

Tackling Undeclared Self-Employment in South-East Europe: from Deterrents to Preventative Policy Measures

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Abstract

This paper evaluates two contrasting policy approaches for tackling those working on an own-account basis who do not declare all their paid activities to the authorities for tax, social security and/or labour law purposes. The conventional deterrence approach, based on a rational economic actor view, has sought to raise the costs of engaging in undeclared work by increasing the expected sanctions and risk of detection. Recently, an alternative preventative approach has emerged viewing participants more as social actors operating in the undeclared economy when there is a lack of vertical trust (in government) and horizontal trust (in others to operate legitimately). Consequently, this seeks to improve vertical and horizontal trust in order to elicit voluntary compliance. To evaluate the effectiveness of these contrasting policy approaches in tackling undeclared self-employment, evidence is reported from a 2019 Eurobarometer survey in seven South-East European countries (Bulgaria, Croatia, Cyprus, Greece, Hungary, Romania and Slovenia). This reveals that the likelihood of participation in undeclared self-employment is not significantly associated with the deterrent measures of increasing the

perceived sanctions and risk of detection but is significantly associated with the preventative measures of improving vertical and horizontal trust. The implications for theorising and tackling undeclared self-employment are discussed.

Keywords: informal economy; tax evasion; entrepreneurship; public policy; South-East Europe.

JEL: H26, J46, K42, O17, P37

Introduction

Globally, it has been estimated that 86.1% of all own-account workers are in the undeclared economy (ILO, 2018). With the literature on entrepreneurship, a new sub-discipline has consequently emerged that studies self-employment in the undeclared economy. This refers to those working on an own-account basis who do not declare all their paid activities to the authorities for tax, social security and/or labour law purposes (Chepurenko, 2018; Ketchen *et al.*, 2014; Siqueira *et al.*, 2016; Williams, 2017; Williams and Martinez-Perez, 2014a,b; Williams *et al.*, 2015a,b, 2017). Given the commonality with which the self-employed across the globe operate in the undeclared economy, undeclared self-employment has also become a focus for supra-national institutions (ILO, 2015, 2018, 2019; European Commission,

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2016; OECD, 2017; World Bank, 2019) and national governments (see Williams, 2019). This is due to the negative impacts of undeclared self-employment. The undeclared self-employed suffer poor working conditions and lack the ability to access capital and grow (Loayza, 2018; Williams and Horodnic, 2019), declared enterprises suffer unfair competition (OECD, 2017; World Bank, 2019), purchasers of undeclared goods and services lack insurance cover and legal recourse (OECD, 2017), and governments lose tax revenue and regulatory control over working conditions, which limits their ability to pursue social cohesion (ILO, 2018; World Bank, 2019).

The aim of this paper is to contribute to knowledge by evaluating how undeclared self-employment can be tackled. Understanding is advanced in three distinct ways. Theoretically, it evaluates the deterrence approach, based on a rational economic actor view, that seeks to increase the perceived penalties and risk of detection to deter undeclared self-employment, and the alternative preventative approach, based more on a view of participants as social actors, that seeks to improve vertical trust (in government) and horizontal trust (in others to operate legitimately) to elicit voluntary compliance. Empirically, new data is reported from a 2019 Eurobarometer survey in seven South-East European countries (Bulgaria, Croatia, Cyprus, Greece, Hungary, Romania and Slovenia). Finally, the policy advance is that it reveals that to tackle undeclared self-employment, the conventional deterrence approach needs to be replaced by a preventative approach that improves vertical and horizontal trust.

To achieve this, the next section reviews the literature on the contrasting deterrence and preventative policy approaches, along with the literature suggesting that they can be combined. The third section then introduces the data and methodology used to evaluate

these policy approaches, namely a probit regression analysis of data from a 2019 Eurobarometer survey in seven South-East European countries. Reporting the results, the fourth section finds that there is no significant association between the likelihood of engaging in undeclared self-employment and the perceived penalties and risk of detection, but there is a strong significant association between the likelihood of engaging in undeclared self-employment and the level of vertical and horizontal trust. The fifth and final section then discusses the theoretical and policy implications, the limitations of the study and the future research required.

1. Tackling undeclared self-employment: a literature review and hypotheses development

Until now, the burgeoning literature on undeclared self-employment has analysed its prevalence (Autio and Fu, 2015; ILO, 2018, 2020; Williams, 2017, 2020a; Williams *et al.*, 2013, 2017), the structural determinants of its variable prevalence cross-nationally (Dau and Cuervo-Cazurra, 2014; Siqueira *et al.*, 2014; Thai and Turkina, 2014), the impacts of starting-up undeclared on their future productivity (Ullah *et al.*, 2019; Williams and Kosta, 2019, 2020a,b), who engages in undeclared self-employment (Webb *et al.*, 2009, 2013; Williams and Gashi, 2020) and their motives, including whether they are necessity- and/or opportunity-driven (Maloney, 2004; Perry and Maloney, 2007; Williams *et al.*, 2020).

Until now, however, there has been little scholarship on how to tackle undeclared self-employment. To start to address this, a review is here undertaken of two contrasting policy approaches used in the wider literature on tackling the undeclared economy more generally, along with the emergent literature on combining them.

1.1. Deterrence policy approach

The origins of this policy approach lie in Bentham's (1788) classic utilitarian theory of crime which explains criminal acts as occurring when the benefits of doing so outweigh the expected costs (i.e., the likelihood of being detected and punished). During the late 1960s, this was popularised by Becker (1968), who argued that for acting lawfully to become the rational choice, governments needed to increase the penalties and probability of detection. A few years later, Allingham and Sandmo (1972) then applied this to tax non-compliance, asserting that tax evasion occurs when the perceived benefits outweigh the expected costs. To change the cost/benefit ratio, they argued that there was a need to increase the actual and/or perceived penalties and risks of detection.

This deterrence approach was widely adopted in the following decades as the dominant way of tackling tax non-compliance and engagement in the undeclared economy (Grabiner, 2000; Hasseldine and Li, 1999; Richardson and Sawyer, 2001; Williams, 2019). Governments have developed "enforcement" authorities (e.g., tax inspectorates, labour inspectorates) who have been given the mandate of detecting and punishing those not declaring all their paid activities to the authorities for tax, social security and/or labour law purposes. Indeed, a 2017 survey of the official government representatives of 28 countries belonging to the European Commission's European Platform Tackling Undeclared Work found that penalties are ranked the most important policy measure followed by improving the risk of detection and these deterrents are also perceived as the most effective (Williams and Puts, 2017).

However, the evidence is far from conclusive that increasing the actual or perceived penalties and risk of detection is an effective means of reducing engagement

in the undeclared economy (for a review, see Williams et al., 2020). Some scholarship find that increasing the likelihood of detection and/or the penalties reduces engagement in the undeclared economy (Blackwell, 2010; Kluge and Libman, 2017; Mas'ud *et al.* 2015), and that increasing the likelihood of detection is more effective than increasing penalties (Alm, 1999; Williams and Horodnic, 2017a,b). However, other studies reveal that increasing penalties and the risk of detection has no impact on engagement in the undeclared economy (Hartl *et al.*, 2015; Williams and Franic, 2016). Yet other studies find that engagement in the undeclared economy increases because increasing the penalties and risk of detection leads to a breakdown of the social contract between the state and its citizens (Chang and Lai, 2004; Hofmann et al., 2017; Kaplanoglou and Rapanos, 2015; Kirchler *et al.*, 2014; Mohdali *et al.*, 2014; Murphy, 2005, 2008; Murphy and Harris, 2007). Until now, the impacts of using these deterrence measures on engagement in undeclared self-employment have not been evaluated. To evaluate this deterrence approach, therefore, the following hypothesis can be tested:

Deterrence hypothesis (H1): increasing the perceived sanctions and risk of detection reduces the likelihood of engaging in undeclared self-employment.

H1a: increasing the perceived sanctions reduces the likelihood of engaging in undeclared self-employment.

H1b: increasing the perceived risk of detection reduces the likelihood of engaging in undeclared self-employment.

1.2. Preventative policy approach

The preventative approach has emerged out of a recognition that even when the benefits of operating in the undeclared economy outweigh the costs, many continue

to be compliant (Alm et al., 2010; Kirchler, 2007; Murphy, 2008). Put another way, they do not make a rational economic decision to participate even when the cost/benefit ratio suggests that they should do so. To explain this, participants in the undeclared economy have been conceptualized more as social actors who engage in the undeclared economy when they lack vertical trust (in government) and horizontal trust (in others to act lawfully).

This explanation of engagement in the undeclared economy in general, and undeclared self-employment more particularly, has derived its theoretical inspiration from institutional theory (Baumol and Blinder, 2008; Denzau and North, 1994; Helmke and Levitsky, 2004; North, 1990). In institutional theory, institutions represent the rules of the game that govern behaviour. All societies possess formal institutions which are the legal rules of the game (i.e., laws and regulations) and informal institutions which are unwritten socially shared beliefs, norms and values and beliefs about what is acceptable (Denzau and North, 1994; Helmke and Levitsky, 2004). Consequently, from this theoretical perspective, undeclared self-employment occurs outside the formal rules but abides by the informal rules (De Castro *et al.*, 2014; Godfrey, 2011; Kistruck *et al.*, 2015; Siqueira *et al.*, 2016; Webb *et al.*, 2009, 2013, 2014; Welter *et al.*, 2015; Williams, 2020b).

Hence, undeclared self-employment is conceptualised as occurring when participants' beliefs, norms and values about what is acceptable are not in symmetry with the formal rules (Dau and Cuervo-Cazurra, 2014; Godfrey, 2015; Webb *et al.*, 2009; Williams and Shahid, 2016; Williams *et al.*, 2015b, 2017). This asymmetry results from a lack of vertical trust (in formal institutions) and is measured by their intrinsic motivation to pay taxes, or what is called tax morale (Alm and Torgler, 2006, 2011; Torgler and

Schneider, 2007; Torgler, 2011; Putniņš and Sauka, 2020a,b). Low tax morale (i.e., a lack of vertical trust) results in a higher likelihood of engagement in undeclared self-employment (Williams and Shahid, 2016; Williams *et al.*, 2017). Hence, in this preventative approach, based on a conceptualisation of the undeclared self-employed as social actors, the policy approach is to improve vertical trust in government in order to prevent undeclared self-employment by encouraging voluntary compliance with the formal rules.

Until now, institutional theorists have focused upon the asymmetry between the formal and informal rules of the game (i.e., the lack of vertical trust) and how this might be resolved. The relationship between undeclared self-employment and "horizontal trust" has been given little attention. Reviewing the anthropological literature on informality, there has been a consideration of trust between people in terms of how much they rely on one another either when the state is absent or to bypass the state as a provider (Polese and Stepurko, 2016; Polese *et al.*, 2014). Drawing upon the wider tax non-compliance literature in economics and psychology, however, horizontal trust has been interpreted in a different manner. If the self-employed perceive their competitors to be engaged in the undeclared economy, they too may be more likely to do so. The evidence so far is only on the tax compliance of citizens, rather than specifically on the self-employed. This evidence, largely from laboratory experiments, reveals that compliance is conditional on the perceived behaviour of others (Ajzen, 1991; Chang and Lai, 2004; Mendoza Rodriguez and Wielhouwer, 2015; Narsa *et al.*, 2016; Traxler, 2010). If compliance is viewed as widespread, citizens are more likely to comply (Alm, 1999, 2012). However, the greater the perceived level of non-compliance, the greater is the likelihood of non-compliance

Articles

(Lefebvre *et al.*, 2015; Hallsworth *et al.*, 2017). For example, an experiment in three European countries (Belgium, France and the Netherlands) displays that when information is given that there is only a very low level of non-compliance, compliance significantly increases (Lefebvre *et al.*, 2015). Whether undeclared self-employment is conditional upon the perceived behaviour of their competitors has not been evaluated. To evaluate this preventative approach that associates the likelihood of engagement in undeclared self-employment with vertical and horizontal trust, the following hypothesis can be tested:

Preventative hypothesis (H2): improving vertical and horizontal trust reduces the likelihood of engaging in undeclared self-employment.

H2a: improving vertical trust reduces the likelihood of engaging in undeclared self-employment.

H2b: improving horizontal trust reduces the likelihood of engaging in undeclared self-employment.

1.3. Deterrence and preventative policy approaches: competing or complementary?

Most scholars advocate one or other of these two policy approaches for tackling the undeclared economy. However, a small minority advocate that using both is more effective. Firstly, a “responsive regulation” approach depicts a regulatory pyramid, with preventative policy measures to improve vertical (and horizontal) trust at the bottom and used first, and deterrence measures at the top and used afterwards when preventative measures have not resulted in compliant behaviour (Braithwaite, 2002, 2009; Job *et al.*, 2007).

Secondly, a “slippery slope” approach asserts that the most effective approach is

for governments to use both deterrence and preventative policy measures concurrently (Kastlunger *et al.*, 2013; Khurana and Diwan, 2014; Kirchler *et al.*, 2008; Muehlbacher *et al.*, 2011; Prinz *et al.*, 2013; Wahl *et al.*, 2010). Based mainly on laboratory experiments, participants are revealed to be more compliant when both deterrence and preventative policy measures are used together (Kogler *et al.*, 2015; Muehlbacher *et al.*, 2011; Williams and Horodnic, 2017a).

Nevertheless, potentially complex interaction effects exist. For instance, raising the penalties and risk of detection may result in different impacts at various levels of vertical trust in government. Increasing the penalties and risk of detection might decrease engagement in undeclared self-employment when vertical trust is low but might result in a higher likelihood of engagement in undeclared self-employment when vertical trust is high because this may result in a breakdown of the social contract between citizens and the state (Chang and Lai, 2004; Kirchler *et al.*, 2014). Therefore, vertical and horizontal trust may moderate the effects of increasing penalties and the risk of detection on the likelihood of engagement in undeclared self-employment. As such, the following hypothesis can be tested:

Interaction impacts of vertical trust hypothesis (H3): the impacts of increasing the perceived sanctions and risk of detection on the likelihood of engaging in undeclared self-employment varies by the level of vertical trust.

H3a: the impacts of increasing the perceived sanctions on the likelihood of engaging in undeclared self-employment varies by the level of vertical trust.

H3b: the impacts of increasing the perceived risk of detection on the likelihood of engaging in undeclared self-employment varies by the level of vertical trust.

Interaction impacts of horizontal trust hypothesis (H4): the impacts of increasing the perceived sanctions and risk of detection on the likelihood of engaging in undeclared self-employment varies by the level of horizontal trust.

H4a: the impacts of increasing the perceived sanctions on the likelihood of engaging in undeclared self-employment varies by the level of horizontal trust.

H4b: the impacts of increasing the perceived risk of detection on the likelihood of engaging in undeclared self-employment varies by the level of horizontal trust.

2. Methodology

2.1. Data

To evaluate these hypotheses, data is reported from seven South-East European countries (Bulgaria, Croatia, Cyprus, Greece, Hungary, Romania and Slovenia) collected in 2019 by special Eurobarometer survey 92.1. In total, 6,614 interviews were conducted in these countries (approximately 1,000 in each country and 500 in Cyprus). All interviews were conducted in the national language with adults aged 15 years and older. A multi-stage random (probability) sampling methodology was used, which ensured that on the issues of gender, age, region and locality size, both the national and each level of the sample is representative in proportion to its population size.

2.2. Variables

To evaluate whether engagement in undeclared self-employment in these South-East European countries is correlated with the perceived level of sanctions and risk of detection, and vertical and horizontal trust, the dependent variable is a dummy variable with value 1 for respondents who answered “yes” to the question of “have you yourself carried out any undeclared paid activities in the last

12 months?”, and then answered the question of “Would you describe your undeclared paid activities as ...” with the answer “undertaken on your own account” and value 0 otherwise (e.g., they did not engage in the undeclared economy or stated that their undeclared work was waged employment for an employer, or refused to answer).

To evaluate the correlation between the likelihood of engagement in undeclared self-employment and the deterrence and preventative policy approaches, four explanatory variables are used. First, to analyse the association between the perceived level of sanctions and engagement in undeclared self-employment, a dummy variable is used, describing the perceived sanctions with value 0 for normal tax or social security contributions due and value 1 for normal tax or social security contributions due, plus a fine or prison. Second, to examine the relationship between the perceived risk of detection and engagement in undeclared self-employment, a dummy variable is used for the perceived risk of detection with value 0 for a very small or fairly small risk and value 1 for a fairly high or very high risk.

Third, to analyse the correlation between vertical trust and engagement in undeclared self-employment, vertical trust is measured using tax morale. This is because a lack of trust in formal institutions is manifested in a low tax morale (Alm and Torgler, 2006). Respondents were asked to rate the acceptability of five types of undeclared activity using a 10-point Likert scale (where 1 means absolutely unacceptable and 10 means absolutely acceptable), namely: an individual is hired by a household and s/he does not declare the payment received to the tax or social security authorities even though it should be declared; a firm is hired by a household and it does not declare the payment received to the tax or social security

authorities; a firm is hired by another firm and it does not declare its activities to the tax or social security authorities; a firm hires an individual and all or a part of the wages paid to him/her are not officially declared, and someone evades taxes by not declaring or only partially declaring their income. An aggregate tax morality index for each respondent was constructed by collating their responses to the five questions. The index is represented in the original 10-point Likert scale format, meaning that the lower the index value, the higher is their tax morale. The Cronbach's Alpha coefficient of the scale which shows a good internal consistency of the scale (Kline, 2000) is 0.9237.

Fourth and finally, to analyse the relationship between horizontal trust and engagement in undeclared self-employment, respondents were asked "Do you personally know any people who work without declaring

their income or part of their income to tax or social security institutions?" This proxy measure of horizontal trust has been previously used in studies of engagement in the undeclared economy (Stefanov *et al.*, 2017; Horodnic and Williams, 2020). A dummy variable is used for horizontal trust with value 1 for those who know someone who engages in the undeclared sector and 0 otherwise. Those answering value 1, "yes", means that they perceive others to engage in the undeclared sector and therefore have lower horizontal trust.

Meanwhile, and following past studies evaluating engagement in the undeclared economy (Williams and Horodnic, 2015, 2017a), the control variables selected are gender, age, marital status, people 15+ years in own household, children, difficulties paying bills, and urban/rural area (see Table 1).

Table 1: Control Variables used in the analysis: definitions

Variables	Definition
Gender	A dummy variable with value 0 for women and 1 for men
Age	A continuous variable indicating the exact age of a respondent
Marital status	A categorical variable grouping respondent by their marital status with value 1 for (re)married, value 2 for single living with a partner, value 3 for single, value 4 for divorced/separated, value 5 for widow
People 15+ years in own household	A categorical variable for people 15+ years in respondent's household (including the respondent) with value 1 for one person, value 2 for two persons, value 3 for 3 persons or more
Children	A dummy variable for the presence of children up to 14 years old in the household with value 0 for individuals with no children and value 1 for those having children
Financial difficulties	A categorical variable for the respondent 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
Area	A categorical variable for the area where the respondent lives with value 1 for rural area or village, value 2 for small or middle-sized town, and value 3 for large town

2.3. Analytical Methods

To test hypotheses about the relationship between a dichotomous or binary dependent variable and one or more categorical or continuous independent variables, probit regression analysis is used (Greene, 2018). This can be expressed as:

$$p_i = \Phi(x_i\beta + \beta_0)$$

$$\int_{-\infty}^{x_i\beta + \beta_0} \varphi(t) dt$$

where the symbol Φ is simply the cumulative standard distribution and φ represents the standard normal density function. The same

log-likelihood function is maximized. Using probit analysis, the following model is adopted (Greene, 2018)

$$\frac{\partial p_i}{\partial x_{i,k}} = \varphi(x_i\beta + \beta_0)\beta_k$$

The dependent variable of the model is binary, which represents engagement in undeclared self-employment or not, x represents the explanatory variables, which are gender, age, marital status, people 15+ years in own household, children, financial difficulties, area, expected sanction, detection risk, level of tax morality and level of horizontal trust.

3. Findings

Table 2 reveals that in 2019, just under 2 per cent of the citizens surveyed in these seven South-East European economies (Bulgaria, Croatia, Cyprus, Greece, Hungary, Romania and Slovenia) reported engaging in undeclared self-employment during the previous 12 months. Those engaging in undeclared self-employment perceive the sanctions to be the same as the rest of the population, although they perceive the risk of detection as lower than the wider population, which perhaps explains their lack of compliance. Examining the issue of vertical trust (here measured using tax morale), the undeclared self-employed have a lower average tax morale than the wider population, and a considerably lower level of horizontal trust.

Table 2: Descriptive statistics for undeclared self-employment in South-East Europe

	Undeclared self-employed (N= 129)	All other citizens (N= 6485)
Engagement in undeclared self-employment (%)	1.95	98.05
Expected sanctions (%)		
Tax or social security contributions due	30	30
Tax or social security contributions + fine or prison	70	70
Detection risk (%)		
Very small/ Fairly small	68	52
Fairly high/ Very high	32	48
Tax morality – vertical trust (mean)	3.65	2.45
Know anyone who works undeclared-horizontal trust (%)		
Yes	88	45
No	12	55
Gender (%)		
Women	36	54
Men	64	46
Age (mean)	45	49
Marital Status (%)		
Re(Married)	51	61
Single living with partner	20	10
Single	17	15
Divorced/Separated	8	6
Widow	4	7
Other	-	1
People 15+ years in own household		
One	18	16

	Undeclared self-employed (<i>N</i> = 129)	All other citizens (<i>N</i> = 6485)
Two	44	50
Three and More	38	34
Children (%)		
No children	77	74
Having children	23	26
Area (%)		
Rural area or village	38	36
Small or middle-sized town	29	28
Large town	33	36
Difficulties paying bills (%)		
Most of the time	28	15
From time to time	36	36
Almost never/never	36	49

Source: author's calculations from 2019 Eurobarometer 92.1 survey

Analysing the descriptive statistics on who engages in undeclared self-employment, the finding is that men are more likely than women to do so, as are younger age groups more likely. So are single people as well as single persons living with a partner more likely to do so and the divorced/separated, single person households and those with no children. Those living in rural areas and villages are also slightly more likely to engage in undeclared self-employment than the wider population and those who have financial difficulties most of the time are markedly more likely to engage in undeclared self-employment.

To analyse whether these descriptive results remain valid when other variables are held constant, probit estimates of the likelihood of engaging in undeclared self-employment are reported in Table 3. Starting with the socio-demographic characteristics of the undeclared self-employed, the finding is that men are significantly more likely than women to engage in undeclared self-employment. Age is not significantly associated with engagement in undeclared self-employment, and neither is marital status, the number of adults in the household or whether they have children or not. Neither is whether they live in an urban or rural area

significantly associated with engagement in undeclared self-employment. However, those who have difficulties paying the bills most of the time are significantly more likely to engage in undeclared self-employment than those having difficulties only time-to-time or almost never/never.

Evaluating the hypotheses, no relationship is identified between the perceived level of sanctions and the likelihood of engagement in undeclared self-employment (refuting H1a). Neither is there a significant association between the perceived risk of detection and the likelihood of engagement in undeclared self-employment. Although this is significant in model 1, model 2 displays that once the moderating impacts of vertical and horizontal trust on sanctions and the risk of detection are included, the significance of this association disappears (refuting H1b). As such, there is no evidence to support the deterrence approach which believes that increasing the level of sanctions and risk of detection will deter engagement in undeclared self-employment.

Turning to the preventative approach, however, a strong significant association exists between vertical trust and engagement in undeclared self-employment. The greater the level of vertical trust is, measured in terms

of tax morale, the lower the likelihood of engagement in undeclared self-employment (confirming H2a). It is similarly the case when horizontal trust is analysed. The greater

the trust that others behave in a compliant manner, significantly lower is the likelihood of engaging in undeclared self-employment (confirming H2b).

Table 3: Probit estimates of likelihood of undeclared self-employment in South-East Europe

	Model 1	Model 2
Expected sanctions (RC: Tax or social security contributions due)		
+ fine or prison	0.1114 (0.1091)	-0.0019 (0.3247)
Detection risk (RC: Very small/ Fairly small)		
Fairly high/ Very high	-0.2264** (0.0962)	0.2148 (0.2873)
Vertical Trust	0.0994*** (0.0202)	0.0987** (0.0407)
Horizontal Trust	0.7824*** (0.1187)	0.9256*** (0.2440)
Gender (RC: Female)		
Male	0.2564*** (0.0951)	0.2453*** (0.0935)
Age	-0.0054 (0.0039)	-0.0059 (0.0040)
Marital Status (RC: Married)		
Single living with a partner & single	0.1401 (0.1484)	0.1466 (0.1449)
Divorced or separated & Widow	0.0572 (0.1812)	-0.0758 (0.1432)
People 15+ years in own household (RC: One)		
Two	-0.0852 (0.1747)	-0.1460 (0.1556)
Three and more	-0.0623 (0.1608)	-0.1117 (0.1429)
Children (No Children)		
Having children	-0.1299 (0.1223)	-0.1369 (0.1239)
Financial difficulties (Most of the time)		
From time to time	-0.3208** (0.1267)	-0.3059** (0.1275)
Almost never/ never	-0.3499*** (0.1222)	-0.3478*** (0.1238)
Area (Rural area or village)		
Small or middle-sized town	0.0082 (0.1162)	-0.0008 (0.1164)
Large town	-0.0952 (0.1118)	-0.0817 (0.1120)
<i>Interactions</i>		
Sanction x Vertical Trust		0.0422 (0.0431)
Detection x Vertical Trust		-0.0746* (0.0415)
Sanction x Horizontal Trust		-0.0419 (0.2593)
Detection x Horizontal Trust		-0.2646 (0.2479)
Constant	-2.4012*** (0.3663)	-2.4103*** (0.4440)
Observations	4,633	4,633
Pseudo R2	0.1393	0.1452
Log pseudolikelihood	-385.362	-382.74705
χ^2	78.95	99.27
$p>$	0.0000	0.0000

Source: authors' calculations from 2019 Eurobarometer 92.1 survey

Notes: Significant at *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. Standard errors in parentheses. All coefficients are compared to the benchmark category, shown in brackets. When multiple imputation techniques are used (ten imputations were simulated through a system of chained equations for every missing value) for addressing the missing responses issue, the same variables are significantly associated with undeclared self-employment. Thus, data with no imputation is used to minimize bias.

Analysing if vertical and horizontal trust moderate the impacts of sanctions and the risk of detection, the finding is that the impact of the level of perceived sanctions on the likelihood of engaging in undeclared self-employment does not vary by the level of vertical trust (refuting H3a). However, there is a weak significant association when one examines whether the impacts of the perceived risk of detection on the likelihood of engagement vary by the level of vertical trust (confirming H3b). The greater the vertical trust, the more likely are higher expected sanctions to reduce participation in undeclared self-employment. Examining whether the level of horizontal trust has an impact on whether the perceived level of sanctions influences the likelihood of engaging in undeclared self-employment, no significant association is identified (refuting H4a). Neither is there any significant association when one examines the impacts of the level of horizontal trust on whether the perceived risk of detection

influences the likelihood of engaging in undeclared self-employment (refuting H4b).

4. Discussion and Conclusions

To evaluate the validity of the deterrence and preventative policy approaches for tackling undeclared self-employment in South-East Europe, data has been reported from the 2019 special Eurobarometer survey. The finding is that no significant association has been identified between increasing the sanctions and risk of detection and engaging in undeclared self-employment, thus refuting the deterrence policy approach. However, greater vertical and horizontal trust is significantly associated with a lower likelihood of engaging in undeclared self-employment, confirming the preventative policy approach. No significant interaction effects have been identified when they are used together, except for a weak significant association between risk of detection and vertical trust. Table 4 summarises the findings.

Table 4: Summary findings of hypotheses

Hypothesis	Finding
<i>Deterrence hypothesis (H1):</i>	
H1a: increasing the perceived sanctions reduces the likelihood of engaging in undeclared self-employment	Reject
H1b: increasing the perceived risk of detection reduces the likelihood of engaging in undeclared self-employment	Reject
<i>Preventative hypothesis (H2):</i>	
H2a: improving vertical trust reduces the likelihood of engaging in undeclared self-employment.	Accept
H2b: improving horizontal trust reduces the likelihood of engaging in undeclared self-employment	Accept
<i>Interaction impacts of vertical trust (H3):</i>	
H3a: the impacts of increasing the perceived sanctions on the likelihood of engaging in undeclared self-employment varies by the level of vertical trust.	Reject
H3b: the impacts of increasing the perceived risk of detection on the likelihood of engaging in undeclared self-employment varies by the level of vertical trust.	Accept
<i>Interaction impacts of horizontal trust (H4):</i>	
H4a: the impacts of increasing the perceived sanctions on the likelihood of engaging in undeclared self-employment varies by the level of horizontal trust.	Reject
H4b: the impacts of increasing the perceived risk of detection on the likelihood of engaging in undeclared self-employment varies by the level of horizontal trust.	Reject

Here, the implications for theory and policy are considered in turn. This paper advances theoretical understandings of undeclared self-employment in three respects. Firstly, it finds little evidence to support the deterrence approach, based on the rational economic actor theorisation of those engaging in undeclared self-employment, but support is found for the preventative approach based on the view of those engaged in undeclared self-employment as social actors. Secondly, it reveals that the recent calls resulting from laboratory experiments to expand the preventative approach to include horizontal trust are here confirmed in lived practice by this survey. Third and finally, this study reveals that there are no strong interaction effects between the deterrence and preventative approach. Therefore, the argument that the deterrence and preventative approaches should be combined is not supported.

The findings of this study also have important implications for how undeclared self-employment is tackled. For five decades, governments have pursued a deterrence policy approach and sought to increase the sanctions and risks of detection in order to change the cost/benefit ratio confronting potential participants in undeclared work. Indeed, a large amount of government resource has been dedicated to developing enforcement authorities (e.g., tax administrations, labour inspectorates, social security institutions) and their competencies to detect and punish the non-compliant. However, this paper reveals the need for a shift away from the deterrence approach and towards a focus upon a more preventative approach when tackling undeclared self-employment.

This will require these enforcement authorities to acquire new competencies and legal mandates beyond detecting and sanctioning undeclared self-employment. To see this how this can be achieved, it is

necessary to understand on the one hand, how vertical trust can be enhanced and on the other hand, horizontal trust. From the perspective of institutional theory, low vertical trust is a direct result and measure of the non-alignment of the laws and regulations of formal institutions and the norms, beliefs and values of informal institutions (Helmke and Levitsky, 2004; North, 1990). To reduce this asymmetry, either the formal institutions or the informal institutions can be changed.

Changing the acceptability of participating in the undeclared work (i.e., changing norms, values and beliefs) can be pursued using education and awareness raising campaigns. An example is the #EU4FairWork awareness raising campaign being pursued by these seven South-East European countries as part of a wider European Union campaign. The focus of the campaign is upon promoting the benefits of declared work rather than the costs of undeclared work. During the current coronavirus pandemic, for example, the campaign has focused upon how being compliant means that one can gain access as a self-employed person to the short-term financial support packages being offered by governments to the self-employed and businesses (IMF, 2020; Williams and Kayaoglu, 2000a,b). Other examples of how to raise awareness about the benefits of declared work include providing information on how taxes are spent (including tailored letters using tax returns to show the amount of their taxes spent on different public goods and services), using “your taxes are paying for this” banners in hospitals, on ambulances and fire engines, and on construction projects built with public funds. This paper has identified the population groups such campaigns might target in these seven South-East European countries. Those with a greater likelihood of engaging in undeclared self-employment are

men and those who most of the time have difficulties paying the bills.

On the other hand, the asymmetry between formal and informal institutions can be resolved, and therefore vertical trust enhanced, by changing the formal institutions. Previous research reveals that the likelihood of engaging in undeclared work more widely is significantly lower when there is a perception of procedural fairness in state institutions, namely citizens believe that they are paying their fair share (Molero and Pujol, 2012), a belief that there is procedural justice, namely citizens view government authorities as treating them impartially and respectfully (Kogler et al., 2015; Murphy, 2005), and a belief that there is redistributive justice, namely citizens believe that they receive the public goods that they deserve given the taxes that they pay (Kogler et al., 2013).

It is not just vertical trust that needs to be improved. There is also a need to increase horizontal trust. One way forward would be for governments to stop publishing messages about the high levels of participation in the undeclared economy which has direct negative effects on horizontal trust. Instead, government messaging needs to instead focus upon the high levels of compliance. Indeed, research has shown that such messaging is most effective in promoting compliance when information is provided on the target recipients own sector and/or locality (Hallsworth et al., 2017).

There are, nevertheless, limitations to this study. Future research could evaluate whether these findings are valid in other global regions and countries. It could also extend the current research by seeking to identify the reasons for a lack of vertical trust by evaluating the specific formal institutions of government (e.g. the judiciary, politicians, tax authorities) in which trust is lacking which leads to engagement in undeclared self-employment.

Future research could also investigate other forms of horizontal trust beyond the generalized trust considered in this paper.

In sum, if this paper results in additional evaluations of the effectiveness of these policy approaches, and the interactions between them, in other countries and global regions, to determine the wider validity of the findings, then one of its intentions will have been achieved. If an outcome is also that governments in these seven South-East European countries and beyond start to move beyond the currently dominant deterrence approach focused on increasing the sanctions and risk of detection and adopt the preventative approach by paying more attention to improving vertical and horizontal trust, then the wider intention of this paper will have been achieved.

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