in the informal economy takes place as well as to the type of self-employed people engaged in such

endeavour. From this perspective, self-employed people participating in the informal economy are concentrated in deprived areas. The self-employed are viewed as more likely to operate in the informal economy when they live in deprived urban neighbourhoods (Barbour and Llanes, 2013; Brill, 2011; Dellot, 2012; Katungi et al., 2006), peripheral rural regions (Button, 1984; Williams, 2010), poorer nations (Schneider and Williams, 2013) and poorer regions of the global economy (ILO, 2012; Williams, 2013).

It is similarly the case when discussing which groups of the self-employed participate in the informal economy. The marginalisation thesis views the self-employed operating in the informal economy as predominantly marginalised populations loosely defined. For example, adherents assert that the self-employed who display a greater propensity to participate in the informal economy are those with greater financial difficulties and/or lower-income groups (Barbour and Llanes, 2013; Brill, 2011; Katungi et al., 2006) and women rather than men (ILO, 2013; Leonard, 1994; Stănculescu, 2004).

#### Reinforcement thesis

Over the past few years however, a reinforcement thesis has emerged which has started to challenge the dominant marginalisation thesis. This argues that the participation of the self-employed in the informal economy is lower among marginalised populations. Instead, it is for example largely relatively affluent, better educated, more professional groups of the self-employed who display a greater propensity to participate in the informal economy (Kaitedliou et al., 2013, MacDonald, 1994, Moldovan and Van de Walle, 2013; Pahl, 1984; Williams, 2014a; Williams et al., 2013). From this perspective therefore, the informal economy does not reduce the disparities produced by the formal economy amongst the self-employed but rather, reinforces them (Ferrer-i-Carbonell and Gerxhani, 2011). For example, it can be argued that the self-employed living in affluent regions and localities are more likely to participate in the

informal economy than populations in less affluent regions and localities (Foudi et al., 1982; Hadjimichalis and Vaiou, 1989; Krumplyte and Samulevicius, 2010; Mingione, 1991; Surdej and Slezak, 2009; Van Geuns et al., 1987). Similarly, it can be argued that women who are self-employed are less likely to participate in the informal economy than men (Lemieux et al., 1994; McInnis-Dittrich, 1995) and that those self-employed with financial difficulties are less likely to participate than more affluent population groups (Williams et al., 2013; Williams and Martinez-Perez, 2014b).

Examining the data so far collected to support either the marginalisation or reinforcement theses, it becomes quickly apparent that no known studies have evaluated these competing theses. Instead, many studies of the participation of the self-employed in the informal economy simply assume that one or other thesis is valid. Brill (2011), for example, studies only people living in a deprived neighbourhood of Salford who operate on a self-employed basis in the informal economy, grounded in the assumption that this is where informal self-employment is concentrated. This is similarly the case with numerous other studies of the participation of the self-employed in the informal economy (Barbour and Llanes, 2013; Katungi et al., 2006; Llanes and Barbour, 2007). Indeed, the only known attempts to determine which groups of the self-employed participate in the informal economy have been limited to evaluating whether different groups of business owner started-up their business in the informal economy. The finding is that women were less likely than men to have done so and that businesses with low current annual turnovers were more likely to have done so (Williams and Martinez, 2014a). As such, no known studies have evaluated the validity of the marginalisation and reinforcement theses.

In this paper therefore, the intention is to begin to fill this major gap. Here, we report a contemporary extensive survey of which groups of the self-employed participate in the



informal economy across the 28 member states of the European Union. The objective in doing so is to evaluate the following two theses:

Marginalisation hypothesis (H1): self-employed people participating in the economy are predominantly marginalised populations.

Reinforcement hypothesis (H2): the participation of the self-employed in the informal economy is lower among marginalised groups of the self-employed.

### **Methodology: examining the participation of the self-employed in the informal economy**

For this analysis we use Special Eurobarometer survey no. 402 conducted in April and May 2013 as part of wave 79.2 of the Eurobarometer survey across the 28 member states of the European Union. Of the 27,563 face-to-face interviews conducted, some 1,969 were with people who self-reported themselves as self-employed. It is these interviews which are here analysed, all of which were conducted face-to-face in the national language with adults aged 15 years and older. In every country, a multi-stage random (probability) sampling methodology was used which ensured that on the variables of gender, age, region and locality size, each country is representative in terms of the proportion of interviews conducted with each group. For the univariate analysis therefore, we have employed the sampling weighting scheme as the literature suggests (Sharon and Liu, 1994; Solon et al., 2013; Winship and Radbill, 1994). For the multivariate analysis however, and reflecting the majority of the literature on whether to use a weighting scheme or not (Pfeffermann, 1993; Sharon and Liu, 1994; Solon et al., 2013; Winship and Radbill, 1994), the decision has been taken not to do so.

Given that talking about work in the informal economy is a sensitive issue, the interview schedule followed good practice and built rapport with the participants before

posing the more sensitive questions regarding their participation in the informal economy. Pursuing a gradual approach to the more sensitive questions, the interview schedule thus started by asking about their attitudes towards the informal economy, followed by questions on whether they had purchased goods and services from the informal economy. Only then were questions put regarding their participation in the informal economy. Analysing the responses of interviewees regarding the perceived reliability of the interviews with the people reporting that they were self-employed, the finding is that cooperation was deemed bad in only 0.5 per cent of the interviews. Cooperation was deemed excellent in 64.3 per cent, fair in 30.0 per cent and average in just 5.2 per cent. Therefore, and as discussed elsewhere (Ram and Williams, 2008), there is little reason to assume that participants hide their informal economic activity from the interviewer.

To analyse the findings, descriptive statistics are produced on the participation of the self-employed in the informal economy whilst multilevel mixed-effects logistic regression analysis is used to analyse the characteristics of the self-employed who engage in the informal economy. To do this, the dependent variable measures whether those reporting that they are self-employed participated in the informal economy based on the question “Have you yourself carried out any undeclared paid activities in the last 12 months?”. To analyse which of these self-employed had engaged in the informal economy meanwhile, the following independent socio-demographic, socio-economic and spatial variables are considered:

Socio-demographic independent variables:

- Gender: a dummy variable for the gender of the self-employed person with value 1 for men and 0 for women.
- Age: a categorical variable for the age of the self-employed person with value 1 for those aged 15 to 24 years old, value 2 for those aged 25 to 39, value 3 for those aged 40 to 54, value 4 for those 55 years old or over.

- **Marital Status:** a categorical variable for the marital status of the self-employed person with value 1 for married/ remarried individuals, value 2 for single living with a partner, value 3 for singles, value 4 for those separated or divorced, and value 5 for widowed and for other form of marital status.
- **Social class:** a categorical variable for the self-employed person's perception regarding the social class to which s/he belongs with value 1 for the working class, value 2 for middle class, value 3 for upper class, and value 4 for other class or none.
- **Age when stopped full time education:** a categorical variable for age the self-employed person stopped full time education with value 1 for 15 years old and under, value 2 for 16-19 years old, value 3 for 20 years old or over.
- **People 15+ years in own household:** a categorical variable for the number of people 15+ years in the self-employed person's household (including the respondent) with value 1 for one person, value 2 for two persons, value 3 for 3 persons, and value 4 for 4 persons or more.
- **Children (up to 14 years old in the household):** a categorical variable for number of children with value 1 for self-employed people with no children, value 2 for the presence of children less than 10 years old living in their household, value 3 for the presence of children aged 10 to 14 years old living in their household and value 4 for the presence of children less than 10 years old and children aged 10 to 14 years old living in their household.
- **Tax morality index:** a constructed index of their attitude towards tax non-compliance. Participants were asked to rate how acceptable they viewed six tax non-compliant behaviours using a 10-point scale where 1 means 'absolutely unacceptable' and 10 means 'absolutely acceptable'. These are: someone receives welfare payments without entitlement; a firm is hired by another firm and does not report earnings; a firm hires a

private person and all or part of their salary is not declared; a firm is hired by a household and doesn't report earnings; someone evades taxes by not or only partially declaring income; and a person hired by a household does not declare earnings when it should be declared. The tax morality index for each individual is calculated using the mean score across these six attitudinal questions.

Socio-economic independent variables:

- Occupation of self-employed: a categorical variable grouping self-employed respondents by their occupation with value 1 for farmer/fisherman, value 2 for professional (lawyer, etc.), value 3 for owner of a shop, craftsmen, etc, and value 4 for business proprietors, etc.
- Difficulties paying bills: a categorical variable for whether the self-employed person witnessed difficulties in paying bills with value 1 for having difficulties most of the time, value 2 for occasionally, and value 3 for almost never/never.

Spatial independent variables:

- Area respondent lives: a categorical variable for the area where the self-employed person lives with value 1 for rural area or village, value 2 for small or middle sized town, and value 3 for large urban area.
- EU region: a categorical variable for the EU region where the self-employed person lives with 1 for East-Central European countries, value 2 for Western European countries, value 3 for Southern European countries and value 4 for Nordic Nations.

Below, we report the findings.

## **Findings**

Across the European Union, governments have focused their resources on detecting informal economic activity amongst the self-employed based on the belief that the self-employed display a greater propensity to participate in the informal economy (Dekker et al., 2010;

Vanderseypen et al., 2013; Williams, 2014a). To determine whether this funnelling of government resources towards the self-employed is valid, Table 1 reports the participation rates of the unemployed, self-employed and employees in the informal economy. This reveals that the self-employed have a higher participation rate than employees and the economically inactive (excluding the registered unemployed) in the informal economy, with 6 per cent of the self-employed reporting that they participate in the informal economy. However, just 12 per cent of all informal work is conducted by the self-employed (who constitute 8 per cent of the surveyed population) and just 14 per cent of all informal income is earned by this group. Even if governments were successful in deterring the self-employed from participating in the informal economy therefore, this would not solve the problem of the informal economy. Nevertheless, there remains a clear rationale for continuing to focus greater resources on the self-employed. As Table 1 displays, they not only display a greater propensity to participate in the informal economy than the majority of the population but also earn significantly more when they do participate than other population groups; €1,214 per annum on average compared with just €723 for the average EU person who participates in the informal economy.

INSERT TABLE 1 ABOUT HERE

Who among the self-employed, therefore, participates in the informal economy? Is it as the marginalisation thesis posits that the propensity of the self-employed to operate in the economy is greater among marginalised populations? Or is it as the reinforcement thesis asserts that the propensity of the self-employed to operate in the informal economy is lower among marginalised populations?

Table 2 provides descriptive statistics on the propensity of different groups of the self-employed to participate in the informal economy. Firstly, and supporting the marginalisation thesis, the finding is that the propensity of the self-employed to operate in the informal economy is greater among some marginalised populations. Younger age groups, who are also more likely to be unemployed and without formal employment in the contemporary European labour market (European Commission, 2013), display a greater propensity to engage in the informal economy than older self-employed people. So too do those who report themselves as working class compared with those who report themselves as middle class, and those who defined themselves as having difficulties paying the bills most of the time than those self-employed who more rarely have such difficulties. This is similarly the case with those self-employed whose education ended at 15 years old or younger. Moreover, self-employed craftspeople and shop owners are more likely to participate in the informal economy than the self-employed who belong to the professions (e.g., doctor, lawyer) and business proprietors.

INSERT TABLE 2 ABOUT HERE

Turning to the reinforcement thesis, there is again some evidence that the propensity of the self-employed to operate in the informal economy is lower among some marginalised populations. Those self-employed living in less affluent European regions, for example, are less likely to engage in the informal economy than those living in the relatively affluent Nordic nations. Similarly, self-employed women are less likely to participate in the informal economy than self-employed men. Those self-employed reporting themselves as working class moreover, are less likely to participate in the informal economy than those self-employed reporting themselves as belonging to the upper classes. There is also evidence that

those whose formal education ended at 20 years old or over are slightly more likely than those whose education ended between 16-19 years old to participate in the informal economy.

The tentative suggestion from these descriptive statistics therefore, is that the marginalisation thesis applies when discussing younger age groups, those with a lower level of education, those self-employed that are unmarried or cohabiting and those who have difficulties paying household bills. However, the marginalisation does not apply when discussing women compared with men, occupations, EU regions and those living in rural areas compared with urban areas. Instead, the reinforcement thesis tentatively appears to be valid that the propensity of the self-employed to operate in the informal economy is lower among some marginalised populations. Analysing these descriptive statistics therefore, the tentative conclusion is that it is not possible to assert that either the marginalisation or the reinforcement thesis is universally applicable at all spatial scales and across all socio-demographic and socio-economic groups. Instead, the marginalisation thesis appears to be applicable when analysing some population groups but the reinforcement thesis for others.

## **Analysis**

Here, we analyse how the participation of the self-employed in the informal economy varies according to socio-demographic variables (gender, age, marital status, age when stopped full time education, people 15+ years in own household, number of children, tax morality index), socio-economic variables (occupation, difficulty in paying bills) and spatial characteristics (area respondent lives, EU region), when all other variables are held constant. Given the hierarchical structure of the data (individuals nested within countries), for the multivariate analysis, we employ a multilevel model. As the dependent variable is dichotomous, we use a multilevel mixed-effects logistic regression (Snijders and Bosker, 2012). The binary response variable is whether or not a self-employed person participated in the informal economy in the

12 months prior to interview. Indeed, the likelihood-ratio test for the null hypothesis that there are no variations in the participation of the self-employed in the informal economy reports that this hypothesis can be safely rejected. Therefore, the multilevel mixed-effects logistic regression should be the one used.

To analyse the effect of the various independent variables on the participation of the self-employed in the informal economy when other variables are held constant, an additive model is used. The first stage model (M1) includes solely the socio-demographic factors to examine their effects while the second stage model (M2) adds socio-economic factors alongside the socio-demographic factors, and the third stage model (M3) adds spatial factors to the socio-demographic and socio-economic factors to examine their influence on participation in the informal economy. Table 3 reports the results.

INSERT TABLE 3 HERE

Model 1 in Table 3 shows that the marginalisation thesis is valid when analysing various socio-demographic disparities in the participation rates of the self-employed in the informal economy. Not only are the younger self-employed more likely to participate in the informal economy but so too are the widowed. In addition, those holding non-conformist attitudes towards tax compliance are more likely to participate in such endeavour. The implication is that those self-employed who are marginalised in the sense that their norms, values and beliefs (i.e., their individual morality) do not align with the codified laws and regulations (i.e., state morality) display a significantly greater propensity to participate in the informal economy.

Contrary to the marginalisation thesis and in support of the reinforcement thesis however, men are found to be significantly more likely to participate in the informal economy



than women. No evidence is found to support the marginalisation (or reinforcement) thesis nevertheless, when analysing the age the self-employed stopped their full time education, the number of people aged 15+ in the household and the number of children in the household. As such, when considering the socio-demographic characteristics of the self-employed, the finding is that a more nuanced understanding of the validity of the marginalisation thesis is required. The marginalisation thesis is valid in relation to some marginalised population groups (e.g., younger people, widowed or other categories and those self-employed whose individual morality does not align with state morality), but not others (e.g., women).

When Model 2 adds the socio-economic factors of the occupational characteristics and financial circumstances of the self-employed to their socio-demographic characteristics, there are no major changes to the influence of the socio-demographic variables on the participation of the self-employed in the informal economy. However, the additional finding is that the occupation of the self-employed person has an impact on their propensity to participate in the informal economy. Compared with self-employed farmers and fishermen, self-employed shop owners and craftspeople are more likely to participate in the informal economy. Moreover, the self-employed who have difficulties paying the household bills most of the time (i.e., an indicator of their financial circumstances) are more likely to participate in the informal economy than the more affluent self-employed who seldom have such difficulties. The marginalisation thesis therefore, is valid not only for younger people, widows and those whose individual morality does not align with state morality, but also for those who have difficulties paying the bills (i.e., the self-employed who are less affluent).

When spatial factors are added in Model 3, the finding is again that there are no major changes to the significance of the socio-demographic and socio-economic characteristics of the self-employed discussed above which influence their participation in the informal economy. However, there is no evidence to support either the marginalisation or

reinforcement thesis regarding those living in peripheral rural areas compared with those living in more urban areas. There is evidence to support the reinforcement thesis however, when the European region is analysed; the self-employed living in Nordic Nations are more likely to participate in the informal economy compared with the self-employed living in East Central Europe.

### **Discussion and conclusions**

To evaluate the marginalisation thesis which asserts that the propensity of the self-employed to operate in the economy is greater among marginalised populations, this paper has reported the results of a 2013 survey of the participation of the self-employed in the informal economy in the 28 member states of the European Union involving 1,969 face-to-face interviews with self-employed people. Using multilevel mixed-effects logistic regression analysis, and as Table 4 summarises, this has revealed support for the marginalisation thesis in relation to some marginalised population groups. The younger self-employed are significantly more likely to engage in the informal economy as are those who are widowed, shop owners and craftspeople, those whose individual morality does not align with state morality (who are marginalised in the sense that their values and attitudes do not conform to those of the codes, regulations and laws of the formal institutions) and those who have difficulties paying household bills. Contrary to the marginalisation thesis and in support of the reinforcement thesis meanwhile, self-employed men are found to be significantly more likely to participate in the informal economy than women, as are those living in the more affluent EU region of the Nordic nations. No evidence is found to support the marginalisation (or reinforcement) thesis however, so far as the educational level, the number of children in the household or the urban-rural divide are concerned.

#### INSERT TABLE 4

Examining the theoretical implications of these findings, the outcome is that a more nuanced interpretation of the marginalisation thesis is required. Analysing the survey results, the finding is that the marginalisation thesis applies when examining socio-demographic characteristics such as their age, marital status, tax morality, occupation and household financial circumstances. However, when gender and regional variations are analysed, the reinforcement thesis is valid in that participation in the informal economy by the self-employed reinforces the gender and European regional disparities found amongst the self-employed in the formal economy. When other characteristics are analysed moreover, such as the urban-rural divide, educational level and number of children, no evidence is found to support either the marginalisation or reinforcement thesis. What is now required is to evaluate whether the findings are similar when examining other global regions, especially developing countries, and other spatial scales such as particular nations, regions and localities.

Turning to the policy implications of these findings, the first important consequence is that these results display the specific spaces and populations that need targeting when seeking to tackle the self-employed participating in the informal economy. In recent years for example, there has been an emphasis in the European Union on targeting poorer EU regions such as East-Central and Southern Europe when allocating resources through European structural funds to tackling the informal economy (Dekker et al., 2010; European Commission, 2013; Vanderseypen et al., 2014). However, this paper reveals that the self-employed in these poorer EU regions are not disproportionately engaged in the informal economy. Indeed, the self-employed in affluent European regions have significantly higher participation rates in the informal economy, suggesting the need for a rethinking of the spatial allocation of European funds when tackling the informal economy, especially among the self-

employed. Nonetheless, this paper does reveal that the current targeting of the self-employed by many national governments when tackling the informal economy is not a mistake (European Commission, 2007; Vanderseypen et al., 2013; Williams, 2014a). The self-employed are significantly more likely to participate in the informal economy. Popular policy initiatives such as those which seek to facilitate the formalisation of the self-employed therefore, are worthwhile (Barbour and Llanes, 2013). Given that the self-employed undertake just 12 per cent of all informal work and only 14 per cent of informal income is earned by this group however, care must be taken not to focus too much attention on the self-employed. Moreover, this survey reveals that it may be worthwhile targeting some groups of the self-employed when tackling the informal economy, such as younger people, widows, shop owners and craftspeople, those who have difficulties paying the household bills, the self-employed in Nordic nations and those whose individual morality differs from state morality. This analysis, in other words, provides a useful risk assessment of which groups of the self-employed are most likely to participate in the informal economy. As can be seen however, this is not necessarily always marginalised groups of the self-employed (e.g., women, those living in rural areas and deprived EU regions, the less educated).

Reviewing the limitations of this study, two broad issues need to be raised. Firstly, it might be suggested that this paper assumes that the informal economy needs to be tackled. To be explicit, this is the case. Not only do the disadvantages of the informal economy far outweigh the advantages (see Williams, 2014a; Williams and Shahid, 2014) but just because this sphere is useful as test-bed for business start-ups for example, does not mean that the informal economy should be left alone. Rather, it displays the need to tackle the informal economy by formalising it rather than eradicating it (see Barbour and Llanes, 2013). Secondly, and perhaps more importantly, there are data limitation issues. Not only are many marginalised people difficult to contact (e.g., illegal immigrants) and may have been missed

in the sampling strategy (Likic-Brboric et al., 2013; Vershina and Rodionova, 2011), but the quantitative approach adopted here masks some richer and more nuanced complexities regarding the participation of marginalised populations in informal self-employment, especially with regard to venture creation (see Williams and Martinez-Perez, 2014) and the link between informal and criminal activities (Boels, 2014; Bruns et al., 2011; McElwee et al., 2014). Further qualitative research could usefully further unpack these issues.

In sum, this paper has shown the need for a more variegated understanding of the marginalisation thesis which asserts that self-employed people participating in the informal economy are predominantly marginalised populations. Whether this is also the case in other global regions as well as individual nations, and also whether similar groups are identified, now needs to be evaluated. If this paper stimulates such evaluations, then it will have fulfilled one of its intentions. If it also leads governments to start to adopt a more nuanced approach that targets particular groups of the self-employed when tackling the informal economy, and not always solely marginalised groups of the self-employed, then this paper will have achieved its broader intention.

## **References**

- Adom, K. (2014), "Beyond the marginalization thesis: an examination of the motivations of informal entrepreneurs in sub-Saharan Africa: insights from Ghana", *International Journal of Entrepreneurship and Innovation*, Vol. 15 No. 2, pp. 113-25.
- Aidis, R., Welter, F., Smallbone, D. and Isakova, N. (2006), "Female entrepreneurship in transition economies: the case of Lithuania and Ukraine", *Feminist Economics*, Vol. 13 No. 2, pp. 157-83.

- Autio, E. and Fu, K. (2014), "Economic and political institutions and entry into formal and informal entrepreneurship", *Asian Pacific Management Journal*, doi 10.1007/s10490-014-9381-0.
- Barbour, A. and Llanes, M. (2013), *Supporting people to legitimise their informal businesses*, Joseph Rowntree Foundation, York.
- Boels, D. (2014), "It's better than stealing: informal street selling in Brussels", *International Journal of Sociology and Social Policy*, Vol. 34 No. 9/10, pp. 670-693.
- Bruns, B., Miggelbrink, J. and Müller, K. (2011), "Smuggling and small-scale trade as part of informal economic practices: empirical findings from the Eastern external EU border", *International Journal of Sociology and Social Policy*, Vol. 31 No. 11/12, pp. 664–680.
- Brill, L. (2011), *Women's participation in the informal economy: what can we learn from Oxfam's work?*, Oxfam, Manchester.
- Bureau, S. and Fendt, J. (2011), "Entrepreneurship in the informal economy: why it matters", *International Journal of Entrepreneurship and Innovation*, Vol. 12 No. 2, pp. 85-94.
- Button, K. (1984), "Regional variations in the irregular economy: a study of possible trends", *Regional Studies*, Vol. 18 No. 3, pp. 385-92.
- Chavdarova, T. (2014), "Risky businesses? young people in informal self-employment in Sofia", *International Journal of Urban and Regional Research*, doi: 10.1111/1468-2427.12085
- Chen, M. (2012), *The Informal Economy: definitions, theories and policies*, *Women in Informal Employment Global and Organising*, Manchester.
- Copisarow, R. (2004), *Street UK - A micro-finance organisation: lessons learned from its first three years' operations*, Street UK, Birmingham.

- Copisarow, R. and Barbour, A. (2004), *Self-Employed People in the Informal Economy – cheats or contributors?*, Community Links, London.
- Cross, J. (2000), “Street vendors, modernity and postmodernity: Conflict and compromise in the global economy”, *International Journal of Sociology and Social Policy*, Vol. 20 No. 1, pp. 29–51.
- Cross, J. and Morales, A. (2007), “Introduction: Locating street markets in the modern/postmodern world”, in Cross, J. and Morales, A. (Eds.), *Street entrepreneurs: People, place and politics in local and global perspective*, Routledge, London, pp. 1–14.
- De Castro J.O., Khavul, S. and Bruton, G.D. (2014), “Shades of grey: how do informal firms navigate between macro and meso institutional environments?”, *Strategic Entrepreneurship Journal*, Vol. 8 No.1, pp. 75-94.
- De Soto, H. (1989), *The Other Path*, Harper and Row, London.
- De Soto, H. (2001), *The Mystery of Capital: why capitalism triumphs in the West and fails everywhere else*, Black Swan, London.
- Dekker, H., Oranje, E., Renooy, P., Rosing, F. and Williams, C.C. (2010), *Joining up the Fight against Undeclared Work in the European Union*, DG Employment, Social Affairs and Equal Opportunities, Brussels.
- Dellot, B. (2012), *Untapped enterprise: learning to live with the informal economy*, Royal Society of the Arts, London.
- European Commission (2007), *Stepping up the fight against undeclared work*. Document COM(2007) 628 final, European Commission, Brussels.
- European Commission (2013), *Employment and Social Developments in Europe 2013*, European Commission, Brussels.

- Evans, M., Syrett, S. and Williams, C.C. (2006), *Informal economic activities and deprived neighbourhoods*, Department for Communities and Local Government, London.
- Ferrer-i-Carbonell, A. and Gërrxhani, K. (2011) “Financial satisfaction and (in)formal sector in a transition country”, *Social Indicators Research*, Vol. 120 No. 2, pp. 315-31.
- Foudi, R., Stankiewicz, F. and Vanecloo, N. (1982), *Chomeurs et Economie Informelle*, Cahiers de l’observation du changement social et culturel no.17, Paris.
- Gërrxhani, K. (2004), “Tax evasion in transition: outcome of an institutional clash? Testing Feige’s conjecture in Albania”, *European Economic Review*, Vol 48 No. 7, pp. 729-45.
- Hadjimichalis, C. and Vaiou, D. (1989), “Whose flexibility?: the politics of informalisation in Southern Europe”, Paper presented to the IAAD/SCG Study Groups of the IBG Conference on Industrial Restructuring and Social Change: the dawning of a new era of flexible accumulation?, Durham.
- Hudson, J., Williams, C.C., Orviska, M. and Nadin, S. (2012), “Evaluating the impact of the informal economy on businesses in South East Europe: some lessons from the 2009 World Bank Enterprise Survey”, *The South-East European Journal of Economics and Business*, Vol. 7 No. 1, pp. 99-110.
- ILO (2002), *Women and men in the informal economy: A statistical picture*, International Labour Organisation, Geneva.
- ILO (2012), *Statistical Update on Employment in the Informal Economy*, International Labour Organisation, Geneva.
- ILO (2013), *Measuring informality: A statistical manual on the informal sector and informal employment*, International Labour Organisation, Geneva.



- Jütting, J.P. and Laiglesia, J.R. (2009), “Employment, poverty reduction and development: what’s new?”, in Jütting, J.P. and Laiglesi, J.R. (Eds.), *Is informal normal? Towards more and better jobs in developing countries*, OECD, Paris, pp. 1-19.
- Kaitedlidou, D., Tsirona, C.S., Galanis, P.A., Siskou, O., Mladovsky, P., Kouli, E.G., Prezerakos, P.E., Theodorou, M., Sourtzi, P. and Liaropolous, L. (2011), “Informal payments for maternity health services in public hospitals in Greece”, *Health Policy* Vol. 109 No. 1, pp. 23-40.
- Katungi, D., Neale, E. and Barbour, A. (2006), *People in low-paid informal work*, Joseph Rowntree Foundation, York.
- Krumplyte, J. and Samulevicius, J. (2010), “Complex research on undeclared work: theoretical aspects and empirical application in Lithuania”, *Inzinerine Ekonomika-Engineering Economics*, Vol. 21 No. 3, pp. 283-94.
- Kus, B. (2014), “The informal road to markets: neoliberal reforms, private entrepreneurship and the informal economy in Turkey”, *International Journal of Social Economics*, Vol. 41 No. 4, pp. 278-93.
- Lemieux, T., Fortin, B. and Frechette, P. (1994), “The effect of taxes on labor supply in the underground economy”, *American Economic Review*, Vol. 84 No. 1, pp. 231-54.
- Leonard, M. (1994), *Informal Economic Activity in Belfast*, Avebury, Aldershot.
- Likic-Brboric, B., Slavnic, Z. and Woolfson, C. (2013), “Labour migration and informalisation: East meets West”, *International Journal of Sociology and Social Policy*, Vol. 33 No. 11/12, pp. 677-692.
- Llanes, M. and Barbour, A. (2007), *Self-Employed and Micro-Entrepreneurs: informal trading and the journey towards formalization*, Community Links, London.
- MacDonald, R. (1994), “Fiddly jobs, undeclared working and the something for nothing society”, *Work, Employment and Society*, Vol. 8 No. 4, pp. 507-30.

- Maloney, W.F. (2004), "Informality revisited", *World Development*, Vol. 32 No. 7, pp. 1159-78.
- McElwee, G., Smith, R. and Somerville, P. (2014), "Developing a conceptual model of illegal rural enterprise", in Fayolle, A. (ed.), *Handbook of Research in entrepreneurship*, Edward Elgar, Cheltenham, pp. 367-388.
- McInnis-Dittrich, K. (1995), "Women of the shadows: Appalachian women's participation in the informal economy", *Affilia: Journal of Women and Social Work*, Vol. 10 No. 4, pp. 398-412.
- Mingione, E. (1991), *Fragmented Societies: a sociology of economic life beyond the market paradigm*, Basil Blackwell, Oxford.
- Moldovan, A. and Van De Walle, S. (2013), "Gifts or bribes: attitudes on informal payments in Romanian healthcare", *Public Integrity*, Vol. 15 No. 4, pp. 383-95.
- Mróz, B. (2012), "Entrepreneurship in the shadow: faces and variations of Poland's informal economy", *International Journal of Economic Policy in Emerging Economies*, Vol. 5 No. 3, pp. 197-211.
- OECD (2012), *Reducing Opportunities for Tax Non-Compliance in the Underground Economy*, OECD, Paris.
- Pahl, R.E. (1984), *Divisions of Labour*, Blackwell, Oxford.
- Pfeffermann, D. (1993), "The role of sampling weights when modelling survey data", *International Statistical Review*, Vol. 61 No. 2, pp. 317-37.
- Ram, M. and Williams, C.C. (2008), "Making visible the hidden: researching off-the-books work", in Buchanan, D. and Bryson, A. (Eds.), *Handbook of Organizational Research Methods*, Sage, London, pp. 141-60.

- Round, J., Williams C.C. and Rodgers, P. (2008), "Corruption in the post-Soviet workplace: the experiences of recent graduates in contemporary Ukraine", *Work, Employment & Society*, Vol. 22 No. 1, pp. 149-66.
- Schneider, F. (2008) (ed.), *The Hidden Economy*, Edward Elgar, Cheltenham.
- Schneider, F. and Williams, C.C. (2013), *The Shadow Economy*, Institute of Economic Affairs, London.
- Sharon, S.L. and Liu, J. (1994), "A comparison of weighted and unweighted analyses in the National Crime Victimization Survey", *Journal of Quantitative Criminology*, Vol. 10 No. 4, pp. 343-60.
- Small Business Council (2004), *Small Business in the Informal Economy: making the transition to the formal economy*, Small Business Council, London.
- Smith, R. and McElwee, G. (2013), "Confronting social constructions of rural criminality: a case story on 'illegal pluriactivity' in the farming community", *Sociologia Ruralis*, Vol. 53 No. 1, pp. 112-134.
- Snijders, T.A. and Bosker, R.L. (2012), *Multilevel Analysis: an introduction to basic and advanced multilevel modelling*, Sage, London.
- Snyder, K.A. (2004), „Routes to the informal economy in New York's East village: crisis, economics and identity", *Sociological Perspectives*, Vol. 47 No. 2, pp. 215-40.
- Solon, G., Haider, S.J. and Wooldridge, J. (2013), *What are we weighting for?*, National Bureau of Economic Research Working Paper No. 8, Bucharest.
- Stănculescu, M. (2005), "Working conditions in the informal sector", *South East Europe Review for Labour and Social Affairs*, Vol. 10 No. 3, pp. 79-93.
- Surdej, A. and Ślęzak, E. (2009), "Formal and informal work in a transition economy: the case of Poland", in Pfau-Effinger, B., Flaquer, L. and Jensen, P.H. (Eds.), *Formal and Informal Work: the hidden work regime in Europe*, Routledge, London, pp. 89-116.

- Thai, M.T.T. and Turkina, E. (2013) (Eds.), *Entrepreneurship in the Informal Economy: models, approaches and prospects for economic development*, Routledge, London.
- Van Geuns, R., Mevissen, J. and Renooy, P. (1987), “The spatial and sectoral diversity of the informal economy”, *Tijdschrift voor Economische en Sociale Geografie*, Vol. 78 No. 5, pp. 389-98.
- Vanderseypen, G., Tchipeva, T., Peschner, J., Rennoy, P. and Williams, C.C. (2013), “Undeclared work: recent developments.” in European Commission (ed.), *Employment and Social Developments in Europe 2013*, European Commission, Brussels, pp. 231-74.
- Vershina, N. and Rodionova, Y. (2011), “Methodological issues in studying hidden populations operating in informal economy”, *International Journal of Sociology and Social Policy*, Vol. 31 No. 11/12, pp. 697-716.
- Webb, J.W., Bruton, G.D., Tihanyi, L. and Ireland, R.D. (2013), “Research on entrepreneurship in the informal economy: framing a research agenda”, *Journal of Business Venturing*, Vol. 28 No.4, pp. 598-614.
- Webb, J.W., Ireland, R.D. and Ketchen, D.J. (2014), “Towards a greater understanding of entrepreneurship and strategy in the informal economy”, *Strategic Entrepreneurship Journal*, Vol. 8 No. 1, pp. 1-15.
- Webb, J.W., Tihanyi, L., Ireland, R.D. and Sirmon, D.G. (2009), “You say illegal, I say legitimate: entrepreneurship in the informal economy”, *Academy of Management Review*, Vol. 34 No. 3, pp. 492-510.
- Welter, F. and Smallbone, D. (2011), “Institutional perspectives on entrepreneurial behavior in challenging environments”, *Journal of Small Business Management*, Vol. 49, No. 1, pp. 107–125.

- Williams, C.C. (2005), "The undeclared sector, self-employment and public policy", *International Journal of Entrepreneurial Behaviour and Research*, Vol. 11 No. 4, pp. 244–57.
- Williams, C.C. (2006), *The Hidden Enterprise Culture: entrepreneurship in the underground economy*, Edward Elgar, Cheltenham.
- Williams, C.C. (2007), "Small businesses and the informal economy: evidence from the UK", *International Journal of Entrepreneurial Behaviour and Research*, Vol.13 No. 6, pp. 349-66.
- Williams, C.C. (2010), "Spatial variations in the hidden enterprise culture: some lessons from England", *Entrepreneurship and Regional Development*, Vol. 22 No. 5, pp. 403–23.
- Williams, C.C. (2013), "Beyond the formal economy: evaluating the level of employment in informal sector enterprises in global perspective", *Journal of Developmental Entrepreneurship*, Vol. 18 No. 4, pp. 1-18.
- Williams, C.C. (2014a), *Confronting the Shadow Economy: evaluating tax compliance and behaviour policies*, Edward Elgar, Cheltenham.
- Williams, C.C. (2014b), "Out of the shadows: a classification of economies by the size and character of their informal sector", *Work, Employment and Society*, Vol. 28 No. 5, pp. 735–753.
- Williams, C.C. and Martinez-Perez, A. (2014a), "Is the informal economy an incubator for new enterprise creation? a gender perspective", *International Journal of Entrepreneurial Behaviour and Research*, Vol. 20 No.1, pp. 4-19
- Williams, C.C. and Martinez-Perez, A. (2014b), "Why do consumers purchase goods and services in the informal economy?", *Journal of Business Research*, Vol. 67 No. 5, pp. 802-806.

- Williams, C.C. and Shahid, M.S. (2014), “Informal entrepreneurship and institutional theory: explaining the varying degrees of (in)formalization of entrepreneurs in Pakistan”, *Entrepreneurship and Regional Development*, <http://dx.doi.org/10.1080/08985626.2014.963889>
- Williams, C.C., Nadin, S. and Baric, M. (2011), “Evaluating the participation of the self-employed in undeclared work: some evidence from a 27-nation European survey”, *International Entrepreneurship and Management Journal*, Vol. 7 No. 3, pp. 341-56.
- Williams, C.C., Nadin, S. and Rodgers, P. (2012), “Evaluating competing theories of informal entrepreneurship: some lessons from Ukraine”, *International Journal of Entrepreneurial Behaviour and Research*, Vol. 18 No. 5, pp. 528–43.
- Williams, C.C., Round, J. and Rodgers, P. (2013), *The Role of Informal Economies in the post-Soviet world: the end of transition?*, Routledge, London.
- Williams, N. and Vorley, T. (2014), “Institutional asymmetry: how formal and informal institutions affect entrepreneurship in Bulgaria”, *International Small Business Journal* doi: 10.1177/0266242614534280
- Winship, C. and Radbill, L. (1994), “Sampling weights and regression analysis”, *Sociological Methods and Research*, Vol. 23 No. 2, pp. 230-57.

Table 1. Extent of participation of the population of the EU-28 in the informal economy: by economic status, 2013

	% engaging in informal economy	% of all informal work conducted by:	% of surveyed population	Mean annual informal income/ informal worker (€)	% of total all informal income earned by:
EU-28	4	100	100	723	100
Unemployed	9	20	9	696	18
Other non-employed	3	30	42	511	24
Formal employees	3	38	41	767	44
Self-employed	6	12	8	1214	14

Table 2. Participation of the self-employed in the informal economy in the EU-28: socio-demographic, socio-economic and spatial variations

	% engaged in informal economy	Annual earnings from informal economy:					Don't remember/know, Refusal (%)	Mean (€)
		€1-100 (%)	€101-200 (%)	€201-500 (%)	€501-1000 (%)	€1000+ (%)		
All EU 28	6	18	13	6	10	19	34	1214
Gender								
Men	6	23	6	7	7	19	38	941
Women	5	4	31	2	17	20	26	1784
Age								
15-24	15	0	0	14	8	49	29	1436
25-39	10	16	12	2	15	8	47	917
40-54	4	32	14	11	1	17	25	1388
55+	3	3	23	4	13	46	11	1408
Marital status								
Married/ remarried	4	22	11	10	12	15	30	987
Unmarried/cohabitating	13	21	18	5	4	9	43	1253
Unmarried/single	6	4	15	1	17	33	30	1554
Divorce/separated	6	14	3	0	5	56	22	1540
Widowed/other	8	15	0	0	0	0	85	74
Social class								
Working class	7	13	20	0	4	10	53	743
Middle class	4	2	10	12	17	33	26	1898
Higher class/ Other/ None	12	96	0	1	0	1	2	100
Age education ended								
<15	8	20	15	0	1	0	64	125
16-19	5	19	7	5	10	14	45	1027
20+	6	18	18	9	14	25	16	1500
Adults in household								
One	6	11	14	1	14	35	25	1557
Two	5	11	14	10	5	13	47	1097
Three	6	28	18	2	18	14	20	1515
Four and more	6	32	3	4	8	24	29	623
Children								
<10 years old	6	28	8	0	21	20	23	1314
10-14 years old	6	17	24	15	5	0	39	251
<10 and 10-14	15	26	29	0	0	3	42	249
No children	4	12	6	7	10	30	35	1699
Occupation of self-employed								
Farmer/ Fisherman	5	8	18	3	2	29	40	743
Professional (lawyer, etc.)	4	0	8	25	9	46	12	1969
Owner of a shop, craftsmen, etc.	7	21	11	1	15	12	40	1273
Business proprietors, etc.	6	30	17	3	6	9	35	664
Difficulties paying bills								
Most of the time	10	34	13	2	0	15	36	784
From time to time	7	7	7	4	13	28	41	1895
Almost never/never	4	21	20	9	12	8	30	624
Area								
Rural area or village	6	15	8	5	9	24	39	1535
Small or middle sized town	5	4	27	7	13	18	31	1091
Large town	6	42	1	6	6	13	32	872
EU Region								
East-Central Europe	6	6	5	13	4	2	70	499
Western Europe	6	27	19	7	5	29	13	972
Southern Europe	4	9	9	0	18	20	44	2355
Nordic nations	13	27	20	0	25	17	11	664



Table 3. Multilevel mixed-effects logistic regression of the participation of the self-employed people in the informal economy in the European Union

VARIABLES	Model 1	Model 2	Model 3
<b>Gender (CG: Women)</b>			
Men	0.827*** (0.249)	0.971*** (0.260)	0.954*** (0.260)
<b>Age (CG: 15-24):</b>			
25-39	-1.164** (0.474)	-1.210** (0.494)	-1.234** (0.495)
40-54	-1.951*** (0.492)	-2.039*** (0.513)	-2.089*** (0.515)
55+	-1.977*** (0.543)	-2.029*** (0.569)	-2.109*** (0.571)
<b>Marital status: (CG: Married/Remarried)</b>			
Single living with partner	0.369 (0.309)	0.350 (0.318)	0.355 (0.318)
Single	-0.583 (0.416)	-0.572 (0.425)	-0.571 (0.424)
Divorced or separated	0.342 (0.425)	0.232 (0.444)	0.200 (0.451)
Widow/Other	1.294** (0.550)	1.393** (0.570)	1.310** (0.575)
<b>Social class, self-assessment (CG: The working class of society)</b>			
The middle class of society	-0.179 (0.244)	-0.111 (0.261)	-0.0988 (0.261)
The higher class of society /Other/None	-0.648 (0.524)	-0.522 (0.553)	-0.515 (0.551)
<b>Age stopped full time education (CG: 15- years):</b>			
16-19	-0.292 (0.422)	-0.566 (0.440)	-0.621 (0.444)
20+	0.0192 (0.435)	-0.217 (0.462)	-0.288 (0.465)
<b>Number 15+ years in household (CG:1 person):</b>			
2 persons	-0.170 (0.370)	-0.215 (0.383)	-0.255 (0.388)
3 persons	-0.199 (0.406)	-0.204 (0.419)	-0.217 (0.422)
4+ persons	0.314 (0.419)	0.335 (0.435)	0.317 (0.439)
<b>Number of children: (CG: No Children)</b>			
Children < 10	0.0293 (0.312)	-0.116 (0.324)	-0.130 (0.325)
Children 10-14	0.163 (0.369)	0.175 (0.377)	0.166 (0.379)
At least one child<10 and at least one 10-14	0.418 (0.435)	0.290 (0.460)	0.143 (0.463)
<b>Tax morality</b>	0.513*** (0.0597)	0.531*** (0.0620)	0.534*** (0.0626)
<b>Occupation (CG: Farmer/ Fisherman)</b>			
Professional (lawyer, etc.)		0.605 (0.459)	0.760 (0.469)
Owner of a shop, craftsmen, etc.		0.699* (0.402)	0.867** (0.407)
Business proprietors, etc.		0.268 (0.429)	0.424 (0.437)
<b>Difficulties paying bills last year (CG: Most of the time)</b>			
From time to time		-0.550 (0.344)	-0.623* (0.344)
Almost never/never		-1.182*** (0.362)	-1.318*** (0.364)
<b>Area respondent lives (CG: Rural area or village):</b>			
Small/middle sized town			-0.395 (0.262)
Large town			-0.272 (0.291)
<b>EU region (CG: East Central Europe)</b>			
Western Europe			-0.0241 (0.436)
Southern Europe			-0.770 (0.497)
Nordic Nations			1.460** (0.585)
Constant	-2.951*** (0.761)	-2.528*** (0.871)	-2.207** (0.900)
Observations	1,675	1,661	1,661
Number of groups	28	28	28
Random-effects Parameters			
Identity: Country			
Variance (constant)	0.567***	0.844***	0.458***

Standard errors in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Table 4. Validity of marginalisation and reinforcement theses: by socio-demographic, socio-economic and spatial variations

Variable	Type of self-employed significantly more likely to participate in informal economy	Thesis supported
Age	Younger age groups	Marginalisation thesis
Marital status	Widows	Marginalisation thesis
Occupation of self-employed	Shop owners and craftspeople	Marginalisation thesis
Tax morale	Not conforming to state morality	Marginalisation thesis
Household financial circumstance	Those having difficulties	Marginalisation thesis
Gender	Men	Reinforcement thesis
EU region	Affluent EU regions	Reinforcement thesis
Educational level	No significant association	Neither thesis
No. of children in household	No significant association	Neither thesis
Urban/rural area	No significant association	Neither thesis

## APPENDIX

**Table A1. Variables used in the analysis: definitions and descriptive statistics**

Variables	Definition	Mode or mean	Min / Max
Informal economy (dependent variable)	Dummy variable of whether participated in informal economy in the last 12 months	No informal activities (94.04%)	0 / 1
Gender	Dummy for the gender of the respondent	Male (66.13%)	0 / 1
Age	Respondent age in intervals	40 – 54 years old (45.67%)	1 / 4
Marital status	Respondent marital status in categories	Married/ Remarried (61.46%)	1 / 5
Social class	Respondent perception regarding social class of society to which it belongs in categories	Middle class of society (59.60%)	1 / 3
Age when stopped full time education	Respondent age when stopped full time education in categories	16 – 19 years old (47.80%)	1 / 3
People 15+ years in own household	People 15+ years in respondent`s household (including the respondent) in categories	Two people (47.83%)	1 / 4
Children	Presence of children (up to 14 years old) in the household in categories	No children (64.97%)	1 / 4
Tax morality index	Constructed index of self-reported tolerance towards tax non-compliance	2.31	1 / 10
Occupation	Respondent occupation in categories	Owner of a shop, craftsmen, etc. (38.30%)	1 / 4
Difficulties paying bills	Respondent difficulties in paying bills in categories	Almost never/never (59.50)	1 / 3
Area respondent lives	Size of the area where the respondent lives in categories	Rural area or village (38.93%)	1 / 3
EU Region	Region where the respondent lives in categories	Western Europe (39.69%)	1 / 4

Source: Eurobarometer 79.2 (2013): Undeclared Work in the European Union