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# Tackling self-employment in the informal sector in Europe: evaluating trust-building strategies

Tackling  
informal  
self-employment

79

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## Abstract

**Purpose** – The aim of this paper is to evaluate contrasting ways of tackling self-employment in the informal sector. Conventionally, the participation of the self-employed in the informal sector has been viewed as a rational economic decision taken when the expected benefits outweigh the costs, and thus enforcement authorities have sought to change the benefit-to-cost ratio by increasing the punishments and chances of being caught. Recently, however, neo-institutional theory has viewed such endeavor as a product of a lack of vertical trust (in government) and horizontal trust (in others) and pursued trust-building strategies to nurture voluntary compliance.

**Design/methodology/approach** – To evaluate these contrasting policy approaches, data are reported from special Eurobarometer survey 92.1 conducted in 2019 across 28 European countries (the 27 member states of the European Union and the United Kingdom) involving over 27,565 interviews.

**Findings** – Using probit regression analysis, the finding is that the likelihood of participation in informal self-employment is not associated with the level of expected punishments and chances of being caught, but is significantly associated with the level of vertical and horizontal trust, with a greater likelihood of participation in informal self-employment when there is lower vertical and horizontal trust.

**Practical implications** – The outcome is a call for state authorities to shift away from the use of repressive policy measures that increase the penalties and chances of being caught and toward trust-building strategies to nurture voluntary compliance. How this can be achieved is explored.

**Originality/value** – Evidence is provided to justify a shift toward seeking trust-building strategies by state authorities to engender voluntary compliance among the self-employed operating in the informal sector in Europe.

**Keywords** Tax evasion, Informal economy, Tax morale, Institutional theory, Public policy, Europe

**Paper type** Research paper

## Introduction

In this paper, the self-employed operating in the informal sector refers to those working on an own-account basis who do not register their business venture and/or declare all their paid activities to the authorities for tax, social security and/or labor law purposes (Ketchen, Ireland, & Webb, 2014; Khan, 2017; Siqueira, Webb & Bruton, 2016; Williams & Martinez-Perez, 2014a, b; Williams, Martinez-Perez & Kedir, 2017). The ILO (2018) has estimated that, globally, 86.1% of all own-account workers operate in the informal sector, as do eight out of ten enterprises (ILO, 2020). Consequently, this issue of tackling self-employment in the informal sector has appeared in the policy agendas of supra-national organizations



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(European Commission, 2016; ILO, 2015; OECD, 2017; World Bank, 2019) and national governments in Europe and elsewhere (e.g. ILO, 2018, 2020; Williams, 2019). This is due to a growing recognition of its negative impacts on workers, businesses and the wider society. Formal enterprises suffer unfair competition from informal enterprises (Leal Ordóñez, 2014; OECD, 2017; World Bank, 2019); the self-employed in the informal sector suffer poorer working conditions and find it difficult to access capital to grow their businesses (Andrews, Caldera Sanchez, Johansson, 2011; European Commission, 2007; Loyaza, 2018; Williams & Horodnic, 2019); customers lack legal recourse when poor quality products and services are provided (OECD, 2017; Williams & Horodnic, 2017a); and governments lose tax revenue that could otherwise be used to provide public goods and services (Bajada & Schneider, 2005; ILO, 2018; World Bank, 2019). Therefore, this paper aims to evaluate how informal self-employment can be tackled.

This will advance knowledge by reporting the results of an extensive survey of a representative sample of the European population conducted in late 2019 to empirically test two competing hypotheses regarding participation in informal self-employment. On the one hand, the survey empirically tests the conceptualization of informal self-employment as a rational economic decision that has resulted in a repressive policy approach that changes the benefit-to-cost ratio confronting the self-employed by increasing the punishments and chances of being caught. On the other hand, it empirically tests the emergent neo-institutional theoretical depiction that this endeavor is derived from a low vertical trust (in government) and a low horizontal trust (in others) and has adopted trust-building strategies. The resultant policy advance seeks to uncover the need for state authorities to shift away from increasing the fines and chances of being caught and toward trust-building strategies.

To accomplish this, the next section reviews the contrasting repressive and trust-building policy approaches and discusses the development of the hypotheses that can be tested. The third section presents the methodology and data used in the study, namely a probit regression analysis of 27,565 interviews conducted on a representative sample of the European population in 28 countries. The fourth section reports the finding that informal self-employment is not a rational economic decision that can be prevented by increasing the sanctions and chances of detection; rather, it is driven by low vertical and horizontal trust and requires trust-building strategies. The fifth and final section discusses the implications for theory and policy along with the limitations of this study and recommendations for future research.

### **Tackling informal self-employment: literature review and hypothesis development**

To date, the extensive literature on self-employment in the informal sector has variously documented its magnitude and cross-national prevalence (ILO, 2018, 2020; Williams, 2017; Williams *et al.*, 2017), the macro-level conditions associated with its variable prevalence cross-nationally (Dau & Cuervo-Cazurra, 2014; Siqueira, Webb & Bruton, 2016; Thai & Turkina, 2014), who engages in this endeavor (Afreh, Rodgers, Vershinina & Williams, 2019; Webb *et al.*, 2009, 2013; Williams & Gashi, 2020; Williams & Horodnic, 2015) and their motives for participating in informal self-employment (Maloney, 2004; Perry & Maloney, 2007; Williams & Round, 2009; Williams, Adom & Horodnic, 2020).

Very little previous scholarship has evaluated the effectiveness of the contrasting policy approaches for tackling informal self-employment, one notable exception being a study conducted in the specific and unique institutional context of East-Central Europe (Williams, 2020). To address this, a review was undertaken of two contrasting policy approaches in the wider literature on tackling tax non-compliance, and the informal economy more generally, which can be tested to evaluate their relevance when tackling informal self-employment.

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### *Repressive policy approach*

The historical basis of a repressive policy approach is the classical utilitarian theory of crime developed by [Bentham \(1788\)](#), which construed those criminal acts occur when the benefits of crime outweigh the expected costs (i.e. the punishment and chances of being caught). This view was brought to prominence by [Becker \(1968\)](#) in the late 1960s, who asserted that to ensure that acting legally would be the rational choice; governments would need to increase the level of punishments and the likelihood of being caught. Within a few years, [Allingham and Sandmo \(1972\)](#) argued that tax non-compliance would similarly occur if the expected benefits were greater than the perceived costs. To alter the benefit-to-cost ratio confronting taxpayers, they argued that state authorities should increase the expected punishments and the likelihood of being caught.

This repressive policy approach became the dominant policy approach for tackling tax non-compliance, social contribution evasion and labor law violations used by tax, social security and labor inspectorates across the globe ([Grabiner, 2000](#); [Hasseldine & Li, 1999](#); [Richardson & Sawyer, 2001](#); [Williams, 2019](#)). A legal mandate was given to “enforcement” authorities (e.g. tax authorities, labor inspectorates) to develop their competencies to detect and punish those not declaring all their paid activities to the authorities for tax, social security and/or labor law purposes. Indeed, a 2017 survey of government representatives of 28 countries on the European Commission’s European Platform Tackling Undeclared Work found that increasing the level of penalties was most commonly ranked as the most effective and important policy measure used in their countries for tackling non-compliance followed by increasing the chances of detection ([Williams & Puts, 2017](#)).

However, evidence that this repressive approach is effective at preventing participation in the informal sector is inconclusive (for a review, see [Williams & Horodnic, 2020](#)). The findings vary. Some studies find that increasing the penalties and/or likelihood of being detected prevents participation in the informal sector ([Blackwell, 2010](#); [Kluge & Libman, 2017](#)) and that improving the chances of detection is more effective than increasing the penalties ([Williams and Horodnic, 2017a, b](#)). Nevertheless, other studies find that these repressive measures are not significantly related to preventing participation in the informal sector ([Hartl, Hofmann, Gangl, Hartner-Tiefenthaler & Kirchler, 2015](#)). Several studies find that increasing these repressive measures leads to an even greater likelihood of participation in the informal sector due to the negative impacts on the social contract between citizens and the state ([Chang & Lai, 2004](#); [Hofmann et al., 2017](#); [Kaplanoglou & Rapanos, 2015](#); [Murphy, 2008](#); [Murphy & Harris, 2007](#)). Nevertheless, to date, there have been no evaluations as to whether this repressive policy approach prevents informal self-employment. Therefore, the following hypothesis can be tested:

*Repressive policy approach hypothesis (H1):* Increasing the perceived punishments and chances of being caught reduces the likelihood of informal self-employment, ceteris paribus.

*H1a.* Increasing the perceived punishments reduces the likelihood of informal self-employment, ceteris paribus.

*H1b.* Increasing the perceived chances of being caught reduces the likelihood of informal self-employment, ceteris paribus.

### *Trust-building policy approach*

Over the past decade or so, an understanding has emerged that even when the benefits of participating in the informal sector outweigh the costs, many do not make the rational economic decision to participate in the informal sector ([Alm, Cherry, Jones & McKee, 2010](#); [Kirchler, 2007](#); [Murphy, 2008](#)). They do not perform as one would expect of a rational

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economic actor. To explain their adherence to the laws and regulations, even when the rational economic decision would be to not do so, a view has emerged that the decision about whether to participate in the informal sector is related to the actors' level of vertical trust (in the state) and horizontal trust (in each other to act legitimately).

This view of participation in the informal sector is theoretically grounded in a variant of institutional theory (Baumol & Blinder, 2008; Denzau & North, 1994; North, 1990). In this variant of institutional theory, institutions represent the rules of the game that govern, monitor, enforce, support and prescribe human behavior. Every society possesses both formal institutions, manifested in the laws, codes and regulations, which are the legal rules of the game and informal institutions manifested in the unwritten rules of the game that exist in socially shared norms, values and beliefs about what is acceptable (Helmke & Levitsky, 2004). Viewed through this lens, formal self-employment is own-account economic activity that adheres to the formal rules of the game, informal self-employment is own-account economic activity that occurs outside these formal rules but adheres to the informal rules about what is acceptable, and criminal forms of self-employment do not adhere to either the formal or informal rules of the game about what is acceptable (De Castro, Khavul & Bruton, 2014; Godfrey, 2011; Kistruck, Webb, Sutter & Bailey, 2015; Siqueira *et al.*, 2016; Webb *et al.*, 2009, 2013, 2014; Welter, Smallbone & Pobol, 2015).

Based on this conceptualization, self-employment in the informal sector occurs when the own-account workers' social norms, values and beliefs about what is acceptable are not in congruence with the formal rules (Dau & Cuervo-Cazurra, 2014; Fuentes-Contreras, Mungaray-Lagarda, & Ramirez-Urquidy, 2020; Godfrey, 2015; Webb *et al.*, 2009; Williams and Shahid, 2016; Williams *et al.*, 2015, 2017). This lack of congruence, or asymmetry, is explained as a direct outcome of a lack of vertical trust (in formal institutions), measured in relation to the self-employed in terms of their intrinsic motivation to pay taxes, or what is often referred to as tax morale (Alm and Torgler, 2006, 2011; Torgler & Schneider, 2007; Torgler, 2011). Lower tax morale (i.e. a proxy measure of less vertical trust in the state) leads to a higher probability of participation in informal self-employment (Williams & Shahid, 2016; Williams *et al.*, 2017). Hence, in this trust-based policy approach, the policy aims to improve vertical trust in the state to promote voluntary compliance with the formal rules of the game.

Until now, institutional theorists, particularly when explaining participation in the informal sector and informal self-employment, have focused on the lower levels of vertical trust. Little attention has been given to the horizontal trust. Yet, even a moment's reflection leads to the realization that if the self-employed view their competitors as operating in the informal sector, this might also lead them to do so. Even if no such studies have specifically focused on the self-employed, studies of taxpayer compliance more generally support this viewpoint. Laboratory experiments of taxpayers reveal that compliance is conditionally based on their perceptions of the behavior of other taxpayers (Alm, 1999; Chang & Lai, 2004; Lefebvre, Pestieau, Riedl & Villeval, 2015; Mendoza Rodriguez & Wielhouwer, 2015; Narsa, Lakshmana, & Putong, 2016; Traxler, 2010). If taxpayers believe that there is widespread compliance, they are also more likely to be compliant (Alm, 1999, 2012). However, if taxpayers believe that non-compliance is common, they are more likely to be non-compliant (Hallsworth, List, Metcalfe & Vlaev, 2017). For instance, a laboratory experiment of taxpayers in Belgium, France and the Netherlands discovered that if taxpayers were given information that the level of compliance was high, they reacted by complying (Lefebvre *et al.*, 2015). It is not known whether the participation of the self-employed in the informal sector is also conditionally based on the perceived behavior of others (i.e. their level of horizontal trust).

To evaluate this policy approach that the participation of the self-employed in the informal sector is related to the level of their vertical and horizontal trust and which focuses on

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building vertical and horizontal trust to tackle this phenomenon, the following hypothesis can be tested:

*Trust-building policy approach hypothesis (H2):* Higher levels of vertical and horizontal trust reduce the likelihood of informal self-employment, *ceteris paribus*.

*H2a.* Higher levels of vertical trust reduce the likelihood of informal self-employment, *ceteris paribus*.

*H2b.* Higher levels of horizontal trust reduce the likelihood of informal self-employment, *ceteris paribus*.

### *Combining the repressive and trust-building policy approaches*

Most scholars have advocated for using one of these two policy approaches. However, a small but growing minority assert that using both is more effective. These analysts have adopted one of two approaches, distinguished by how they temporally sequence these policy measures. First, there is a “responsive regulation” approach, which depicts a regulatory pyramid. At the bottom are policy measures to improve vertical (and horizontal) trust, which are used first; at the top are the policy measures of sanctions and improving the risk of detection, which are used only as a last resort and are targeted at those for whom trust-building measures have failed to elicit compliant behavior (Braithwaite, 2002, 2009; Job, Stout & Smith, 2007).

Second, there is a “slippery slope” approach, or what is sometimes called a “full policy operationalization” (European Platform Tackling Undeclared Work, 2018). This asserts that the most effective approach is for state authorities to use both the repressive and trust-building policy measures in tandem (Kastlunger, Lozza, Kirchler & Schabmann, 2013; Khurana & Diwan, 2014; Kirchler *et al.*, 2008, 2014; Prinz, Muehlbacher & Kirchler, 2013; Wahl, Kastlunger & Kirchler, 2010). Based mainly on laboratory experiments, these scholars claim that compliance is higher when the repressive and trust-building measures are employed concurrently (Kogler, Batrancea, Nichita, Pantya, Belianin & Kirchler, 2013; Muehlbacher, Kirchler & Schwarzenberger, 2011; Williams & Horodnic, 2017a).

Hence, it is important to evaluate not only whether repressive or trust-building policy measures are effective in preventing self-employment in the informal sector, but also whether it is effective to combine some or all the repressive and trust-building measures. However, using these together may have interaction effects, and these need to be understood. For example, using punishments and increasing the chances of being caught may have different impacts at different levels of vertical trust. Increasing the sanctions and chances of being caught could decrease the likelihood of informal self-employment when vertical trust is low, but it could result in a higher likelihood of informal self-employment when vertical trust is due to the resultant breakdown of the social contract between the state and the self-employed (Chang & Lai, 2004). As such, the following hypotheses can be tested:

*Impacts of the level of vertical trust on the effectiveness of repressive policies hypothesis (H3):* The impacts of repressive policies on the likelihood of informal self-employment vary by the level of vertical trust, *ceteris paribus*.

*H3a.* The impacts of the perceived punishments on the likelihood of informal self-employment vary by the level of vertical trust, *ceteris paribus*.

*H3b.* The impacts of increasing the perceived chances of being caught on the likelihood of informal self-employment vary by the level of vertical trust, *ceteris paribus*.

*Impacts of the level of horizontal trust on the effectiveness of repressive policies hypothesis (H4):* The impacts of repressive policies on the likelihood of informal self-employment vary by the level of horizontal trust, ceteris paribus.

*H4a.* The impacts of the perceived punishments on the likelihood of informal self-employment vary by the level of horizontal trust, ceteris paribus.

*H4b.* The impacts of increasing the perceived chances of being caught on the likelihood of informal self-employment vary by the level of horizontal trust, ceteris paribus.

## Methodology

### Data

To evaluate these hypotheses, this paper reports on data from 27,565 interviews conducted in 28 European countries (the 27 European Union member states and the UK) for the special Eurobarometer survey 92.1 conducted in September 2019. All the interviews were undertaken in the national language with adults 15 years of age and older, as is standard practice with Eurobarometer surveys. To achieve a representative sample, a multi-stage random (probability) sampling methodology was used. This ensured that a representative sample was achieved for the variables of gender, age, region and locality size in every nation.

### Variables

To evaluate the relationship between participation in informal self-employment and these repressive and trust-building policy measures, the dependent variable is a binary variable with a value of 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 follow-up question of “Would you describe your undeclared paid activities as . . .” with the answer “Undertaken on your own account”; otherwise, a value of 0 was applied (e.g. if they stated they did not participate in undeclared work, or that it was waged employment for an employer, or refused to answer). Regarding the value of 0, this could not be solely applied to people currently in the labor force because an analysis of the descriptive results revealed that informal self-employment was undertaken by many different groups, including people who were retired, those pursuing full-time education and those that were not employed. Therefore, the 0 value needed to be applicable to the whole population sample.

Table 1 presents the explanatory and control variables used to analyze whether participation in informal self-employment is associated with the perceived level of penalties and risk of detection and vertical and horizontal trust.

### Analytical methods

Probit regression analysis is used to test hypotheses about the relationship between a categorical dependent variable and one or more categorical or continuous independent variables (Greene, 2018). Consequently, it was used in this study. The maximum likelihood method was used to estimate the least-squares function. The log-likelihood function for probit is

$$\ln L = \sum_{j \in S} \omega_j \ln \phi(x_j \beta) + \sum_{j \notin S} \omega_j \ln \{1 - \phi(x_j \beta)\}$$

where  $\phi$  is the standard cumulative normal and  $\omega_j$  denotes the optional weights.  $\ln L$  is maximized. Using probit analysis, the following model is adopted:

Variables	Definition
Expected punishment	A dummy variable for the expected punishment associated with participation in informal self-employment with a value of 0 for normal tax or social security contributions due and a value of 1 for normal tax or social security contributions due, plus a fine or prison
Chances of being caught	A dummy variable for the perceived chances of being caught. A value of 0 for a very small or fairly small risk and a value of 1 for fairly high or very high risk
Tax morale	Constructed index of the self-reported acceptability of participating in the informal sector. Participants were asked to rate the acceptability of five different forms of participation in the informal sector on a 10-point Likert scale (where 1 is absolutely unacceptable and 10 is absolutely acceptable), namely: an individual is hired by a household for work 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 for work and it does not declare the payment received to the tax or social security authorities; a firm is hired by another firm for work 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 his/her income. An aggregate tax morale index for each individual was then constructed by collating the participants' responses to these five questions
Horizontal trust	A dummy variable with a value of 1 for those who know others who participate in the informal economy and a value of 0 otherwise
Gender	A dummy variable with the following values: 0 for women and 1 for men
Age	A continuous variable indicating the exact age of a respondent
Marital status	Categorical variable grouping respondents by their marital status with the following values: 1 for (re)married, 2 for single living with a partner, 3 for single, 4 for divorced/separated, 5 for widow
People 15+ years in own household	A categorical variable for people 15+ years of age in the respondent's household (including the respondent) with the following values: 1 for one person, 2 for two persons, 3 for three or more persons
Children	A dummy variable for the presence of children up to 14 years of age in the household with a value of 0 for individuals with no children and a value of 1 for those who have children
Financial difficulties	A categorical variable for the respondent's difficulties in paying bills with the following values: 1 for having difficulties most of the time, 2 for having difficulties occasionally and 3 for having difficulties almost never/never
Area	A categorical variable for the area where the respondent lives with the following values: 1 for rural area or village, 2 for small or middle-sized town and 3 for large town

**Table 1.**  
Variables used in the  
analysis: definitions

$$\Pr(\mathcal{Y}_j \neq 0 | x_j) = \phi(x_j \beta)$$

The dependent variable of the model ( $\mathcal{Y}_j$ ) is binary, which represents participation in informal self-employment;  $x$  represents the explanatory variables, including the control variables, which are expected penalty, detection risk, level of tax morality, level of horizontal trust, gender, age, people 15+ years in own household, children, difficulties paying bills and area of residence. Moreover, the interaction term is used to investigate the moderating effects.

## Results

As seen in [Table 2](#), in 2019, just over 2% of the European citizens surveyed reported that they had participated in self-employment in the informal sector in the 12 months prior to the

	Citizens participating in informal self-employment	All other citizens
Participation in informal self-employment (%)	2.06	97.94
<i>Expected punishment (%)</i>		
Tax or social security contributions due	32	27
Tax or social security contributions + fine or prison	68	73
<i>Chances of being caught (%)</i>		
Very small/fairly small	75	55
Fairly high/very high	25	45
Tax morale: vertical trust (mean)	3.89	2.42
<i>Know anyone who works undeclared horizontal trust (%)</i>		
Yes	82	38
No	18	62
<i>Gender (%)</i>		
Women	43	54
Men	57	46
Age (mean)	43	52
<i>Marital status (%)</i>		
Re(married)	40	53
Single living with partner	20	12
Single	25	17
Divorced/separated	10	8
Widow	4	9
Other	1	1
<i>People 15+ years of age in own household</i>		
One	28	24
Two	46	51
Three or more	26	25
<i>Children (%)</i>		
No children	71	76
Have children	29	24
<i>Area (%)</i>		
Rural area or village	38	33
Small or middle-sized town	39	38
Large town	23	29
<i>Difficulties paying bills (%)</i>		
Most of the time	17	7
From time to time	27	23
Almost never/never	56	70

**Table 2.**  
Descriptive statistics  
for informal self-  
employment in Europe

**Source(s):** 2019 Eurobarometer 92.1 survey

survey. In 2019, there were 379.3 million European Union (EU) citizens aged over 15 years old (Eurostat, 2020a). Extrapolating from this survey's finding, this means that approximately 8.7 million citizens can be estimated to have engaged in informal self-employment in the year prior to the survey. Given that Eurostat estimates that 32.6 million persons aged 15 to 74 in the EU were self-employed in 2019 (Eurostat, 2020b), this suggests that the 8.7 million participating in informal self-employment are around one-quarter (26.7%) of the number of

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people who reported being formally self-employed. As such, they constitute a significant minority of those engaging in self-employment.

Examining the descriptive findings, those participating in informal self-employment perceive the expected punishment to be lower than the rest of the population, which perhaps helps explain their lack of compliance. Those participating in informal self-employment also perceive the chances of being caught to be lower than the rest of the population, again suggesting that this might explain their non-compliance. Regarding the issue of vertical trust (here measured using tax morale), those participating in informal self-employment have lower average tax morale than the wider population (3.89 compared with 2.42) and a considerably lower level of horizontal trust than the rest of the population.

Examining who engages in informal self-employment, it was found that men are more likely than women to do so, as are younger people, single people, single persons living with a partner, people who are divorced/separated and those with no children. Examining the differences between rural and urban areas, participation in informal self-employment is more prevalent in rural areas and villages, and its prevalence declines as the size of the settlement increases. Participation in informal self-employment is also more common among those who often have difficulty paying bills; those who almost never or never have difficulties paying bills are less likely to engage in such an endeavor.

To analyze whether these descriptive findings remain valid when other variables are held constant, probit estimates of the likelihood of participating in informal self-employment were obtained (Table 3). It was found that informal self-employment is significantly more likely among men than women and among younger age groups. Marital status has no significant association with participation. However, single-person households are significantly more likely than households with two or more adults to engage in informal self-employment, whilst having children or not is not significantly associated with the likelihood of engaging in informal self-employment. Those having difficulties paying the bills most of the time and those living in rural areas are significantly more likely to participate in informal self-employment than those less commonly having financial difficulties and those living in larger towns.

To evaluate the hypotheses, model 1 reports the relationship between informal self-employment and punishments, the chances of being caught and vertical and horizontal trust. The full model (model 2) includes the interaction effects between the repressive and trust-building measures. Analyzing the results of the full model, no relationship was found between the perceived punishments and participation in informal self-employment (refuting H1a). Although model 1 identifies a significant association between engaging in informal self-employment and the chances of being caught, as model 2 displays, once the moderating effects of vertical and horizontal trust are included, the significance of this association disappears (refuting H1b).

Examining the hypotheses of the trust-building policy approach, there is a strong significant association between vertical trust and participation in informal self-employment. The higher the level of vertical trust, measured in terms of tax morale, the lower the likelihood of participation in informal self-employment (confirming H2a). This finding is also similar for horizontal trust. The greater the trust in others to act in a compliant manner, the lower the likelihood of participation in informal self-employment (confirming H2b).

Analyzing if vertical and horizontal trust moderate the impacts of punishments and the chances of being caught on participation in informal self-employment, it was found that the impact of the level of punishments on the likelihood of participation in informal self-employment does not significantly change based on the level of vertical trust (refuting H3a). Moreover, it was found that the effects of the expected chances of being caught on the likelihood of participation in informal self-employment did not significantly vary based on the level of vertical trust (refuting H3b). Additionally, the level of horizontal trust has no

	Model 1 $\beta$ (Robust se)	Model 2 $\beta$ (Robust se)
<i>Expected punishment (tax or social security contributions due)</i>		
+ Fine or prison	0.009 (0.049)	-0.051 (0.121)
<i>Chances of being caught (Very small/Fairly small)</i>		
Fairly high/very high	-0.296*** (0.049)	-0.129 (0.109)
Vertical trust	0.112*** (0.009)	0.100*** (0.018)
Horizontal trust	0.671*** (0.050)	0.761*** (0.102)
<i>Gender (women)</i>		
Men	0.162*** (0.046)	0.160*** (0.045)
Age	-0.0119*** (0.0016)	-0.012*** (0.002)
<i>Marital status (married)</i>		
Single living with a partner & single	0.036 (0.062)	0.032 (0.060)
Divorced or separated & widow	0.047 (0.084)	-0.057 (0.065)
<i>People 15+ years in own household (one)</i>		
Two	-0.116* (0.070)	-0.168** (0.067)
Three or more	-0.206*** (0.071)	-0.243*** (0.068)
<i>Children (no children)</i>		
Have children	-0.043 (0.056)	-0.051 (0.057)
<i>Financial difficulties (most of the time)</i>		
From time to time	-0.307*** (0.074)	-0.305*** (0.074)
Almost never/never	-0.374*** (0.067)	-0.377*** (0.067)
<i>Area (rural area or village)</i>		
Small or middle-sized town	-0.081 (0.051)	-0.079 (0.051)
Large town	-0.240*** (0.058)	-0.236*** (0.058)
<i>Interactions</i>		
Sanction $\times$ vertical trust		0.032 (0.020)
Detection $\times$ vertical trust		-0.029 (0.019)
Sanction $\times$ horizontal trust		-0.074 (0.110)
Detection $\times$ horizontal trust		-0.101 (0.104)
Constant	-1.6829*** (0.1543)	-1.623*** (0.182)
Observations	20,720	20,720
Pseudo $R^2$	0.158	0.159
Log pseudolikelihood	-1745.685	-1742.752
$\chi^2$	520.79	556.84
$p >$	0.000	0.000
<b>Note(s):</b> 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 (10 imputations were simulated through a system of chained equations for every missing value) to address the missing responses issue, the same variables are significantly associated with informal self-employment. Hence, data with no imputation is used here to minimize bias. Similarly, when including country dummies as part of the robustness checks, the results did not change their significance or direction		
<b>Source(s):</b> Authors' calculations from the 2019 Eurobarometer 92.1 survey		

**Table 3.** Probit estimates of likelihood of informal self-employment in Europe

impact on whether the expected level of punishment and chances of being caught significantly influence the likelihood of participating in informal self-employment (refuting H4a and H4b). As a robustness check, we also first calculated the marginal effects, then the interaction effects for all combinations using Bonferroni adjusted delta methods, which gives all combinations of interactions and their statistical significance and isolates the interactions from their individual effects. The results remained the same with no significant associations.

## Discussion and conclusions

To evaluate the effectiveness of repressive and trust-building policies in preventing informal self-employment, this study used data from a 2019 special Eurobarometer survey. No significant association was found between the repressive policies of increasing the punishments and the chances of being caught and participation in informal self-employment. However, there is a strong significant association between building greater vertical and horizontal trust and a lower likelihood of participating in informal self-employment. When they are used together, there are no significant interaction effects. [Table 4](#) presents a summary of the findings. In this section, the implications for both explaining and tackling informal self-employment are discussed.

The outcome advances the theoretical explanations of informal self-employment in three ways. First, evidence is provided to reject the dominant repressive policy approach based on a rational economic actor theorization and replace it with a trust-building policy approach founded on a social actor view of participants. Second, through field-based evidence, it confirms the validity of recent calls arising from laboratory experiments to extend the trust-building approach to include horizontal trust. Third, this European survey reveals that there are no significant interaction effects. Within both policy-making circles ([European Platform Tackling Undeclared Work, 2018](#); [OECD, 2017](#); [ILO, 2015](#)) as well as academia ([Khurana & Diwan, 2014](#); [Kirchler et al., 2008, 2014](#); [Kogler et al., 2013](#); [Muehlbacher et al., 2011](#); [Prinz et al., 2013](#); [Wahl et al., 2010](#); [Williams & Horodnic, 2017a](#)), there has been an emergent consensus that the most effective way to tackle the informal economy is to combine the repressive measures of the rational economic actor perspective with the trust-building approaches of the social actor perspective. The study discussed in this paper revealed that this is not the case in Europe in relation to tackling informal self-employment. Future research will need to evaluate whether this finding that the focus should be upon trust-building policy measures is also valid in other global regions and various individual countries concerning tackling informal self-employment.

These findings also have important policy implications. For half a century, governments have adopted the rational economic actor-based repressive policy approach and sought to

Hypothesis	Finding
<i>Repressive policy approach (H1)</i>	
<i>H1a:</i> Increasing the perceived punishments reduces the likelihood of informal self-employment	Rejected
<i>H1b:</i> Increasing the perceived chances of being caught reduces the likelihood of informal self-employment	Rejected
<i>Trust-building policy approach (H2)</i>	
<i>H2a:</i> Higher levels of vertical trust reduce the likelihood of informal self-employment	Accepted
<i>H2b:</i> Higher levels of horizontal trust reduce the likelihood of informal self-employment	Accepted
<i>Moderating impacts of vertical trust (H3)</i>	
<i>H3a:</i> The impacts of the perceived punishments on the likelihood of informal self-employment vary by the level of vertical trust	Rejected
<i>H3b:</i> The impacts of increasing the perceived chances of being caught on the likelihood of informal self-employment vary by the level of vertical trust	Rejected
<i>Moderating impacts of horizontal trust (H4)</i>	
<i>H4a:</i> The impacts of the perceived punishments on the likelihood of informal self-employment vary by the level of horizontal trust	Rejected
<i>H4b:</i> The impacts of increasing the perceived chances of being caught on the likelihood of informal self-employment vary by the level of horizontal trust	Rejected

**Table 4.**  
Summary findings of  
the hypotheses

increase the punishments and chances of being caught. Indeed, the legal mandate of most enforcement authorities (e.g. tax administrations, labor inspectorates, social security institutions) has been to detect and punish non-compliant. However, this paper reveals the need for a shift away from this repressive approach and toward a focus on trust-building. This requires enforcement authorities to acquire new competencies. To identify these, it is necessary to understand how to improve vertical trust and horizontal trust.

From the perspective of institutional theory, low vertical trust is a direct result and measure of the non-alignment of the laws, codes and regulations of formal institutions and the norms, beliefs and values of informal institutions (Helmke & Levitsky, 2004; North, 1990). To resolve this asymmetry, either the formal institutions or informal institutions can be altered. Altering the acceptability of participating in informal self-employment (i.e. changing the informal institutions) requires educational initiatives and awareness-raising campaigns highlighting either the benefits of formality or the costs of informality targeted at either suppliers or customers. Many good practice examples of how this can be achieved can be found on social media under the #EU4FairWork hashtag used in 2020 by the 27 EU member states for their awareness-raising campaign that focused on the benefits of formality (European Commission, 2020). This paper identified the characteristics of the population groups that campaigns seeking to tackle informal self-employment need to target. At the EU level, the people with a greater likelihood of participating in informal self-employment are men, younger people, single-person households, those in villages and rural areas, and those who, most of the time, have difficulty paying the bills.

However, it can be argued that the asymmetry between formal and informal institutions will not be resolved and vertical trust will not be improved until changes in the formal institutions have been implemented. Extrapolating from previous studies of tax compliance, it is likely that the number of people engaged in informal self-employment will decrease when citizens believe they are paying their fair share in taxes and social contributions (Molero & Pujol, 2012), believe they are treated respectfully and impartially by state authorities (Kogler *et al.*, 2013; Murphy, 2005) and believe that they are receiving the public goods they deserve (Kogler *et al.*, 2013). Such initiatives replace the “cops and robbers” approach of the repressive approach, which often constructed citizens as non-compliant deviants who had to be detected and caught, with more “customer-friendly” state institutions oriented to promoting procedural and distributive fairness and justice. While modernization of governance is needed to enhance vertical trust, so too are specific policy measures to make it easier and beneficial to operate formally, such as simplifying compliance (Alstadsæter & Jacob, 2013) and regulatory complexity (Richardson, 2006), for instance, state authorities pre-filling tax returns (Jensen & Wöhlbier, 2012; Kleven, Knudsen, Kreiner, Pedersen & Saez, 2011), formalization support and advice (Baas, 2012; Báculo, 2006; Bernhard & Wolff, 2011) and voluntary disclosure initiatives to enable formalization without penalization (Bami, 2020).

In addition to these initiatives to improve vertical trust, there is a need for state authorities to improve horizontal trust. How this can be achieved is in its infancy. Perhaps, one starting point for governments is to refrain from publishing data displaying that non-compliance with tax, social security and labor laws are widespread. This is likely to have negative impacts on the level of horizontal trust (Williams & Horodnic, 2021). Instead, messages need to convey the extensiveness of compliance. When applying research on which types of notification letters are most effective at eliciting compliant behavior, perhaps the recipients of the messages need to receive information on the widespread compliance in their particular occupation, sector of activity and locality (Hallsworth *et al.*, 2017). Nevertheless, future research is required on how to most effectively convey the compliant social norms to the peer groups of targeted recipients. This is not the only issue requiring further research.

Several limitations to this study open up the opportunity for further research. First, and as identified above, there is a need to evaluate these findings on which policy measures are

effective in preventing informal self-employment in other global regions and individual countries. Second, when conducting such research, it would be useful to investigate the specific formal institutions in which a deficiency of trust exists (e.g. politicians, the judiciary, tax administrations, labor inspectorates) to enable a better understanding of where trust-building initiatives need to be targeted in terms of specific formal institutions. Third, future research on horizontal trust could extend the analysis beyond the generalized trust examined in this Eurobarometer survey to other measures of horizontal trust and social norms. One limitation of the current study is that the dependent variable is positive for only just over 2% of cases. It is far from obvious how this can be overcome in future studies since, unless the whole adult population is studied, it is not possible to capture the full range of participants engaged in informal self-employment. Therefore, for the foreseeable future, extensive surveys will continue to be required.

In conclusion, if the study discussed in this paper leads to further evaluations of whether trust-building is also relevant in other global regions and countries, then one intention will have been achieved. If it also encourages governments in Europe and elsewhere to transcend the currently dominant repressive policy approach based on detecting and punishing those participating in informal self-employment and to move toward building greater vertical and horizontal trust among this group, then the wider aim of this study will have been achieved.

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