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# Evaluating policy approaches for tackling informal entrepreneurship


## Abstract

*Purpose*

When tackling the informal economy, an emergent literature has called for the conventional rational economic actor approach (which uses deterrents to ensure that the costs of undeclared work outweigh the benefits) to be replaced or complemented by a social actor approach which focuses upon improving tax morale. The purpose of this paper is to explore the effectiveness of these two policy approaches in reducing informal sector entrepreneurship.

*Design/methodology/approach*

To evaluate this, data are reported from a 2015 representative survey involving 1,384 face-to-face interviews with owners or managers of small businesses in three South-Eastern European countries namely, Croatia, Bulgaria and FYR Macedonia.

*Findings*

The findings provide support for the 'social actor' approach and display that small businesses have a greater propensity to perceive competitors as operating informally when the level of tax morale is lower. Meanwhile, no support for the deterrence measures of the 'rational economic actor' model is reported.

*Research limitations/implications*

The major limitation of the study is that the paper is not able to display the reasons for the low level of tax morale and horizontal trust. Therefore, further in-depth qualitative research is necessary to explain whether and how the low levels of trust are determined by the failures of various formal institutions.

*Originality/value*

This is the first known study on small businesses which analyses simultaneously two distinct policy approaches towards reducing participation in informal entrepreneurship.

***Keywords***: South-Eastern Europe, Informal sector, Tax morale, Horizontal trust, Vertical trust

## Introduction

Over the past decades, it has been widely documented that the informal economy is a persistent phenomenon which affects both developing and developed countries. The average size of the informal economy across 158 countries has been estimated as equivalent to 31.8 per cent of the official GDP over the past two decades, decreasing from 34.5 per cent in 1991 to 27.8 per cent in 2015 (Medina and Schneider, 2018). Similarly, it has been estimated that two thirds of businesses start-up unregistered (Autio and Fu, 2015) and that globally, about a half of businesses are unregistered (Acs *et al*., 2013). However, these figures do not include formal businesses that employ informal practices such as under-reporting their turnover/profit, or employ unregistered employees, which would result in an even larger proportion of entrepreneurship being in the informal economy (Williams, 2018).

Informal entrepreneurship results in a loss of revenue for governments (Sauka *et al*., 2016; Williams, 2018), unfair competition for the legitimate businesses adhering to the formal rules (Ali and Najman, 2018; Karlinger, 2013) and an inability of customers to legally solve any potential issue related with the low quality of the product or the service purchased informally (Williams, 2018). Due to the dominant negative depiction of informal entrepreneurship, and the informal sector in general, tackling this phenomenon has become a core concern for governments and supra-national agencies (European Commission, 2016; ILO, 2015; OECD, 2012). However, how can informal entrepreneurship be tackled? No previous cross-country surveys have investigated the type of policy measures entrepreneurs of small businesses find more effective for reducing informal practices. This is despite the fact that the studies investigating informal entrepreneurship have concluded that small businesses engage in informal work to a greater extent than large businesses (La Porta and Shleifer, 2014; Williams, 2018).

Reviewing the literature on policy approaches towards the informal sector in general, two distinct approaches can be identified. On one hand, there is a dominant 'rational economic actor' approach that tackles the informal economy by ensuring that the benefits of engaging in informal work are lower than the costs of such activity. On the other hand, there is a 'social actor' approach grounded in a view that participation in informal work is related to tax morale and voluntary compliance. Therefore, the aim of this paper is to evaluate the effectiveness of these two competing approaches for reducing informal entrepreneurship. Previous studies on informal

entrepreneurship have focused only on unregistered businesses and the prevalence of such enterprises (Chepurenko, 2016; London *et al.*, 2014; Williams *et al.*, 2016) or on whether entrepreneurs report competing against unregistered or informal enterprises (Ali and Najman, 2018; Williams and Horodnic I.A., 2017a; Williams and Kedir, 2018). However, these studies do not take into account that formal businesses employ informal practices. Therefore, to fully measure informal entrepreneurship, this paper will analyse how entrepreneurs are affected by the informal work conducted by other businesses, regardless of whether these businesses are registered or not.

To commence, Section 2 therefore provides a brief review of the competing policy approaches used by governments for tackling the informal sector in general and this will result in a set of hypotheses to be tested in relation to informal entrepreneurship more particularly. Section 3 describes the data and methodology, namely a logit regression analysis of a representative survey conducted in Croatia, Bulgaria and FYR Macedonia, followed in section 4 by the results and in the final section, the theoretical and policy implications are discussed alongside the limitations of the study.

In doing so, this paper advances understanding of the effectiveness of tackling informal entrepreneurship in two ways. From a theoretical perspective, this paper evaluates for the first time the competing policy measures used by governments for reducing the informal economy by analysing their relevance to the small business sector. From a policy perspective, the paper displays the need for changing the focus from deterrents, which are currently considered the most effective approach by governments, to measures which foster the vertical and horizontal trust of entrepreneurs.

## Small business and the policy measures for reducing informal economy

Although several studies have documented the prevalence of informal entrepreneurship (Chepurenko, 2016; London *et al.*, 2014; Williams *et al.*, 2016), there are only a few attempts to explore the effectiveness of policy approaches used by governments to tackle informal work. Reviewing the literature on the informal sector in general, two types of approach are apparent, namely the 'rational economic actor' approach and the 'social actor' approach. We will here discuss each in turn.

The 'rational economic actor' approach has its roots in the seminal work of Allingham and Sadmo (1972) that views participants in informal work as rational actors who decide to participate in informal work when the benefits of doing so are greater than the costs. This view has been widely adopted by governments. For example, the Organisation for Economic Co-operation and Development (OECD) conclude that 'Combating informal employment requires a comprehensive approach to reduce the costs and increase the benefits to businesses and workers of operating formally and ensure that regulations are adequately enforced' (OECD, 2008: 32). Thus, governments have sought make the informal sector less attractive by increasing the actual and/or perceived costs of engaging in informal work (Horodnic and Williams, 2018; Williams and Franic, 2016). This has been pursued by increasing firstly the actual and/or the perceived risk of detection and secondly, the actual and/or perceived level of sanctions for engaging in informal work. Indeed, as a survey with senior government officials conducted in 2017 at the European Union level reveals, these stakeholders continue to see the 'rational economic actor' approach as the most effective approach, viewing penalties and the improvement of detection as the most effective measures for tackling informal work (Williams and Puts, 2017). However, when analysing the perception of citizens, the findings are not conclusive. Analysing previous citizen surveys, the finding is that while some confirm the effectiveness of this approach, revealing that increasing the actual and/or perceived level of deterrents reduces non-compliance (Feld and Frey, 2002; Mas'ud *et al.*, 2015; Mazzolini *et al.*, 2017), others found no effect (Hartl *et al.*, 2015; Shaw *et al.*, 2008; Williams and Franic, 2015, 2016), and yet others that increasing the actual and/or perceived level of deterrents might lead to greater non-compliance due to a breakdown of the social contract between the government and its citizens (Chang and Lai, 2004; Hofmann *et al.*, 2017; Kaplanoglou and Rapanos, 2015; Murphy, 2005, 2008; Murphy and Harris, 2007).

Turning to the few studies conducted with businesses, the results are again inconclusive. While in Estonia, Latvia and Lithuania, the finding is that the higher the risk of detection and the penalty, the lower the tax evasion and misreporting (Putniņš and Sauka, 2017), in Moldova and Romania no relationship between the two deterrents and the probability of a business deliberately misreporting has been identified (Putniņš *et al.*, 2018). In Greece, investigating a sample of small and medium-size enterprises, the finding is that the coercive power of authorities has a negative effect on both intended tax compliance and voluntary tax compliance, and yet a

positive effect on enforced tax compliance (Kaplanoglou *et al.*, 2016). In Pakistan meanwhile, the finding is that the degree of formalization of a business increases with an increase in the risk of detection (Williams and Shahid, 2016). However, in the case of informal practices employed by businesses, it is not only that previous studies are inconclusive but also, an additional issue is the difficulty of enforcement bodies to identify such practices. While a business which is not registered or a registered business using unregistered workers might be easier to detect, the under-reporting of wages or hidden clauses attached to the contracts of formal employees, as well as under-reporting turnover or profit, are harder to identify and prove for enforcement bodies. Despite this, this rational economic actor approach remains dominant. Thus, the following hypothesis will be tested:

> *Rational actor hypothesis* (H1): Small businesses will be less affected by the informal practices of other businesses when there is an increase in the perceived risk of detection and/or sanctions.
>
> > *H1a:* Small businesses will be less affected by the informal practices of other businesses when there is an increase in the perceived risk of detection.
> >
> > *H1b:* Small businesses will be less affected by the informal practices of other businesses when there is an increase in the perceived sanctions.

In the past few years, an alternative 'social actor' policy approach has emerged which focuses on engendering voluntary compliance by developing the social contract between the government and citizens instead of forcing citizens to comply using deterrents. As such, drawing inspiration from institutional theory (Helmke and Levistky, 2004; North, 1990), a new way of tackling the informal economy has been advanced (Williams and Horodnic I.A., 2015a; Williams *et al.*, 2015). This views participation in the informal economy to result from an asymmetry between civic morale (i.e., informal institutions which prescribe the socially shared unwritten rules) and state morale (i.e., formal institutions which define the rule of the game set by laws and regulation). The argument is that when these institutions are in symmetry, tax morale will be high, and citizens voluntarily comply. Analysing citizens' perceptions, this has been confirmed regardless of the type of informal work considered. A direct link has been identified between the level of tax morale and working without contract (Williams and Horodnic I.A., 2015b, 2016a;

Windebank and Horodnic, 2017) as well as salary under-reporting (Williams and Horodnic I.A., 2015a, 2017b). Indeed, in recent years there has been a heated debate in the literature on which formal institutional failures result in low tax morale. A neo-liberal perspective has argued that too much government intervention produces low tax morale whilst a structuralist perspective has argued that it is due to too little government intervention in the economy and welfare (for a review, see Williams, 2014, 2017).

Turning to the few studies conducted on businesses rather than employees, again a link has been identified between the level of income and wage underreporting and tolerance to tax evasion in Estonia, Latvia and Lithuania (Putniņš and Sauka, 2017) as well as in Romania and Moldova **(**Putniņš *et al*., 2018). Similarly, analysing businesses in Pakistan, the finding is that the level of formalisation is higher with a higher level of tax morality (Williams and Shahid, 2016). Furthermore, a study investigating employees working in small businesses across the European Union concludes that the likelihood of small businesses participating in the informal economy is greater in countries where citizens' level of tax morale is lower (Williams and Horodnic I.A., 2016b). Thus, the following hypothesis can be tested:

> *The social actor hypothesis* (H2): Small businesses will be less affected by the informal practices of other businesses when there is an increase in tax morale.

## Methodology

To evaluate the effectiveness of the two policy approaches, we here use data gathered by the authors in a representative business survey conducted in 2015 in three South-Eastern European countries namely, Croatia, Bulgaria and FYR Macedonia, chosen because they are the countries with among the highest levels of informal work in the Europe (Medina and Schneider, 2018). The sampling methodology ensured that the samples are proportionate to the universe in each country in terms of firm size, region and sector. Out of 1,430 surveyed businesses using face-to-face interviews conducted by established well-known market research agencies in each country, we here kept the 1,384 conducted with small businesses.

Given the sensitive nature of the topic, and to build up rapport with the participants, the survey adopted a gradual approach to the more sensitive questions. The interview schedule thus started by asking the respondents about their satisfaction with the business environment, followed by questions on the acceptability of some uncompliant behaviours and only then questions regarding the informal economy and whether they consider they are affected by the existence of the businesses which employ informal practices. Examining the responses of the interviewers regarding the perceived reliability of the interviews, the finding is that in 94 per cent of the cases, interviewers reported excellent or fair cooperation from the entrepreneurs. Cooperation was bad, or the interviewer did not assess the perceived reliability of the interviews, in only 1 per cent of cases. Given this, attention can turn to an analysis of the results.

The hypotheses refer to the effectiveness of two policy approaches, analysing how the policy measures are associated with the perceived level of competition from businesses employing informal practices. To analyse this, we here use logistic regression analysis. The dependent variable measures whether entrepreneurs report being affected by informal competitors and is based on the question 'Is your business affected by the existence of others who are doing informal work? (i.e., business that is not going through the books)?'. This is a dummy variable that takes a value of 1 if the firms declare they are affected by informal competitors and a value of 0 otherwise. Thus, an entrepreneur that perceives a policy measure as effective will feel less affected by informal competitors because they will perceive the prevalence of informal work as lower.

To evaluate whether there is an association between the extent to which entrepreneurs perceive informal competitors as affecting them and the two policy approaches, three key explanatory variables are used. On the one hand, the level of institutional asymmetry is measured using an interval variable based on participants rating of the acceptability of two types of informality, namely: 'Tax evasion is an economic necessity for companies to survive' and 'Underreporting annual revenue or turnover in order to evade taxes is acceptable'. The questions were measured using a 10-point Likert scale (1 equals completely disagree and 10 completely agree). The variable is here recoded, and thus 10 means high tax morale while 1 means the opposite. On the other hand, the two variables investigating the two elements of the 'rational economic actor' approach are:

- *Perceived risk of detection*: a numeric variable measuring the perceived risk of detection when engaged in informal activities, obtained as a mean of three percentages, based on the question 'For a typical company in your industry, what would you say is the approximate probability (0-100%) of being caught, if the company was to: a) underreport its business income?; b) underreport its number of employees?; c) underreport the amount it pays to employees in salaries?'. The original values of the mean, ranging from 0 to 100 are recoded here with values from 0 to 1.
- *Sanction severity*: an ordinal variable that measures the perceived severity applied to those caught doing informal activities based on the question 'If a company in your industry were caught for deliberately misreporting, what would be the typical consequence for the company?' and ranges from '1= nothing serious' to '5= the company would be forced to cease operations'.

A series of individual-level and firm-level variables extracted from previous studies analysing the likelihood of competing with informal competitors (Ali and Najman, 2018; Hudson *et al.*, 2012; Williams *et al.*, 2017) and other studies of entrepreneurship in the informal sector (Dau and Cuervo-Cazurra, 2014; Khan and Quaddus, 2015; Putniņš and Sauka, 2017; Putniņš *et al.*, 2018) are used as control variables as detailed below.

*Individual-level variables/ respondent characteristics*

- *Owner:* a dummy variable with value 1 indicating that the respondent is the company owner or manager and 0 otherwise.
- *Gender:* a dummy variable with value 1 for female respondents and 0 for male respondents.
- *Business management experience:* a numeric variable for the number of years of business management experience the respondent has.

*Firm-level variables/ Business characteristics*

- *Business size:* a categorical variable with value 1 for sole proprietor, value 2 for firms with less than 10 employees, and value 3 for firms with 10-49 employees.
- *Sector:* a categorical variable with value 1 for hotels and restaurants, value 2 for agriculture, value 3 for construction, value 4 for retail/ trade/ transport and communication, value 5 for public services, value 6 for industry, value 7 for IT/ services and value 8 for other sectors.

- *Trading experience:* a categorical variable with value 1 for firms with less than one year of trading experience, value 2 for firms having between one year and five years of trading experience, and value 3 for firms having experience of more than five years in trading.
- *VAT payer:* a dummy variable with value 1 for VAT payers and 0 otherwise.

Furthermore, the models are controlled for country dummies.

For the descriptive analysis we report the crude data for each variable to provide an accurate description and to minimise the bias that could be encountered by excluding those entrepreneurs who did not provide responses to all the variables in the analysis but provided responses for some questions. In the regression analysis, on the other hand, only those respondents for which data on every control variable was available for each model were analysed due to the technical requirements of this type of analysis. However, as a robustness check, we provide the results using multiple imputations for the missing values. The sign and the association between the dependent and the independent variables are similar for the crude data and the imputed data, underlying the robustness of the results (details in Table A1 in the Appendix). Given this caveat, attention turns to the findings.

## Findings

Examining the descriptive findings, Table 1 shows that, overall, more than a half of small businesses (56 per cent) consider that their business is affected by informal competitors. However, there are differences across the three countries. While Bulgarian small businesses are less widely affected by informal competitors, with 43 per cent of the respondents reporting that this is the case, in FYR Macedonia and Croatia this is higher, with 55 percent and 66 per cent of small businesses respectively reporting that they are affected by informal competitors.

Starting to analyse the relationship between the perceived threat posed by informal competitors and the various policy approaches, Table 1 reveals the differences between those who perceive informal competitors to constrain their small business and those who do not, with respect to their perceptions of the risks of detection, the expected sanctions if caught and their tax morale.

Starting with the 'rational actor' approach, Table 1 shows that the perceived risk of detection of a business that underreports its income, underreports its number of employees or underreports the amount it pays to employees in salaries, is perceived relatively similar by those who consider their business to be affected by informal competitors and those who do not (i.e., 46 per cent compared with 44 per cent). However, the trend differs between the countries. In FYR of Macedonia, a lower perceived risk of detection is reported by those not affected by informal competitors (i.e., 47 per cent compared with 49 per cent). Turning to the perceived level of severity of the sanction applicable for a company caught for deliberately misreporting, the overall results are again almost similar between the two groups. Contrary to what the theory suggests, the threat of informal competitors is not perceived to be higher when the expected sanction is perceived to be lowest. Similarly, and contrary to rational economic actor theory, a higher percentage of those reporting to be affected by informal competitors perceive a higher level of expected sanction, namely the company is forced to cease operation (6 per cent compared with 5 per cent).

[INSERT TABLE 1 ABOUT HERE]

Turning to the 'social actor' model, Table 1 shows that tax morale is higher for those not perceiving informal competitors to constrain their small business. In sum, the tentative finding in Table 1 is that tax morale is associated with the perceived threat of informal competitors while for the deterrents no straightforward link seems to be identified. Thus, small business entrepreneurs and managers do not perceive a lower threat from informal competitors when sanctions and risks of detection are higher. Whether this is the case when other control variables are included in the analyses and controlled for will be analysed with the regression analysis.

Before doing so, Table 2 provides a more nuanced investigation of which types of informality their informal competitors engage in. So far as is known, this has never been examined in any previous study. Eight types of informality potentially employed by businesses are analysed. Overall, their prevalence is perceived as fairly high, with 17 to 30 per cent of the respondents considering that these practices are used always or by most of their competitors. The most common informal practices they report used by competitor businesses are the reporting of a lower turnover (30 per cent), the reporting of lower profits (29 per cent), hiring employees under contracts with hidden clauses (28 per cent), and not issuing receipts/invoices for at least part of

their sales (27 per cent). A slightly lower proportion report the practice of hiding or not paying taxes, duties and/or excise (25 per cent) and hiring workers without a contract (25 per cent). The least prevalent practices are considered as VAT fraud and illicit exporting/importing of goods (false documentation/no documentation), 18 per cent and 17 per cent respectively of the respondents reporting that these practices occur within their competitor`s businesses always or in most cases. However, there are some differences between the countries. While in Croatia and Bulgaria the most prevalent informal practice is financial under-reporting (i.e., 33 per cent reporting lower turnover in Croatia and 36 per cent reporting lower profits in Bulgaria), in FYR Macedonia the most prevalent informal practice is under-reporting the number of employees or their wages (i.e., 27 per cent hiring workers without a contract or hiring employees under contracts with hidden clauses).

[INSERT TABLE 2 ABOUT HERE]

These descriptive findings display that there is a low level of horizontal trust in these South-Eastern European countries. Considering that numerous previous studies (Alm and Gomez, 2008; Frey and Torgler, 2007; Molero and Pujol, 2012) show that when people perceive that others are free riders, their own tax morale is reduced, which can then lead to reduced tax compliance, small business entrepreneurs and managers' behaviour is very likely to be similar. This poses challenges for society and policy makers because, unlike the individual citizens, entrepreneurs' behaviour can affect more persons besides themselves (i.e., they can hire several people with no contracts or on contract with hidden clauses).

Table 3 reports the results of a logistic regression analysis of the perceived threat of informal competitors. Before analysing the findings regarding the policy measures, it is important to highlight the type of companies which are more likely to perceive that they are affected by informal sector competition. This reveals no significant differences by respondent characteristics (i.e., whether one is the owner or not, gender or experience in business management).

[INSERT TABLE 3 ABOUT HERE]

When analysing business characteristics, again no significant difference was identified with respect to the business' trading experience and whether the company is a VAT payer. However, those having less than 10 employees perceive a lower likelihood of informal competition compared with sole proprietors. Meanwhile, those in the construction sector and retail, trade, transport and communication are more likely to perceive that their business is affected by informal competitors compared with those in the hospitality industry. This, therefore, provides a clear indication of who needs to be targeted in Croatia, Bulgaria and FYR Macedonia in terms of sector and company size by policy initiatives. What policy measures, however, should be used?

To answer this, we turn to the policy measures and start with whether the perceived threat of other companies employing informal practices is associated with the level of deterrents when individual level/ respondent characteristics variables and firm level/ business characteristics are introduced and held constant. No statistically significant association is identified. Those perceiving a higher sanction to be in place for companies caught operating informally as well as those who perceive the risk of being detected to be higher, are not more likely to consider that informal competitors affect their small business (refuting *H1a* and *H1b*).

On the other hand, analysing the social actor approach, the finding is that the higher the level of tax morale, the lower is the likelihood that the business will consider it is affected by the existence of informal competitors (confirming *H2*).

To further explore the effects of the competing policy approaches used by governments to tackle informal work, Figures 1 and 2 outline the predicted probabilities for a 'representative' small business in South-Eastern Europe to perceive informal competitors as constraining them, according to the level of tax morale and the perceived sanctions and risk of detection. This 'representative' small business is obtained using the mean and the modal values of the remaining explanatory variables in the regression analysis. As such, the representative small business is a VAT registered business in Croatia, with less than 10 employees, more than 5 years trading experience, in retail/trade/transport and communication sector run by a male owner with 13 years of management experience.

[INSERT FIGURE 1 ABOUT HERE]

[INSERT FIGURE 2 ABOUT HERE]

Figure 1 reveals that the probability that this 'representative' small business would consider it is affected by informal competitors ranges from slightly below 65 per cent to about 78 per cent depending on the tax morale and the perceived risk of detection of the small business respondent. However, while the difference is about 10 per cent according to the level of tax morale, with a smaller probability when tax morale improves, the effect of risk of detection is rather imperceptible. Similarly, Figure 2 shows that probability of a 'representative' small business considering that informal competitors affect their business is more influenced by the respondent's tax morale than by the perceived level of sanction applicable to those caught for deliberately misreporting. However, for the same level of tax morale, the probability of perceiving informal competitors to affect them decreases with an increase in the perceived level of penalty.

**Discussion and Conclusions**

This paper has investigated whether there is an association between the perceived threat of informal competition witnessed by small businesses and two distinct policy approaches for reducing informal work. Analysing a representative sample of small businesses in three countries, namely Bulgaria, Croatia and FYR Macedonia, the finding is that there is no association between the perceived threat of informal competitors by small businesses and the perceived level of risk of detection or of the severity of sanction for such practices. Put another way, entrepreneurs do not consider that the threat of informality is reduced by applying tougher deterrents. They do not consider that competitors will reduce the informal practices they employ (e.g., underreporting profit or turnover, using undeclared workers) with increased penalties. However, a strong association is identified between the level of tax morale and the perceived threat of informal practices employed by competitors. The intimation is that increasing the level of deterrents will have little impact on informality, while measures seeking to improve tax morale and thus the social contract between the government and citizens may result in less informality. This implies that changes are required in both formal institutions, by improving procedural justice, procedural fairness and redistributive justice (Horodnic, 2018; Horodnic and

Williams, 2018; Molero and Pujol, 2012; Murphy, 2005; Williams and Horodnic I.A., 2015a; Williams and Horodnic A.V., 2017, 2018) as well as changes in informal institutions by reducing the acceptability among entrepreneurs of non-compliant behaviour (e.g., underreporting profits/turnover, underreporting the number of employees or their wages).

The study reveals, however, that not only measures aimed at improving the social contract between the government and citizens (i.e., vertical trust) are necessary, but also measures to improve horizontal trust in the business community. No less than 56 per cent of the entrepreneurs perceive informal competitors to be a threat to their business. Furthermore, some one in three small businesses consider that practices such as reporting a lower turnover/ lower profits, hiring employees under a contract with hidden clauses or not issuing receipts/ invoices for at least part of their sales, occur always or in most competitor businesses. This is particularly important considering that previous studies with citizens showed that tax morale is reduced when they consider that other taxpayers are free riders (Alm and Gomez, 2008; Frey and Torgler, 2007; Molero and Pujol, 2012). In the case of entrepreneurs, the lack of trust in the wider business community and their competitors might lead as well to a reduced level of compliance, especially considering that their competitors using informal practices gain competitive advantages by doing so. To improve horizontal trust between entrepreneurs, information on their peers might be provided. For example, a study on citizens showed that letters providing information on other citizens' behaviour had a positive effect on timely payments of those who did not pay their tax due on time. From all the messages used, the most specific one, namely 'nine out of ten in the UK pay their tax on time. You are currently in the very small minority of people who have not paid us yet', has the highest effect (Hallsworth *et al.*, 2017). A similar campaign could be designed for the business community and specifically targeted at those business sectors identified above where the perception that informal competitors exist is most prevalent.

Nevertheless, this paper has limitations. Although it displays the significant effect of tax morale and displays the low level of horizontal trust in small businesses in these countries, it is not able to reveal the reasons for the low level of tax morale (i.e., vertical trust) and horizontal trust. The importance of trust in the economic and social environment has been widely documented in the literature (Kayaoglu, 2017; Sztompka; 2003). According to Sztompka (2003, p. 50), 'the diffusion of trust or distrust from one level to another happens quite commonly,

because trust as well as distrust are contagious. In many cases trust seems to spread out from above to toward lower levels, and distrust, from the bottom upwards'. Accordingly, when an entrepreneur loses trust because of observing a case of corruption for example, they start to think in a stereotyped way and to consider that there is corruption in all cases and therefore, this leads to institutional distrust. Further quantitative and in-depth qualitative research is therefore necessary to identify the formal institutional deficiencies which lead to low levels of trust. For example, investigating 18 countries in Asia-Pacific region, Autio and Fu (2015) concluded that the quality of institutions has a substantial influence on informal entrepreneurship and an increase of the quality of economic and political institutions with one standard deviation can double the prevalence of the formal entrepreneurship on one hand and, reduce by a half the prevalence of the informal entrepreneurship on the other hand. Thus, identifying the precise formal institutions failures would enable tailored policy measures for enhancing the level of trust between entrepreneurs as well as between entrepreneurs and government. Future studies, moreover, might experiment with asking entrepreneurs directly about their engagement in the informal economy, rather than whether their direct competitors engage in informal economic practices. At present, it is an *a priori* assumption that such direct questions are not feasible, with no evidence-base that this is the case. Experimentation with more direct questions on participation in informal economic practices would therefore be useful in future surveys to evaluate its feasibility.

In sum, this paper underlines the importance of the 'social actor' approach in tackling informal entrepreneurship and displays the need for a shift away from the deterrence measures of the 'rational actor' approach and towards policy measures which seek to improve tax morale and the level of horizontal trust between entrepreneurs.

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**References**

Acs, Z., Desai, S., Stenholm, P. and Wuebker, R. (2013), "Institutions and the rate of formal and informal entrepreneurship across countries", *Frontiers of Entrepreneurship Research*, Vol. 35 No. 15, pp. 1-24.

Ali, N. and Najman, B. (2018), "Informal competition, firm productivity and policy reforms in Egypt", in Horodnic, I.A., Rodgers, P., Williams, C.C. and Momtazian, L. (Eds.), *The Informal Economy Exploring Drivers and* Practices, Routledge, New York and London, pp. 229-254.

Allingham, M. and Sandmo, A. (1972), "Income tax evasion: a theoretical analysis", *Journal of Public Economics*, Vol. 1 No. 2, pp. 323-338.

Alm, J. and Gomez, J.L. (2008), "Social capital and tax morale in Spain", *Economic Analysis and Policy*, Vol. 38 No. 1, pp. 73-87.

Autio, E. and Fu, K. (2015), "Economic and political institutions and entry into formal and informal entrepreneurship", *Asia Pacific Journal of Management*, Vol. 32 No. 1, 67-94.

Chang, T.-J. and Lai, C.-C. (2004), "Collaborative tax evasion and social norms: why deterrence does not work", *Oxford Economic Papers*, Vol. 56 No. 2, pp. 344-368.

Chepurenko, A. (2016), "Informal entrepreneurship and informal entrepreneurial activity in Russia", in Sauka, A., Schneider, F. and Williams, C.C. (Eds.), *Entrepreneurship and the Shadow Economy*, Edward Elgar, Cheltenham, pp. 119-150.

Dau, L.A. and Cuervo-Cazurra, A. (2014), "To formalize or not to formalize: entrepreneurship and pro-market institutions", *Journal of Business Venturing*, Vol. 29 No 5, pp. 668-686.

European Commission (2016), "Working Conditions - Undeclared work", available at: http://ec.europa.eu/social/main.jsp?catId=706&intPageId=2983&langId=en (accessed 3 June 2018).

Feld, L.P. and Frey, B.S. (2002), "Trust breeds trust: how taxpayers are treated", *Economics of Governance,* Vol. 3 No. 2, pp. 87-99.

Frey, B.S. and Torgler, B. (2007), "Tax morale and conditional cooperation", *Journal of Comparative Economics*, Vol. 35 No. 1, pp. 136-159.

Hallsworth, M., List, J.A., Metcalfe, R.D. and Vlaev, I. (2017), "The behavioralist as tax collector: using natural field experiments to enhance tax compliance", *Journal of Public Economics*, Vol. 148, pp. 14-31.

Hartl, B., Hofmann, E., Gangl, K., Hartner-Tiefenthaler, M. and Kirchler, E. (2015), "Does the sole description of a tax authority affect tax evasion? - The impact of described coercive and legitimate power", *PLoS One*, Vol. 10 No. 4, e0123355.

Helmke, G., and Levitsky, S. (2004), "Informal institutions and comparative politics: a research agenda", *Perspectives on Politics*, Vol. 2 No. 4, pp. 725-740.

Hofmann, E., Hartl, B., Gangl, K., Hartner-Tiefenthaler, M. and Kirchler, E. (2017), "Authorities' coercive and legitimate power: the impact on cognitions underlying cooperation", *Frontiers in Psychology*, Vol. 8 No. 5, doi:10.3389/fpsyg.2017.00005.

Horodnic, I.A. (2018), "Tax morale and institutional theory: a systematic review", *International Journal of Sociology and Social Policy*, Vol. 38 No. 9/10, pp. 868-886.

Horodnic, I.A. and Williams, C.C, (2018), "Do deterrents prevent undeclared work? An evaluation of the rational economic actor approach", Policy Brief no.1, Sheffield University Management School, available at: http://dx.doi.org/10.2139/ssrn.3108375 (accessed 10 May 2018).

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 (2015), "The transition from the informal to the formal economy. Report V (2A)", ILO Conference, 104th Sess., ILO, Geneva.

Kaplanoglou, G., and Rapanos, V.T. (2015), "Why do people evade taxes? New experimental evidence from Greece", *Journal of Behavioral and Experimental Economics*, Vol. 56, pp. 21-32.

Kaplanoglou, G., Rapanos, V.T. and Daskalakis, N. (2016), "Tax compliance behaviour during the crisis: the case of Greek SMEs", *European Journal of Law and Economics*, Vol. 42 No. 3, pp. 405-444.

Karlinger, L. (2013), "The 'dark side' of deregulation: how competition affects the size of the shadow economy", *Journal of Public Economic Theory*, Vol. 16 No. 2, pp. 283-321.

Kayaoglu, A. (2017), "Determinants of trust in Turkey", *European Societies*, Vol. 19 No. 4, pp. 492-516.

Khan, E.A. and Quaddus, M. (2015), "Examining the influence of business environment on socioeconomic performance of informal microenterprises: content analysis and partial least square approach", *International Journal of Sociology and Social Policy*, Vol. 35 No. 3/4, pp. 273-288.

La Porta, R. and Shleifer, A. (2014), "Informality and development", *Journal of Economic Perspectives*, Vol. 28 No. 3, pp. 109-126.

London, T., Esper, H., Grogan-Kaylor, E. and Kistruck, G.M. (2014), "Connecting poverty to purchase in informal markets", *Strategic Entrepreneurship Journal*, Vol. 8 No. 1, pp. 37-55.

Mas'ud, A., Manaf, N.A.A. and Saad, N. (2015), "Testing assumptions of the 'slippery slope framework' using cross-country data: evidence from sub-Saharan Africa", *International Journal of Business and Society*, Vol. 16 No. 3, pp. 408-421.

Mazzolini, G., Pagani, L. and Santoro, A. (2017), "The deterrence effect of real-world operational tax audits", DEMS Working Paper Series No. 359, Department of Economics, Management and Statistics, University of Milan – Bicocca.

Medina, L. and Schneider, F. (2018), "Shadow economies around the world: what did we learn over the last 20 years?", International Monetary Fund Working Papers, African Department.

Molero, J.C. and Pujol, F. (2012), "Walking inside the potential tax evader's mind: tax morale does matter", *Journal of Business Ethics*, Vol. 105 No. 2, pp. 151-162.

Murphy, K. (2005), "Regulating more effectively: the relationship between procedural justice, legitimacy, and tax non-compliance", *Journal of Law and Society*, Vol. 32 No. 4, pp. 562-589.

Murphy, K. (2008), "Enforcing tax compliance: to punish or persuade?", *Economic Analysis & Policy*, Vol. 38 No. 1, pp. 113-135.

Murphy, K., and Harris, N. (2007), "Shaming, shame and recidivism: a test of reintegrative shaming theory in the white-collar crime context", *The British Journal of Criminology*, Vol. 47 No. 6, pp. 900-917.

North, D.C. (1990), *Institutions, Institutional Change and Economic Performance*, Cambridge University Press, Cambridge.

OECD (2008), *OECD Employment Outlook*, OECD, Paris.

OECD (2012), *Reducing Opportunities for Tax Non-Compliance in the Underground Economy*, OECD, Paris.

Putniņš, T. and Sauka, A. (2017), "Shadow Economy Index for the Baltic countries 2009 – 2016", The Centre for Sustainable Business at Stockholm School of Economics in Riga.

Putniņš, T., Sauka, A. and Davidescu, A.A. (2018), "Shadow Economy Index for Moldova and Romania 2015 – 2016", The Centre for Sustainable Business at Stockholm School of Economics in Riga.

Sauka, A., Schneider, F. and Williams, C.C. (Eds.) (2016), *Entrepreneurship and the shadow economy: A European perspective*, Edward Elgar, Cheltenham.

Shaw, J., Slemrod, J. and Whiting, J. (2008), *Administration & Compliance*, The Institute for Fiscal Studies, Oxford University Press, Oxford.

Sztompka, P. (2003), *Trust: A Sociological Theory*, Cambridge University Press, Cambridge.

Williams, C.C. (2014), *Confronting the Shadow Economy: evaluating tax compliance and behaviour policies*, Edward Elgar, Cheltenham.

Williams, C.C. (2017), "Tackling employment in the informal economy: a critical evaluation of the neo-liberal policy approach", *Economic and Industrial Democracy: an International Journal*, Vol. 38 No.1, pp. 145-169.

Williams, C.C. (2018), *Entrepreneurship in the Informal Sector: An Institutional Perspective*, Routledge, London.

Williams, C.C. and Franic, J. (2015), "Tackling the propensity towards undeclared work: some policy lessons from Croatia", *South East European Journal of Economics and Business*, Vol. 10 No. 1, pp. 18-31.

Williams, C.C and Franic, J. (2016), "Beyond a deterrence approach towards the undeclared economy: some lessons from Bulgaria", *Journal of Balkan and Near Eastern Studies*, Vol. 18 No. 1, pp. 90-106.

Williams, C.C. and Horodnic, A.V. (2017), "Rethinking informal payments by patients in Europe: an institutional approach", *Health Policy*, Vol. 121 No. 10, pp. 1053-1062.

Williams, C.C. and Horodnic, A.V. (2018), "Explaining informal payments for health services in Central and Eastern Europe: an institutional asymmetry perspective", *Post-Communist Economies*, Vol. 30 No. 4, pp. 440-458.

Williams, C.C. and Horodnic, I.A. (2015a), "Evaluating the prevalence of the undeclared economy in Central and Eastern Europe: an institutional asymmetry perspective", *European Journal of Industrial Relations*, Vol. 21 No. 4, pp. 389-406.

Williams, C.C. and Horodnic, I.A. (2015b), "Explaining and tackling the shadow economy in Estonia, Latvia and Lithuania: a tax morale approach", *Baltic Journal of Economics*, Vol. 15 No 2, pp. 81-98.

Williams, C.C. and Horodnic, I.A. (2016a), "An institutional theory of the informal economy: some lessons from the United Kingdom", *International Journal of Social Economics*, Vol. 43 No. 7, pp. 722-738.

Williams, C.C. and Horodnic, I.A. (2016b), "Cross-country variations in the participation of small businesses in the informal economy: an institutional asymmetry explanation", *Journal of Small Business and Enterprise Development*, Vol. 23 No. 1, pp. 3-24.

Williams, C.C. and Horodnic, I.A. (2017a), "Regulating the sharing economy to prevent the growth of the informal sector in the hospitality industry", *International Journal of Contemporary Hospitality Management*, Vol. 29 No. 9, pp. 2261-2278.

Williams, C.C. and Horodnic, I.A. (2017b), "Evaluating the illegal employer practice of under-reporting employees' salaries", *British Journal of Industrial Relations*, Vol. 55 No. 1, pp. 83-111.

Williams, C.C. and Kedir, A. (2018), "Explaining cross-national variations in the prevalence of informal sector entrepreneurship: lessons from a survey of 142 countries", *Journal of Developmental Entrepreneurship*, Vol. 23 No. 1, 1850005.

Williams, C.C. and Puts, E. (2017), *Platform Survey Report: organisational characteristics of enforcement bodies, measures adopted to tackle undeclared work, and the use of databases and digital tools*, European Commission, Brussels.

Williams, C.C. and Shahid, M.S. (2016), "Informal entrepreneurship and institutional theory: explaining the varying degrees of (in)formalization of entrepreneurs in Pakistan", *Entrepreneurship & Regional Development*, Vol. 28 No. 1-2, pp. 1-25.

Williams, C.C., Horodnic, I.A. and Windebank, J. (2015), "Explaining participation in the informal economy: an institutional incongruence perspective", *International Sociology*, Vol. 30 No. 3, pp. 294-313.

Williams, C.C., Martinez-Perez, A. and Kedir, A.M. (2017), "Informal entrepreneurship in developing economies: the impacts of starting-up unregistered on firm performance", *Entrepreneurship Theory and Practice*, Vol. 41 No. 5, pp. 773-799.

Williams, C.C., Shahid, M. and Martinez-Perez, A. (2016), "Determinants of the level of informality of informal micro-enterprises: some evidence from the city of Lahore Pakistan", *World Development*, Vol. 84, pp. 312-325.

Windebank, J. and Horodnic, I.A. (2017), "Explaining participation in undeclared work in France: lessons for policy evaluation", *International Journal of Sociology and Social Policy*, Vol. 37 No. 3-4, pp. 203-217.

**Table 1.** Perceived threat of informal sector competition: by tax morale, expected sanctions and perceived risk of detection

| | Total | HR | BG | FYROM |
|---|---|---|---|---|
| Business affected by informal competitors (%) | 56 | 66 | 43 | 55 |
| Tax morale (mean) | 7.0 | 7.4 | 6.2 | 6.9 |
| Perceived risk of detection (mean) | 0.44 | 0.42 | 0.39 | 0.49 |
| Sanction severity (%) | | | | |
| Nothing serious/ Small fine | 26 | 19 | 43 | 24 |
| Serious fine | 68 | 75 | 55 | 68 |
| Forced to cease operations | 6 | 6 | 2 | 8 |
| Business not affected by informal competitors (%) | 44 | 34 | 57 | 45 |
| Tax morale (mean) | 7.3 | 8.1 | 6.7 | 7.2 |
| Perceived risk of detection (mean) | 0.46 | 0.43 | 0.47 | 0.47 |
| Sanction severity (%) | | | | |
| Nothing serious/ Small fine | 27 | 20 | 29 | 31 |
| Serious fine | 68 | 70 | 68 | 65 |
| Forced to cease operations | 5 | 10 | 3 | 4 |

*Note*: Don't know/ refusal excluded.

**Table 2.** Informal practices occurring within direct competitor businesses

| Type of informal work | Sample | Always | In most cases | Sometimes | Never |
|---|---|---|---|---|---|
| Hiring a worker without a contract | Total | 4 | 20 | 54 | 22 |
| | HR | 4 | 20 | 61 | 15 |
| | BG | 3 | 18 | 58 | 21 |
| | FYROM | 4 | 23 | 41 | 32 |
| Hiring an employee under contract with 'hidden clauses' (social insurance and contributions paid based on a minimum wage, whilst the rest of the pay is paid undeclared, without a payslip) | Total | 4 | 24 | 50 | 22 |
| | HR | 6 | 22 | 57 | 15 |
| | BG | 2 | 28 | 55 | 15 |
| | FYROM | 4 | 23 | 39 | 34 |
| Reporting lower turnover | Total | 5 | 25 | 48 | 22 |
| | HR | 8 | 25 | 50 | 17 |
| | BG | 2 | 31 | 50 | 17 |
| | FYROM | 3 | 20 | 44 | 33 |
| Hiding/ not paying taxes, duties and/or excises | Total | 4 | 21 | 49 | 26 |
| | HR | 7 | 19 | 51 | 23 |
| | BG | 2 | 27 | 54 | 17 |
| | FYROM | 4 | 17 | 41 | 38 |
| Not issuing receipts/ invoices for at least part of their sales | Total | 4 | 23 | 49 | 24 |
| | HR | 7 | 21 | 54 | 18 |
| | BG | 2 | 31 | 50 | 17 |
| | FYROM | 2 | 18 | 42 | 38 |
| Reporting lower profits | Total | 5 | 24 | 51 | 20 |
| | HR | 9 | 22 | 53 | 16 |
| | BG | 2 | 34 | 49 | 15 |
| | FYROM | 4 | 16 | 50 | 31 |
| Illicit exporting/importing of goods (false documentation/ no documentation) | Total | 4 | 13 | 40 | 43 |
| | HR | 5 | 12 | 40 | 43 |
| | BG | 4 | 15 | 42 | 39 |
| | FYROM | 2 | 13 | 38 | 47 |
| VAT fraud | Total | 5 | 13 | 44 | 38 |
| | HR | 7 | 16 | 49 | 28 |
| | BG | 3 | 10 | 48 | 39 |
| | FYROM | 3 | 10 | 36 | 51 |

*Note*: Don't know/ refusal excluded.

**Table 3.** Logit regression of the likelihood of small businesses perceiving their business to be affected by informal competitors

| Variables | Model 1 β | | se(β) | Exp(β) | Model 2 β | | se(β) | Exp(β) |
|---|---|---|---|---|---|---|---|---|
| Tax morale | -0.084 | *** | 0.027 | 0.920 | -0.072 | ** | 0.028 | 0.931 |
| Perceived risk of detection | -0.018 | | 0.212 | 0.982 | 0.018 | | 0.220 | 1.018 |
| Sanction severity | -0.099 | | 0.073 | 0.906 | -0.089 | | 0.076 | 0.915 |
| *Respondent characteristics* | | | | | | | | |
| Owner (Ref: No) | | | | | | | | |
| Yes | 0.154 | | 0.148 | 1.166 | 0.229 | | 0.158 | 1.258 |
| Gender (Ref: Male) | | | | | | | | |
| Female | 0.123 | | 0.130 | 1.131 | 0.206 | | 0.136 | 1.229 |
| Business management experience | 0.005 | | 0.007 | 1.005 | -0.001 | | 0.008 | 0.999 |
| *Business characteristics* | | | | | | | | |
| Business size (Ref: sole proprietor) | | | | | | | | |
| Less than 10 employees | | | | | -0.652 | ** | 0.326 | 0.521 |
| 10-49 employees | | | | | -0.606 | | 0.389 | 0.546 |
| Sector (Ref: Hotels and restaurants) | | | | | | | | |
| Agriculture | | | | | 0.344 | | 0.447 | 1.411 |
| Construction | | | | | 0.903 | *** | 0.347 | 2.468 |
| Retail/Trade/Transport and Communication | | | | | 0.675 | ** | 0.274 | 1.965 |
| Public services | | | | | -0.333 | | 0.381 | 0.717 |
| Industry | | | | | 0.661 | * | 0.349 | 1.937 |
| IT/Services | | | | | 0.244 | | 0.314 | 1.276 |
| Other | | | | | 0.314 | | 0.307 | 1.368 |
| Trading experience (Ref: under 1 year) | | | | | | | | |
| 1-5 years | | | | | 0.174 | | 0.398 | 1.190 |
| More than 5 years | | | | | 0.186 | | 0.390 | 1.204 |
| VAT payer (Ref: No) | | | | | | | | |
| Yes | | | | | 0.087 | | 0.171 | 1.091 |
| Country (Ref: Croatia) | | | | | | | | |
| Bulgaria | -1.082 | *** | 0.168 | 0.339 | -1.097 | *** | 0.181 | 0.334 |
| FYR Macedonia | -0.360 | ** | 0.155 | 0.698 | -0.334 | * | 0.171 | 0.716 |
| Constant | 1.363 | *** | 0.352 | 3.908 | 1.129 | * | 0.644 | 3.094 |
| Observations | | | | 1,072 | | | | 1,043 |
| Pseudo $R^2$ | | | | 0.0340 | | | | 0.0510 |
| Log likelihood | | | | -710.6062 | | | | -677.5350 |
| $\chi^2$ | | | | 50.05 | | | | 72.79 |
| p> | | | | 0.0000 | | | | 0.0000 |

*Notes:* Significant at *** p<0.01, ** p<0.05, * p<0.1; All coefficients are compared to the benchmark category, shown in brackets.

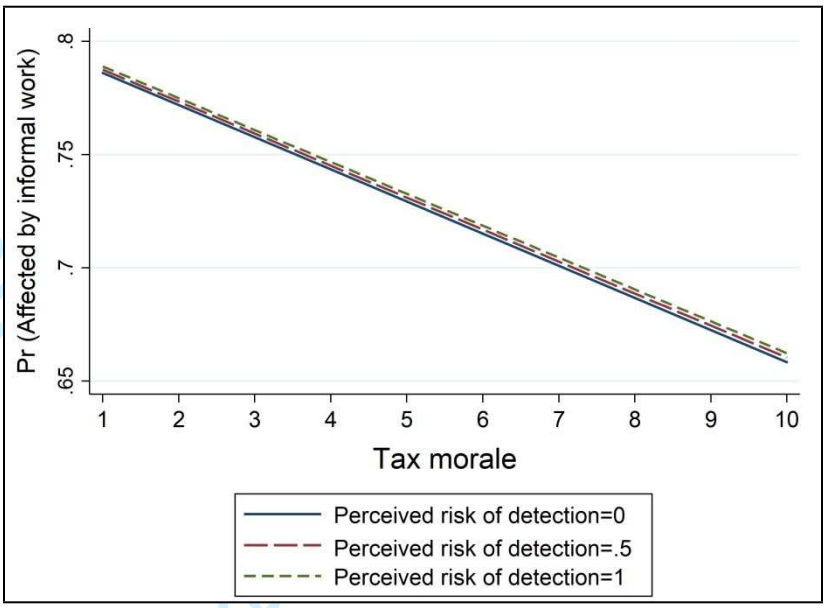



**Figure 1.** Predicted probability of a 'representative' small businesses perceiving their business to be affected by informal competitors: by tax morale and perceived risk of detection

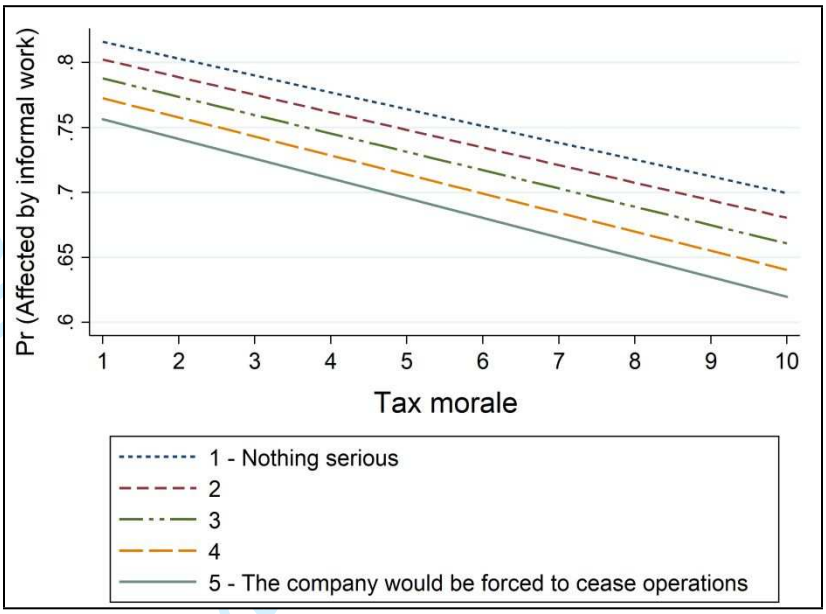


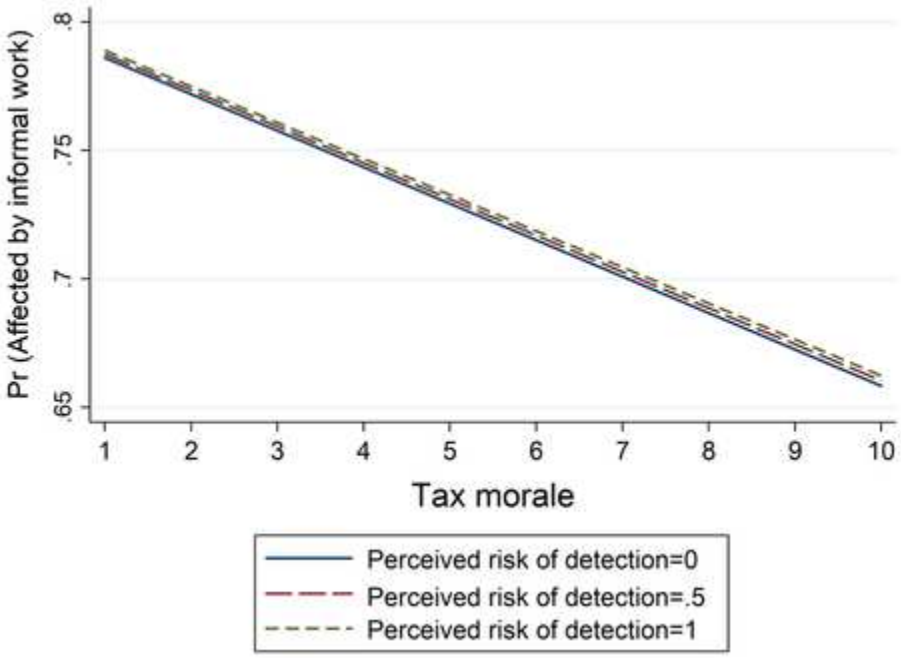

**Figure 2.** Predicted probability of a 'representative' small businesses perceiving their business to be affected by informal competitors: by tax morale and sanction severity

## Appendix

**Table A1.** Logit regression of the likelihood of small businesses perceiving their business to be affected by informal competitors, imputed data

| | Model 1 | | | Model 2 | | |
|---|---|---|---|---|---|---|
| Variables | β | se(β) | Exp(β) | β | se(β) | Exp(β) |
| Tax morale | -0.083 *** | 0.025 | 0.920 | -0.082 *** | 0.026 | 0.922 |
| Perceived risk of detection | -0.011 | 0.195 | 0.989 | 0.001 | 0.198 | 1.000 |
| Sanction severity | -0.101 | 0.064 | 0.904 | -0.112 * | 0.065 | 0.894 |
| *Respondent characteristics* | | | | | | |
| Owner (Ref: No) | | | | | | |
| Yes | 0.166 | 0.134 | 1.181 | 0.208 | 0.140 | 1.232 |
| Gender (Ref: Male) | | | | | | |
| Female | 0.159 | 0.118 | 1.172 | 0.222 * | 0.122 | 1.248 |
| Business management experience | 0.004 | 0.007 | 1.004 | 0.001 | 0.007 | 1.000 |
| *Business characteristics* | | | | | | |
| Business size (Ref: sole proprietor) | | | | | | |
| Less than 10 employees | | | | -0.343 | 0.285 | 0.709 |
| 10-49 employees | | | | -0.325 | 0.342 | 0.722 |
| Sector (Ref: Hotels and restaurants) | | | | | | |
| Agriculture | | | | 0.162 | 0.396 | 1.176 |
| Construction | | | | 0.676 ** | 0.305 | 1.966 |
| Retail/Trade/Transport and Communication | | | | 0.573 ** | 0.247 | 1.773 |
| Public services | | | | -0.211 | 0.332 | 0.810 |
| Industry | | | | 0.578 * | 0.316 | 1.782 |
| IT/Services | | | | 0.129 | 0.277 | 1.138 |
| Other | | | | 0.177 | 0.275 | 1.193 |
| Trading experience (Ref: under 1 year) | | | | | | |
| 1-5 years | | | | 0.090 | 0.370 | 1.094 |
| More than 5 years | | | | 0.171 | 0.367 | 1.187 |
| VAT payer (Ref: No) | | | | | | |
| Yes | | | | 0.054 | 0.153 | 1.056 |
| Country (Ref: Croatia) | | | | | | |
| Bulgaria | -1.013 *** | 0.150 | 0.363 | -1.054 *** | 0.159 | 0.348 |
| FYR Macedonia | -0.476 *** | 0.141 | 0.621 | -0.513 *** | 0.155 | 0.599 |
| Constant | 1.372 *** | 0.313 | 3.942 | 1.173 ** | 0.584 | 3.232 |
| Observations | | | 1,384 | | | 1,384 |
| Imputations | | | 50 | | | 50 |
| F | | | 6.37 | | | 3.59 |
| p> | | | 0.0000 | | | 0.0000 |

*Notes:* Significant at *** p<0.01, ** p<0.05, * p<0.1; All coefficients are compared to the benchmark category, shown in brackets.

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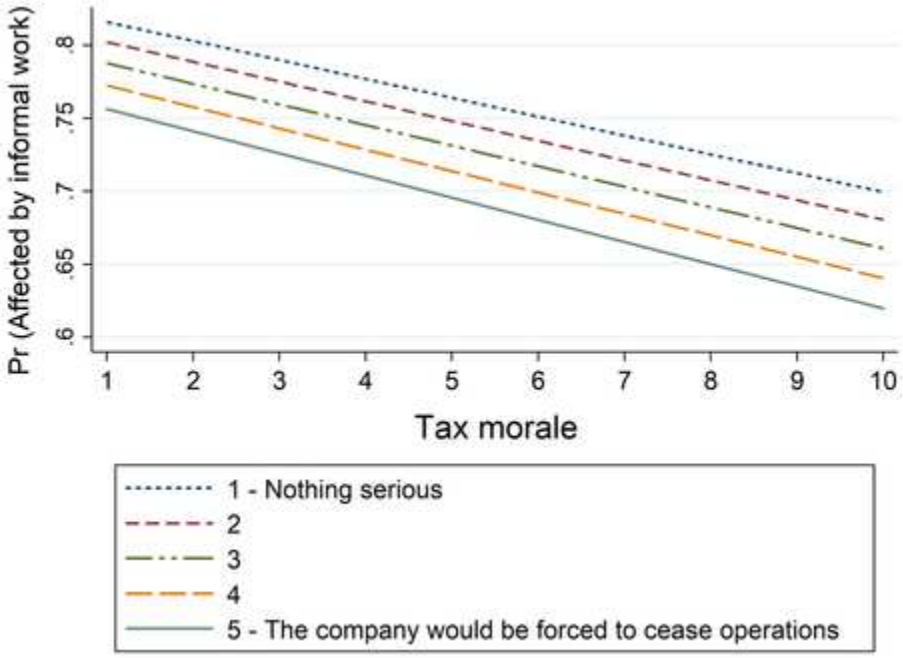


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