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Beyond a deterrence approach towards the undeclared economy: some lessons from Bulgaria

Abstract

Until now, the undeclared economy has been tackled in Balkan countries by increasing the penalties and risk of detection so as to deter participation. Recently however, calls have been made for a new more indirect approach that improves tax morale in order to foster a culture of commitment to compliance. The aim of this paper is to evaluate these contrasting policy approaches. Reporting evidence from 1,018 face-to-face interviews conducted in Bulgaria during 2013, logistic regression analysis reveals no association between participation in undeclared work and the perceived level of penalties and risk of detection, but a strong association between participation in undeclared work and the level of tax morale. The paper concludes by discussing the theoretical and policy implications of the findings.

Keywords: informal sector; tax morale, institutional theory; tax evasion; Bulgaria; Balkans

Introduction

The aim of this paper is to evaluate various policy approaches that can be used to tackle undeclared work. Although there is a growing understanding of the extent and character of undeclared work in the Balkans^{1 2 3 4 5 6 7 8 9 10 11}, little attention has been so far paid to evaluating the various policy approaches available for tackling this phenomenon. However, unless effective strategies are developed to tackle the undeclared economy, not only will governments continue to lose considerable public revenue but the unfair competition faced by legitimate businesses and poorer quality working conditions faced by workers will remain.¹²¹³ Tackling the undeclared economy which represents around a quarter of Gross Domestic Product (GDP) in the Balkans is therefore an important task.¹⁴

To evaluate the various policy approaches available for tackling the undeclared economy, section 2 provides a conceptual framework of policy approaches and shows how until now in the Balkans, the focus has been upon increasing the penalties and risk of detection confronting those participating or thinking about participating in undeclared work. Despite recent calls in the scholarly literature for an indirect controls approach which engenders a commitment to compliance, Balkan governments have been slow to consider this approach. This however is perhaps unsurprising since there have been few evaluations of these contrasting approaches. To begin to fill this gap therefore, section 3 introduces the data and methodology used here to do so, namely a logistic regression analysis of 1,018 face-to-face interviews conducted in 2013 in Bulgaria. Section 4 then reports the results. Finding that there is no association between participation in undeclared work and the perceived level of penalties and risk of detection, but a strong association between participation in undeclared work and a commitment to compliance, section 5 discusses the policy implications and draws conclusions.

Before commencing nevertheless, undeclared work must be defined. In this paper, and reflecting the consensus in the literature, undeclared work is defined as paid work which is legal in all respects other than it is not declared to the authorities for tax, social security or labour law purposes.^{15 16 17 18 19 20} If it is not legal in all other respects, it is not part of the undeclared economy. For example, if the goods and/or services exchanged are illegal (e.g., illegal drugs), then this is not part of the undeclared economy but part of the wider criminal economy.

Tackling the undeclared economy: a literature review

Undeclared work is an extensive and persistent feature of Balkan economies.^{21 22 23} It is also a sphere that has significant implications for Balkan governments and societies. As Table 1 reveals, and based on 2009 figures, the average size of the undeclared economy in the four Balkan countries examined was 30.4 per cent of GDP and on average, 22.7 per cent of the total tax revenue was lost. This equates to 130.5 per cent of current health care spending in these countries. Put another way, spending on health care in these Balkan countries could have more than doubled if those participating in undeclared work had paid their taxes.

Table 1 Tax revenue lost due to undeclared work, four Balkan countries

Country	GDP 2009	Size of undeclared economy 2009	Tax burden 2009	Tax revenue lost as a result of undeclared economy	Gov't spending as % of GDP	Tax lost as a % of gov't spending	Health care spending as % of GDP	Tax lost as % of healthcare spending
	Euro'm	%	%	Euro'm	%	%	%	%
Bulgaria	36,000	35.3	28.9	3,673	37.3	27.4	7.4	137.9
Greece	230,000	27.5	30.3	19,165	46.8	17.8	7.4	112.6
Romania	122,000	32.6	27.0	10,738	37.6	23.4	5.4	163.0
Slovenia	36,000	26.2	37.6	3,546	44.3	22.2	9.1	108.3
Total or unweighted average	424,000	30.4	31.0	37,122		22.7		130.5

Source: derived from R. Murphy, Closing the European Tax Gap: a report for Group of the Progressive Alliance of Socialists and Democrats in the European Parliament, Tax Research LLP, Downham Market, 2012, Table 1.

Indeed, Bulgaria, the focus of this paper, has one of the largest undeclared economies in the Balkans. Most studies find the Bulgarian undeclared economy to be on average the equivalent of around one-third of total GDP.^{24 25 26 27} Moreover, on average, some one-fifth of employment in Bulgaria is found to be in the undeclared economy.^{28 29 30 31 32 33} As a result, recent years has seen the fight against the undeclared economy become a prominent political issue in this country.

To understand the policy approach adopted in Bulgaria in particular and the Balkans more generally, Table 2 provides a heuristic conceptual framework of the available policy approaches. As can be seen, the undeclared economy can be tackled using either direct or indirect controls. When direct controls are used, the intention is to ensure that benefits of participating in the declared economy outweigh the costs of engaging in the undeclared economy. This can be accomplished using either deterrence measures ('sticks') to increase the costs of non-compliance and/or by using incentives ('carrots') to increase the benefits of participating in declared work. When indirect controls are used, in contrast, the intention is to nurture the social contract between the state and its citizens so as to encourage a commitment to compliance among citizens and thus greater self-regulation. Here, each approach is briefly reviewed.

Table 2 A framework of policy approaches for tackling the undeclared economy

Approach	Method	Measures
Direct controls: deterrents ("sticks")	Improve detection	Data matching and sharing Joined up strategy Joint operations
	Increase penalties	Increased penalties for evasion
Direct controls: Incentives ("carrots")	Prevent	Simplification of compliance Direct and indirect tax incentives Supply chain responsibility Support and advice
	Cure	Supply-side incentives (e.g. society-wide amnesties; voluntary disclosure; smoothing transition to legitimization) Demand-side incentives (e.g. service vouchers; targeted direct taxes; targeted indirect taxes)
Indirect controls: reduce asymmetry between formal and informal institutions	Change informal institutions (values, norms and beliefs)	Tax education Normative appeals Education and awareness raising of benefits of declared work
	Change formal institutions (laws, regulations and codes)	Procedural fairness Procedural justice Redistributive justice

Direct Controls

Conventionally, direct controls have been used to tackle the undeclared economy. In the early 1970s, Allingham and Sandmo argued that undeclared workers are rational economic actors who will evade tax when the perceived benefits outweigh the expected cost of detection and punishment.³⁴ To deter participation therefore, the argument has been that attention needs to focus upon changing the cost/benefit ratio facing those participating or considering participation in undeclared work.^{35 36 37} As the OECD summarize, 'Combating informal employment requires a comprehensive approach to reduce the costs and increase the benefits to business and workers of operating formally'.³⁸ For most government both in the Balkans and beyond, this has been pursued by increasing the actual and perceived risks and costs of participating in undeclared work. This has been done by firstly, raising the perceived or actual likelihood of detection and/or secondly, increasing the penalties for engaging in such work. The approach therefore is to use 'sticks' to detect and punish non-compliant ('bad') behavior.³⁹

Indeed, this is the dominant approach used in Bulgaria. Firstly, penalties and sanctions have been increased and/or secondly, the likelihood of detection improved such as by increasing workplace inspections and by improving data sharing and matching to identify individuals engaged in undeclared employment.⁴⁰ In the period 2005 to 2009 for example, a review of the measures used to combat undeclared work in Bulgaria reveals that of the 222 measures employed, the majority were focused on deterrence, using stricter requirements, tougher sanctions and improved detection.⁴¹ Indeed, amendments to the Labour Code enacted

in 2006 and 2008 merely extended the powers of control and introduced harsher penalties and fines.^{42 43}

The gradual recognition across governments in both the Balkans and beyond however, has been that their goal is not so much to eliminate undeclared work but rather, to transform it into declared work. A consequence is that greater thought has begun to be put on using incentives ('bribes') to increase the benefits of declared work.⁴⁴ Until now however, such measures are the exception rather than the norm. The norm continues to be the use of sanctions and detection to deter engagement. An example of using such incentives however, is a food voucher system whereby Bulgarian employers can provide employees with food vouchers up to BGN 60 (€30) per month and this is exempt from the employees' taxable income and treated as a social expense. In 2013, the scheme was used by 4,000-5,000 employers and covered 350,000 employees, or around 15-16 per cent of all employed.⁴⁵ A 2010 evaluation finds that employers use food vouchers to substitute for undeclared wage payments, thus leading to a reduction in the under-reporting of salaries.⁴⁶ On the whole however, providing such incentives to foster declared work have been rare. A prominent reason is that 'bribing' employers and employees to operate on a declared basis is an expensive option.

Indirect Controls

In recent years, a potentially more cost effective way of tackling the undeclared economy has been proposed by an emergent literature. This literature, grounded in institutional theory, views institutions as setting the rules of the game by prescribing the norms regarding the acceptability of activities.^{47 48 49 50} As such, it recognises that all societies have codified laws and regulations (i.e., formal institutions) that set the legal rules of the game (prescribing 'state morality') and also informal institutions which are norms, values and beliefs of the citizens; the 'socially shared rules, usually unwritten, that are created, communicated and enforced outside of officially sanctioned channels'.⁵¹ The argument is that when symmetry exists between the formal and informal institutions, the undeclared economy will be largely absent since citizens will seek to adhere to the legal rules of the game. However, if there is asymmetry between a society's formal institutions and its informal institutions, such as due to a lack of trust in government or a belief that government serves the interests of the ruling class rather than citizens in general, the undeclared economy will be larger.^{52 53}

Indeed, this institutional asymmetry is widely recognised in Bulgaria. Surveys have repeatedly pointed to a lack of trust in government due to for example public sector corruption and an inefficient judiciary as key reasons for the existence of undeclared work.⁵⁴ ⁵⁵ Indeed, the World Economic Forum's Global Competitiveness Report ranks Bulgaria 112 out of 148 countries in terms of the quality of its institutions in 2014, with particularly low scores given to public trust in politicians (1.9 out of 7), favouritism in decisions of government officials (2.1 out of 7) and judicial independence (2.3).⁵⁶ The widely shown consequence is that undeclared work, although illegal from the viewpoint of formal institutions, enjoys high levels of social legitimacy in Bulgaria.^{57 58}

Based on this, an alternative policy approach is to nurture the social contract between the state and its citizens in order to promote greater institutional symmetry and thus commitment to compliance.^{59 60 61 62} This is achieved either by changing the informal institutions and/or the formal institutions. To change informal institutions (i.e., the norms, values and beliefs of citizens regarding compliance) so that these are in symmetry with the formal institutions, governments either seek to improve tax knowledge, use awareness raising campaigns about the costs of undeclared work and benefits of declared work, or use normative appeals. An example in Bulgaria is the 'Coming into the Light' awareness raising

campaign of the Bulgarian Industrial Capital Association.⁶³ However, in societies in which there is a lack of trust in government, such as due to public sector corruption, it is also the case that formal institutions need to change. In Bulgaria for example, the widespread perception is that the laws and regulations of formal institutions are made for the benefit of the ruling classes who are viewed as legitimately evading tax through legal tax avoidance schemes and also allegedly extracting money from the taxes paid for their own personal gain. The result is that many citizens are unwilling to pay their taxes due to the perceived unfairness of the system and their belief that any taxes paid will not benefit them in terms of schools, hospitals and so forth but instead will find its way into the pockets of the ruling classes.⁶⁴ The result is that improvement in informal institutions will not occur without improvements in the formal institutions in terms of actual and/or perceived tax fairness, procedural justice and redistributive justice.^{65 66 67}

Evaluating direct versus indirect controls

Beyond the Balkans, an expansive body of literature reveals that increasing penalties or the probability of detection may not lead to greater compliance.^{68 69 70 71} Instead, it raises non-compliance, not least due to a breakdown of trust between the state and its citizens.^{72 73 74}

Similarly, beyond the Balkans, an emergent literature has begun to evaluate the effectiveness of pursuing changes in informal and formal institutions. For example, studies have analysed the effectiveness of awareness-raising campaigns to change attitudes towards compliance. As a UK study reveals, advertising campaigns run by the UK tax office have provided a return of 19:1 on the expenditure of £2 million, compared with an overall return of 4.5: 1 on the £41 million a year spent on all its detection and compliance work in 2006-07.⁷⁵ In the US similarly, Chung and Trivedi compare the impact of normative appeals on a friendly persuasion group required to both generate and read a list of reasons why they should comply, with a control group not asked to do so. The friendly persuasion group report higher earnings than the control group.⁷⁶

Examining formal institutions meanwhile, studies beyond the Balkans reveal that improving procedural justice, which refers to whether citizens perceive the government to treat them in a respectful, impartial and responsible manner, significantly improves compliance.^{77 78} Similarly, so too does developing procedural fairness, which refers to the extent to which citizens believe that they are paying their fair share compared with others^{79 80} and improving redistributive justice, which refers to whether citizens believe they receive the goods and services they deserve given the taxes that they pay.^{83 84}

Here, therefore, we evaluate these policy approaches in the Balkans. Does increasing the penalties and risks of detection reduce participation in undeclared work in the Balkans? And does engendering commitment to compliant behavior on the part of a citizen (i.e., greater institutional symmetry) reduce engagement in undeclared work in the Balkans? To do this, two hypotheses are evaluated:

Deterrence hypothesis (H1): the greater the perceived penalties and risk of detection, the lower is the likelihood of participation in undeclared work.

Institutional symmetry hypothesis (H2): the greater the symmetry between formal and informal institutions, the lower is the likelihood of participation in undeclared work.

Data and Variables

Data

To evaluate these two hypotheses, we here report data from 1,018 face-to-face interviews conducted in Bulgaria during 2013 as part of the Special Eurobarometer No. 402 survey ('Undeclared work in the European Union'). This survey is the first and so far only comprehensive source of data that examines not only who participates in undeclared work in Bulgaria but also citizens' views on the penalties and risk of detection, and acceptability of participating in undeclared work (and thus the level of institutional symmetry).

To collect this data, a multi-stage random (probability) sampling methodology was used to ensure that on the issues of gender, age, region and locality size, the Bulgarian national level sample as well as each level of the sample, was representative in proportion to its population size. In every household the 'closest birthday' rule was applied to select respondents, while every subsequent address was determined by the standard 'random route' procedure. In the face-to-face interviews, participants were firstly asked questions regarding their views on the acceptability of various types of undeclared work and their views on the level of penalties and risks of detection, followed by questions on whether they had purchased from the undeclared economy and finally, whether they had participated in the undeclared economy in the prior 12 months.

Variables

To evaluate whether increasing the penalties and risks of detection, and greater symmetry between formal and informal institutions, reduces the likelihood of participation in undeclared work in Bulgaria, two dependent variables are used. The first examines who engages in undeclared work and is a dummy variable with recorded value 1 for persons who answered 'yes' to the question: 'Have you yourself carried out undeclared work in the last 12 months?'. The second examines who purchases goods and services in the undeclared economy and is again a dummy variable with recorded value 1 for persons who answered 'yes' to the question: 'Have you in the last 12 months acquired any goods or services on an undeclared basis?'.

To evaluate the association between participation in undeclared work and the policy measures, three explanatory variables are used. Firstly, to evaluate whether the perceived risk of detection influences participation, a categorical variable was used which rates whether respondents perceive the risk of being detected when engaging in undeclared work as very small, fairly small, fairly high or very high. Secondly, to evaluate how penalties are associated with participation, a categorical variable was used whereby participants stated whether they thought the expected sanctions if caught doing undeclared work were: normal tax or social security contributions are due; normal tax or social security contributions are due, plus a fine; or prison.

Third and finally, to evaluate the association between participation in undeclared work and the level of institutional symmetry, an interval variable was used whereby participants rated the acceptability of three types of undeclared work using a 10-point Likert scale (1 equals absolutely unacceptable and 10 equals absolutely acceptable). These were: 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 hires an individual and all or a part of the wages paid to

him/her are not officially declared; and someone evades taxes by not declaring or only partially declaring their income.

Given the substantial pairwise correlations across these three indicators (accounting for 0.65, 0.66 and 0.69) and the substantial Cronbach's alpha of 0.86, exploratory factor analysis was applied to reduce the dimensionality. The analysis indicates there is a single factor underlying attitudes towards the three types of noncompliance, which can thus be labelled as 'tax morale'. Overall, each of the three individual indicators contributes significantly to the extracted index, with communalities accounting for 0.60, 0.63 and 0.64. To reflect the scale of the baseline variables, the obtained tax morale index has been transformed to follow the original 10-point Likert scale. Therefore, lower values represent higher tax morale (and thus high institutional symmetry and greater commitment to being compliant), and vice versa.

Drawing upon past studies evaluating participation in undeclared work from either the supply- and/or demand-side^{85 86 87 88 89}, the control variables selected are:

- Gender – dummy variable for gender: 0-men, 1-women.
- Age – an interval variable indicating the exact age of a respondent.
- Occupation – a categorical variable denoting current job status of a respondent: 1-unemployed; 2 - self-employed; 3 - dependent employee; 4 - inactive (house persons, students, etc.) and 5 - retired.
- Financial situation – a categorical variable measuring how often a respondent has problems in paying their bills: 1-most of the time, 2-from time to time, 3-almost never/never.
- Community size – a dummy variable describing the size of the area where a respondent lives: 0-rural area or village, 1- urban area.
- Bulgarian region – a categorical variable indicating a region of residence: 1-Northwest; 2-North Central; 3-Northeast; 4-Southeast; 5-Southwest; 6-South Central.

Given that there were a considerable number of missing values and inconclusive answers (i.e., refusal and 'don't know') across the dependent and independent variables, multiple imputation was used to predict the values.^{90 91 92} This is done using a system of chained equations for each variable with missing values, with fifty imputations simulated for each missing value. Furthermore, population weights are applied based on age and gender to correct for under and over-representation in the sample.

Findings

To evaluate the hypotheses regarding whether participation in undeclared work is significantly associated with firstly, the level of sanctions and risk of detection and secondly, tax morale (i.e., institutional symmetry), Table 3 reports the results of two logistic regression analyses of both engagement in undeclared work and the purchase of goods and services in the undeclared economy.

Starting with whether participation in undeclared work is associated with the perceived level of penalties and risk of detection, the finding is that there is no association between the perceived risk of detection and participation in undeclared work, when other variables are introduced and held constant. In other words, hypothesis 1 is not confirmed. It is not the case that when respondents view there to be a high risk of detection, this is associated with lower levels of engagement in undeclared work. It is similarly the case that there is no association between participation in undeclared work and the perceived level of sanctions. As such, when respondents perceive the level of sanctions to be high (e.g., prison), this is not associated with lower levels of participation in undeclared work. On the demand-side

meanwhile, there is also no significant association between the expected sanctions and the propensity to purchase undeclared goods and services, when other variables are introduced and held constant. However, there is an association between the perceived risk of detection and propensity to purchase undeclared goods and services when the perceived risk is fairly or very high. Overall therefore, the tentative intimation is that increasing the sanctions and risk of detection will have little impact on participation in undeclared work in Bulgaria and the only time it has an impact is amongst purchasers when the perceived risk of detection is fairly or very high.

Table 3 Determinants of undeclared activities in Bulgaria, logistic regression

Variables	Supply of undeclared work	Purchase of undeclared goods and services
Detection risk (RC: Very small)		
- Fairly small	0.625 (0.440)	0.149 (0.260)
- Fairly high	-1.070 (0.741)	-1.014** (0.328)
- Very high	-0.166 (0.952)	-2.130* (0.954)
Expected sanctions (RC: Tax or social security contributions due)		
- Tax or social security contributions + fine	-0.176 (0.530)	0.120 (0.321)
- Prison	-0.435 (1.190)	0.186 (0.688)
Tax morale	0.441*** (0.085)	0.323*** (0.059)
Female	-0.692* (0.334)	-0.196 (0.199)
Age	0.009 (0.016)	-0.009 (0.010)
Occupation (RC: Unemployed)		
- Self-employed	-0.344 (0.692)	1.685*** (0.461)
- Employed	-0.963* (0.432)	0.819* (0.324)
- Inactive (house persons, students, etc.)	-0.866 (0.688)	0.163 (0.506)
- Retired	-2.875*** (0.876)	0.150 (0.454)
Financial problems (RC: Most of the time)		
- From time to time	0.592 (0.449)	0.396 (0.272)
- Almost never/never	0.551 (0.574)	0.071 (0.324)
Urban area	-0.155 (0.386)	-0.384 (0.228)
Region (RC: Northwest)		
- North Central	-0.445 (0.576)	-0.175 (0.379)
- Northeast	-1.677* (0.777)	-0.820* (0.397)
- Southeast	-0.633 (0.611)	-1.064** (0.409)
- Southwest	-0.607 (0.513)	-1.082** (0.358)
- South Central	-1.030 (0.557)	-0.067 (0.339)
Cons	-2.957** (1.128)	-1.441 (0.797)
Number of observations	1,018	1,018
Number of imputations	50	50
Prob > F	0.000	0.000

Significance: *p<0.05, **p<0.01, ***p<0.001, (standard errors in parentheses)

Notes: 1) Estimates based on multiple imputation technique with 50 imputations

2) Tax morale is given on an inverse 10-point Likert scale, with lower values representing higher tax morale and vice versa. Therefore, positive coefficients in the table show that a decrease in tax morale results in a higher probability of participation in the undeclared economy

Source: Authors' calculation based on the Special Eurobarometer 402/Wave EB79.2

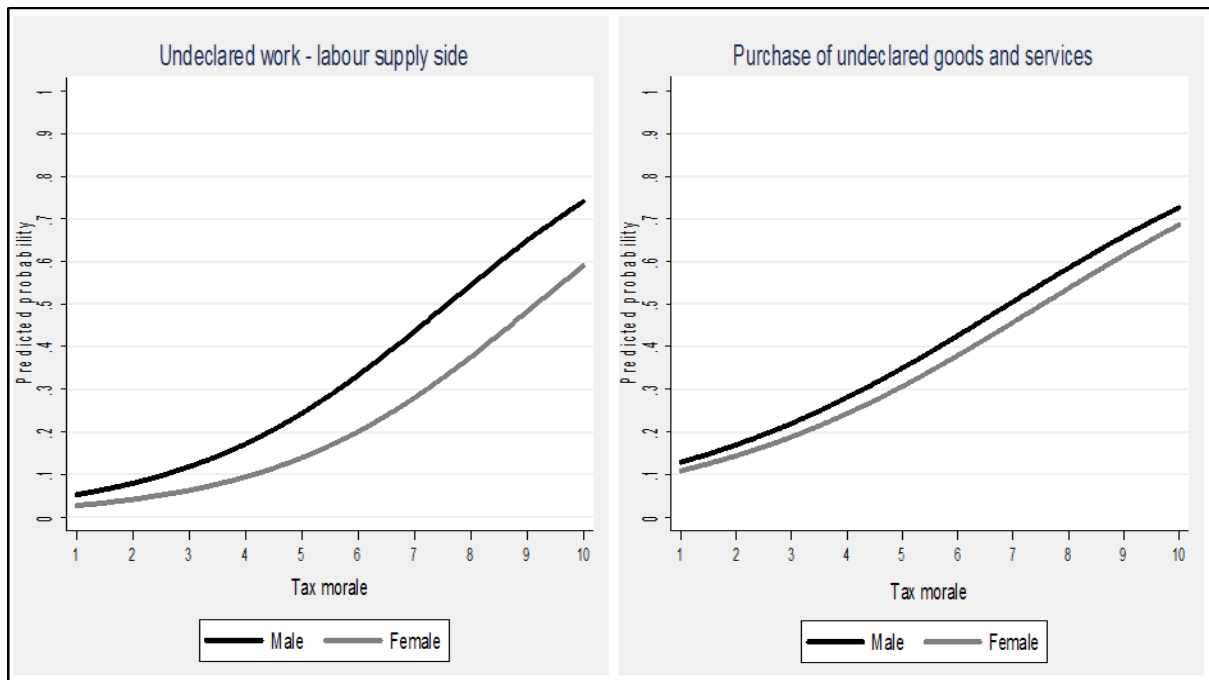
Is it the case therefore, as hypothesis 2 states, that there is an association between participation in undeclared work and higher tax morale (and institutional symmetry)? The finding is that tax morale is strongly associated with the propensity to participate in undeclared work not only on the supply-side but also the demand-side. The greater is the institutional symmetry (and thus tax morale and commitment to compliance), the lower is the propensity to participate in undeclared work. Moreover, this is a very strong association on both the supply- and demand-side at the 0.001 level. Individuals with a higher tax morale are significantly less likely to work on an undeclared basis and also significantly less likely to purchase goods and services in the undeclared economy.

These logistic regression analyses therefore display little or no association between the likelihood of participating in undeclared work either on the supply- or demand-side and the level of punishments and risk of detection, but a strong association with the level of institutional symmetry (i.e., level of tax morale). The intimation is that policy interventions that increase the level of punishments and risk of detection are likely to have little influence on participation in undeclared work but policy interventions that improve tax morale (and thus the level of institutional symmetry) may well reduce engagement in the undeclared economy.

Table 3 also provides evidence on the groups most likely to participate in undeclared work and thus the groups that could be targeted. This reveals that so far as the supply-side is concerned, men are more likely to participate in undeclared work more than women, and that the unemployed are more likely to participate than the retired and employed. These signal the groups that might be targeted by indirect controls seeking to reduce participation in undeclared work by improving tax morale. On the demand-side meanwhile, the self-employed and employed are significantly more likely to purchase undeclared goods and services than the unemployed, and there are significant variations between regions, as people from Northeast, Southeast and Southwest are less likely to buy such products than their counterparts in other regions.

Given significant association between tax morale and participation in undeclared work, Figure 1 explores the predicted probabilities of a ‘representative’ Bulgarian citizen participating in undeclared work according to their level of tax morale. Here, a ‘representative’ Bulgarian citizen is derived by taking the mean and modal values of the other independent variables. As such, the representative citizen is a 49 year-old individual living in an urban area of Southwest, who has a regular job, occasionally faces financial problems, identifies the detection risk as fairly small and assumes that the penalty if caught will be a financial fine in addition to tax or social security contributions due. To evaluate gender differences, the results for the representative man and woman are presented separately.

Figure 1 Predicted probability of participation in undeclared economy of a ‘representative’ Bulgarian citizen: by tax morale and gender



Notes: 1) Tax morale is measured on the scale from 1 to 10, with value 1 indicating completely unacceptable and 10 absolutely acceptable. Therefore, higher levels mean lower tax morale.

Source: Authors' calculation based on the Special Eurobarometer 402/Wave EB79.2

As Figure 1 reveals, the finding is that the propensity of the representative Bulgarian citizen to supply undeclared work ranges from slightly above 0 per cent for those with the strongest tax morale to 75 per cent for those with the lowest tax morale. While the differences between men and women are not so pronounced for those with high tax morale, these differences become more pronounced as tax morale worsens. For instance, whilst 75 per cent of men with the lowest level of tax morale and other characteristics as defined above are expected to work undeclared, for women this decreases to some 60 per cent. The important point nevertheless, and leaving aside the gender differences, is that the predicted odds of the representative Bulgarian citizen participating in undeclared work significantly rises as tax morale worsens. Similarly, the predicted probability of a representative Bulgarian citizen purchasing goods and services in the undeclared economy ranges from around 10 per cent for those with the highest tax morale to 70 per cent for those with the lowest tax morale. There is however a relatively more constant and insignificant difference between men and women at all levels of tax morale.

Discussion and Conclusions

This study has evaluated whether there is an association between participation in undeclared work and the level of perceived penalties and risk of detection, and also the level of tax morale (and thus institutional symmetry) in Bulgaria. The finding has been that there is no association between participation in undeclared work and the perceived level of penalties and only a weak significance with the risk of detection (which holds only for the demand-side). However, there is a strong association between participation in undeclared work and the level of tax morale. The intimation is that policy interventions increasing the level of punishments

and risk of detection will have little influence on participation but policy interventions which seek to improve tax morale may well reduce participation. Here in consequence, the theoretical and policy implications of these findings are discussed.

Theoretically, these findings support the emergent explanation for undeclared work grounded in institutional theory which suggests that undeclared work can be explained as resulting from a violation of the social contract that exists between the state and its citizens.⁹³

⁹⁴ Undeclared work in other words, arises when the norms, values and beliefs of citizens (civic morality) do not align with the codified laws and regulations of a society's formal institutions (state morality). The wider is the gap between state morality and civic morality (and thus the lower is the level of tax morale), the greater is the likelihood of participation in undeclared work. As such, this analysis provides a quantitative reinforcement for a burgeoning view that participation in undeclared work in Bulgaria is in large part due to the lack of alignment of civic morality with state morality.^{95 96} Whether similar findings are identified in other Balkan countries now needs to be investigated, perhaps using the same Eurobarometer data-set.

Turning to the policy implications, the finding that increasing the penalties and the risk of detection is not associated with lower levels of participation in undeclared work, but that improving tax morale is strongly associated with lower levels of participation, suggests the need for a change in policy approach. The current focus upon increasing penalties and the risk of detection needs to be replaced. What is perhaps required is a focus upon improving the tax morale of the population.

Firstly, this requires changes in the informal institutions in Bulgaria to align them with the formal institutions. This can be achieved through tax education in order that citizens' understand what taxation is for and what government services they receive as a result of taxes paid. One solution may be to provide tax-payers with a letter setting out where their taxes are spent and what services they receive in return. More directly, signs could be put up on ambulances and in schools, hospitals and surgeries informing people that their taxes paid for these services. Table 3 reveals moreover, the groups that might be targeted by such tax education, namely men and the unemployed, since these are the groups displaying a greater propensity to engage in undeclared work.

Secondly, and perhaps more importantly, it is also necessary to change formal institutions. Indeed, informal institutions are unlikely to change unless there are changes in the formal institutions. In Balkan nations such as Bulgaria, where there is widespread lack of trust in government and public sector corruption^{97 98}, informal institutions are unlikely to change unless there are marked alterations in formal institutions. So far as improving tax morale is concerned so as to tackle undeclared work, at a very minimum, this necessitates a change in the culture of tax offices and tax inspectors. Until now, the approach of increasing penalties and the risk of detection reflects the existence of a broader 'cops and robbers' approach whereby citizens are viewed as criminals to be caught. It is an approach grounded in a low-trust, adversarial and low-commitment view of citizens.

To promote greater tax morale and institutional symmetry, what is required is a more 'customer service-orientated' approach founded upon a high trust-high commitment view of citizens. To bring this approach to fruition, at least three changes are necessary in formal institutions so that citizens have greater trust and commitment in government. Firstly, improvements in procedural justice are required, which means the authorities treating citizens in a respectful, impartial and responsible manner.^{99 100} Secondly, procedural fairness must be improved, which means citizens believing that they pay their fair share compared with others¹⁰¹ and third and finally, redistributive justice requires improvement, which means citizens believing that they receive the goods and services they deserve based on the taxes they pay.¹⁰² To achieve such procedural fairness and redistributive justice, the issue needs to

be addressed that the laws and regulations of formal institutions are perceived to be made for the benefit of the ruling classes, exemplified by them legitimately evading tax through legal tax avoidance schemes. Until such procedural and redistributive justice and fairness is addressed, tax morale will remain low and citizens will continue to be unwilling to pay their taxes.

This paper, therefore, intimates the need for a new policy approach towards undeclared work in Bulgaria. It reveals no association between participation in undeclared work and the perceived level of penalties and risk of detection, but a strong association between engagement in undeclared work and the level of tax morale, suggesting that efforts are required to engender a culture of commitment to compliance. This arguably requires a fundamental restructuring of the formal institutions in Bulgarian society and especially the issue that the ruling classes are the foremost tax evaders who use tax avoidance schemes that are legal but are not deemed legitimate in the eyes of citizens.

Nevertheless, this paper has limitations. The major limitation is that although the quantitative analysis displays the importance of tax morale, it has not been able to show that the reasons for the low tax morale of the Bulgarian population lie in the injustices and unfairness of the formal institutions. Future research is therefore required to identify whether citizens identify this as the fundamental reason for their lack of tax morale. This will then enable the tailored policy approaches required to bring about commitment to compliance. Importantly, moreover, previous research suggests that tax evasion in other Balkan countries may well be similarly due to this institutional asymmetry grounded in the perceived procedural and redistributive unfairness and injustices of the current system, and thus that the explanations and solutions may well be the same.^{103 104 105}

In sum, this paper strongly intimates the strong association between participation in undeclared work and tax morale, and the need to shift towards a policy approach that seeks to improve tax morale by creating greater symmetry between formal and informal institutions. Whether similar findings are revealed in other Balkan countries now requires detailed evaluation. If this paper inspires such evaluations, it will have achieved one of its intentions. However, if it also encourages new policy measures to achieve this, not least related to tackling the injustices and unfairness inherent in formal institutions, rather than persist with detection and punishment, then this article will have achieved its wider intention.

Notes

¹ C. C. Williams, A. Kedir, M. Fethi and S. Nadin, 'Evaluating "varieties of capitalism" by the extent and nature of the informal economy: the case of South-Eastern Europe', *South Eastern Europe Journal of Economics*, 10, 2012, pp. 87-104.

² J. Hudson, C. C. Williams, M. Orviska and S. Nadin, '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*, 7, 2012, pp. 99-110.

³ C. C. Williams, S. Nadin, A. Kedir and T. Vorley, 'Evaluating the extent and nature of the informalisation of employment relations in South-East Europe', *European Journal of Industrial Relations*, 19(2), 2013, pp. 91-107.

-
- ⁴ M. Baric and C. C. Williams, 'Tackling the undeclared economy in Croatia', *South-Eastern Europe Journal of Economics*, 1, 2013, pp. 7-36.
- ⁵ F. Schneider, 'Size and development of the shadow economy of 31 European and 5 other OECD countries from 2003 to 2013: a further decline', 2013. <http://www.econ.jku.at/members/Schneider/files/publications/2013/ShadEcEurope31Jan2013.pdf> (accessed 6 November 2014).
- ⁶ C. C. Williams, J. Franic and R. Dzhekova, 'Explaining the undeclared economy in Bulgaria: an institutional asymmetry perspective', *South-Eastern Europe Journal of Economics and Business*, 9(2), 2014, pp. 33-45.
- ⁷ L. Gasparaeniene, J. Kartasova and R. Remeikiene, 'Evaluation of shadow economy emergence and development factors in service sector: Greek case', *Academic Journal of Interdisciplinary Studies*, 3, 2014, pp. 139-145.
- ⁸ R. Remeikiene, L. Gasparaeniene and J. Kartasova, 'Country-level determinants of the shadow economy during 2005-2013: the case of Greece', *Mediterranean Journal of Social Sciences*, 5, 2012, pp. 454-460.
- ⁹ S. Pathak, A.O. Laplume, and E. Xavier-Oliveira, 'A multi-level empirical study of ethnic diversity and shadow economy as moderators of opportunity recognition and entrepreneurial entry in transition economies', *Journal of Balkan and Near Eastern Studies*, 15(3), 2013, pp. 240-259.
- ¹⁰ S. E. Gialis, 'Trans-border mobility and integration in border regions: Albanian migrants in Epirus and the Ioanian Islands in Greece', *Journal of Balkan and Near Eastern Studies*, 13(3), 2011, pp. 303-322.
- ¹¹ G. Sapelli, 'Alternatives to marginalization: new forms of social action in Mediterranean towns', *Journal of Balkan and Near Eastern Studies*, 12(2), 2010, pp. 177-195.
- ¹² D. Andrews, A. Caldera Sanchez and A. Johansson, *Towards a Better Understanding of the Informal Economy*, OECD Economics Department Working Paper no. 873, OECD, Paris, 2011.
- ¹³ ILO, *Transitioning from the Informal to the Formal Economy*, Report V (1), International Labour Conference, 103rd Session (2014). ILO, Geneva, 2014.
- ¹⁴ F. Schneider and C. C. Williams, *The Shadow Economy*, Institute of Economic Affairs, London, 2013.
- ¹⁵ European Commission, *Stepping up the Fight against Undeclared Work*, European Commission, Brussels, 2007.
- ¹⁶ A. Polese, and P. Rodgers, 'Surviving post-socialism: the role of informal economic practices', *International Journal of Sociology and Social Policy*, 31(11/12), 2011, pp. 612-618.

-
- ¹⁷ OECD, *Reducing Opportunities for Tax Non-Compliance in the Underground Economy*, OECD, Paris, 2012.
- ¹⁸ D. Boels, 'It's better than stealing: informal street selling in Brussels', *International Journal of Sociology and Social Policy*, 34 (9/10), 2014, pp. 670–693.
- ¹⁹ C. C. Williams, 'Out of the shadows: a classification of economies by the size and character of their informal sector', *Work, Employment and Society*, 28(5), 2014, pp. 735–753.
- ²⁰ H. Aliyev, 'Post-Soviet informality: towards theory-building', *International Journal of Sociology and Social Policy*, 35(3-4), 2015, pp. 121-142.
- ²¹ R.W. McGee, M. Basic, and M. Tyler, 'Tax evasion in Bosnia', *Journal of Balkan and Near Eastern Studies*, 11(2), 2009, pp. 197- 207.
- ²² R.W. McGee and S. Benk, 'The ethics of tax evasion', *Journal of Balkan and Near Eastern Studies*, 11(2), 2011, pp. 249-262.
- ²³ C. C. Williams, *Confronting the Shadow Economy: Evaluating Tax Compliance and Behaviour Policies*, Edward Elgar, Cheltenham, 2014a.
- ²⁴ N. Nenovsky and K. Hristov, *A Study of the Money in Transaction after Establishing the Currency Board in Bulgaria*. Bulgarian National Bank Working Paper, Bulgarian National Bank, Sofia, 1999.
- ²⁵ L. Bogdanov, and K. Stanchev, *Сивата Икономика в България: Състояние към Средата-края на 2010 г.* [The Grey Economy in Bulgaria: Situation as of 2010], Institute for Market Economics, Sofia, 2010.
- ²⁶ Ministry of Finance, *The Grey Economy: Approaches for Measuring and Modelling*. Brief Methodological Analyses, Ministry of Finance, Sofia, 2010.
- ²⁷ C. Elgin, and O. Öztunali, *Shadow Economies around the World: Model Based Estimates*, Bogazici University, Istanbul, 2012.
- ²⁸ K. Stanchev, (ed.) *Study of Incentives, Characteristics and Strategies of Firms Operating 'in the Shadows'*, Institute for Market Economics, Sofia, 2005.
- ²⁹ P. Loukanova and T. Bezlov, *Undeclared Work from SYSDem Correspondent*. Bulgaria, European Employment Observatory, 2007, <http://www.eu-employment-observatory.net/resources/reviews/NationalArticles/BulgariaUDW2007.pdf> (accessed 31 October 2014).
- ³⁰ F. Perachi, V. Perotti and S. Scarpetta, *Informality and Social Protection: Preliminary Results from Pilot Surveys in Bulgaria and Colombia*, World Bank Social Protection Discussion Paper No. 0717, World Bank, Washington D.C, 2007.

-
- ³¹ V. Perotti and M. Sanchez Puerta, Personal Opinions about the Social Security System and Informal Employment: Evidence from Bulgaria, World Bank Social Protection Discussion Paper No. 0915, World Bank, Washington DC, 2009.
- ³² Center for the Study of Democracy, The Hidden Economy in Bulgaria and the Global Economic Crisis, CSD, Sofia, 2011.
- ³³ BICA, *Комплексен Аналитичен Доклад за Състоянието на Неформалната Икономика в България и Изводи за Нейното Ограничаване и Превенция* [Complex Analytical Report on the State of the Informal Economy in Bulgaria and Conclusions on its Reduction and Prevention], BICA, Sofia, 2012.
- ³⁴ M. G. Allingham and A. Sandmo, 'Income tax evasion: a theoretical analysis', *Journal of Public Economics*, 1 (2), 1972, pp. 323–338.
- ³⁵ Hasseldine, J. and Z. Li, 'More tax evasion research required in new millennium', *Crime, Law and Social Change*, 31(1), 1999, pp. 91-104.
- ³⁶ M. Richardson, and A. Sawyer, 'A taxonomy of the tax compliance literature: further findings, problems and prospects', *Australian Tax Forum*, 16(2), 2001, pp. 137–320.
- ³⁷ J. Job, A. Stout and R. Smith, 'Culture change in three taxation administrations: from command and control to responsive regulation', *Law and Policy*, 29(1), 2007, pp. 84-101.
- ³⁸ OECD, *OECD Employment Outlook*, OECD, Paris, 2008., p.82.
- ³⁹ Williams, *Confronting the shadow economy*, op cit.
- ⁴⁰ R. Dzhekova, J. Franic, L. Mishkov and C. C. Williams, *Tackling the Undeclared Economy in FYR Macedonia. A Baseline Assessment*, GREY Working Paper No. 3, Sheffield University Management School, Sheffield, 2014.
- ⁴¹ Center for the Study of Democracy, *Policies to Counter the Effects of the Economic Crisis: Hidden Economy Dynamics 2009*. Policy Brief No. 20. CSD, Sofia, 2009b. (CSD 2009b).
- ⁴² Loukanova and Bezlov, op. cit.
- ⁴³ N. Daskalova, *Joint Effective Control on Undeclared Work, Bulgaria*, Eurofound, 2013, <http://www.eurofound.europa.eu/areas/labourmarket/tackling/cases/bg017.htm> (accessed 21 December 2014).
- ⁴⁴ Small Business Council, *Small Business in the Informal Economy: Making the Transition to the Formal Economy*, Small Business Council, London, 2004.
- ⁴⁵ R. Dzhekova, and C. C. Williams, *Tackling the Undeclared Economy in Bulgaria: a Baseline Assessment*, GREY Working Paper No. 1, Sheffield University Management School, Sheffield, 2014.

-
- ⁴⁶ KC2 Ltd. and Industry Watch Group, Food Voucher Issuance in Bulgaria: Economic and Fiscal Impact, KC2, Sofia, 2010.
- ⁴⁷ D. C. North, Institutions, Institutional Change and Economic Performance, Cambridge University Press, Cambridge, 1990.
- ⁴⁸ A. T. Denzau and D. North, 'Shared mental models: ideologies and institutions', *Kyklos*, 47, 1994, pp. 3-30.
- ⁴⁹ W. J. Baumol, and A. Blinder, *Macroeconomics: Principles and Policy*, South-Western Publishing, Cincinnati, OH, 2008.
- ⁵⁰ B. D. Mathias, S. Lux, T. R. Crook, C. Autry and R. Zaretzki, 'Competing against the unknown: the impact of enabling and constraining institutions on the informal economy', *Journal of Business Ethics*, 127, 2014, pp. 251-264.
- ⁵¹ G. Helmke, and S. Levitsky, 'Informal institutions and comparative politics: a research agenda', *Perspectives on Politics*, 2, 2004, p. 727.
- ⁵² J. W. Webb, L. Tihanyi, R. D. Ireland and D. G. Sirmon, 'You say illegal, I say legitimate: entrepreneurship in the informal economy', *Academy of Management Review*, 34, 2009, pp. 492-510.
- ⁵³ C. C. Williams, and M. Shahid, 'Informal entrepreneurship and institutional theory: explaining the varying degrees of (in)formalisation of entrepreneurs in Pakistan', *Entrepreneurship and Regional Development*, 2015, <http://dx.doi.org/10.1080/08985626.2014.963889> (accessed 28 June 2015).
- ⁵⁴ V. Goev, 'Estimating the Hidden Economy in Bulgaria', *South-East Europe Review for Labour and Social Affairs*, 12(1), 2009, pp. 77-93.
- ⁵⁵ European Commission, Report from the Commission to the European Parliament and the Council. On Progress in Bulgaria under the Cooperation and Verification Mechanism. COM(2012) 411 final, European Commission, Brussels, 2012.
- ⁵⁶ World Economic Forum, *Global Competitiveness Report*, 2014. Available at: <http://www.weforum.org/reports/global-competitiveness-report-2013-2014> (accessed 28 June 2015).
- ⁵⁷ BICA, *Доклад за Основните Предизвикателства за Диагностика, Ограничаване и Превенция на Неформалната Икономика* [Report on the Key Challenges to the Diagnosis, Restriction and Prevention of the Informal Economy], BICA, Sofia, 2011a.
- ⁵⁸ Center for the Study of Democracy, *The Hidden Economy in Bulgaria*, Policy Brief No. 37, CSD, Sofia, 2013.
- ⁵⁹ E. Kirchler, *The Economic Psychology of Tax Behaviour*, Cambridge University Press, Cambridge, 2007.

-
- ⁶⁰ B. Torgler, 'Tax morale in Central and Eastern European countries', in N. Hayoz and S. Hug (ed.), *Tax Evasion, Trust and State Capacities: How Good is Tax Morale in Central and Eastern Europe?*, Peter Lang, Bern, 2007, pp. 155-186.
- ⁶¹ B. Torgler, *Tax morale and Compliance: Review of Evidence and Case Studies for Europe*, World Bank Policy Research Working Paper 5922, World Bank, Washington DC, 2011.
- ⁶² J. Alm, and B. Torgler, 'Do ethics matter? Tax compliance and morality', *Journal of Business Ethics*, 101, 2011, pp. 635–651.
- ⁶³ Williams, *Confronting the shadow economy*, op. cit.
- ⁶⁴ Dzhekova and Williams, op. cit.
- ⁶⁵ T. Tyler, 'The psychology of legitimacy: a relational perspective on voluntary deference to authorities', *Personality and Social Psychology Review*, 1(4), 1997, pp. 323-345.
- ⁶⁶ V. Braithwaite, and M. Reinhart, *The Taxpayers' Charter: Does the Australian Tax Office Comply and Who Benefits*, Centre for Tax System Integrity Working Paper no.1, Australian National University, Canberra, 2010.
- ⁶⁷ M. Wenzel, 'The impact of outcome orientation and justice concerns on tax compliance: the role of taxpayers' identity', *Journal of Applied Psychology*, 87, 2002, pp. 639-645.
- ⁶⁸ P. Webley and S. Halstead, 'Tax evasion on the micro: significant stimulations per expedient experiments', *Journal of Interdisciplinary Economics*, 1, 1986, pp. 87-100.
- ⁶⁹ K. Varma, and A. Doob, 'Deterring economic crimes: the case of tax evasion', *Canadian Journal of Criminology*, 40, 1998, pp. 165-184.
- ⁷⁰ L. P. Feld and B. S. Frey, 'Tax compliance as the result of a psychological tax contract: the role of incentives and responsive regulation', *Law and Policy*, 29, 2007, pp. 102–120.
- ⁷¹ J. Shaw, J. Slemrod and J. Whiting, *Administration and Compliance*, Institute for Fiscal Studies, London, 2008.
- ⁷² I. Ayres, and J. Braithwaite, *Responsive Regulation: Transcending the Deregulation Debate*, Oxford University Press, New York, 1992.
- ⁷³ K. Murphy, and N. Harris, 'Shaming, shame and recidivism: a test of re-integrative shaming theory in the white-collar crime context', *British Journal of Criminology*, 47, 2007, pp. 900-917.
- ⁷⁴ T. R. Tyler, L. Sherman, H. Strang, G. Barnes and D. Woods, 'Reintegrative shaming, procedural justice and recidivism: the engagement of offenders' psychological mechanisms in the Canberra RISE drinking and driving experiment', *Law and Society*, 41(3), 2007, pp. 553-586.

-
- ⁷⁵ National Audit Office, *Tackling the Hidden Economy*, National Audit Office, London, 2008.
- ⁷⁶ J. J. Chang, and C. C. Lai, 'Collaborative tax evasion and social norms: why deterrence does not work', *Oxford Economic Papers*, 56(2), 2004, pp. 344-368.
- ⁷⁷ N. Taylor, 'Explaining taxpayer noncompliance through reference to taxpayer identities: a social identity perspective', in C. Bajada and F. Schneider (eds.), *Size, Causes and Consequences of the Underground Economy: an international perspective*, Ashgate, Aldershot, 2004, pp. 39-54.
- ⁷⁸ K. Gangl, S. Muehlbacher, M. de Groot, S. Goslinga, E. Hofmann, C. Kogler, G. Antonides and E. Kirchler, '"How can I help you?": perceived service orientation of tax authorities and tax compliance', *Public Finance Analysis*, 69(4), 2013, pp. 487-510.
- ⁷⁹ R. W. McGee, , *Taxation and Public Finance in Transition and Developing Countries*, Springer, New York, 2008.
- ⁸⁰ R. W. McGee, J. Alver and L. Alver, 'The ethics of tax evasion: a survey of Estonian opinion', in R. W. McGee (ed.), *Taxation and Public Finance in Transition and Developing Countries*, Springer, Berlin, 2008, pp. 119-136.
- ⁸¹ G. Kirchgässner, 'Tax morale, tax evasion and the shadow economy', in F. Schneider (ed.), *Handbook of the Shadow Economy*, Edward Elgar, Cheltenham, 2011, pp. 347-374.
- ⁸² J. C. Molero and F. Pujol, 'Walking inside the potential tax evader's mind: tax morale does matter', *Journal of Business Ethics*, 105, 2012, pp. 151-162.
- ⁸³ R. W. McGee, *The ethics of tax evasion: a survey of international business academics*. Paper presented at the 60th International Atlantic Economic Conference, New York, October 6-9, 2005.
- ⁸⁴ G. Kirchgässner, , *Tax Morale, Tax Evasion and the Shadow Economy*, Discussion Paper no 2010-17, Department of Economics, University of St. Gallen, St. Gallen, Switzerland, 2010.
- ⁸⁵ S. Pedersen, *The Shadow Economy in Germany, Great Britain and Scandinavia: a Measurement based on Questionnaire Surveys*, The Rockwool Foundation Research Unit, Copenhagen, 2003.
- ⁸⁶ L. Feld and C. Larsen, *Undeclared Work, Deterrence and Social Norms: the Case of Germany*, Springer Verlag, Berlin, 2012.
- ⁸⁷ C. C. Williams and I. Horodnic, 'Explaining the prevalence of illegitimate wage practices in Southern Europe: an institutional analysis', *South European Society and Politics*, 2015c, <http://dx.doi.org/10.1080/13608746.2015.1013518> (accessed 28 June 2015)

-
- ⁸⁸ C. C. Williams, and A. Martinez, 'Explaining cross-national variations in tax morality in the European Union: an exploratory analysis', *Studies in Transition States and Societies*, 6(1), 2014a, pp. 5-17.
- ⁸⁹ C. C. Williams, and A. Martinez-Perez, 'Why do consumers purchase goods and services in the informal economy?', *Journal of Business Research*, 67, 2014b, pp. 802-806.
- ⁹⁰ P. Royston, 'Multiple imputation of missing values'. *The Stata Journal*, 4(3), 2004, pp. 227-241.
- ⁹¹ D. B. Rubin, *Multiple Imputation for Nonresponse in Surveys*, Wiley, New York, 1987.
- ⁹² J. Schafer, and J. Graham, 'Missing data: our view of the state of the art', *Psychological Methods*, 7(2), 2002, pp. 147-177.
- ⁹³ C. C. Williams, and I. Horodnic, 'Rethinking the marginalisation thesis: an evaluation of the socio-spatial variations in undeclared work in the European Union', *Employee Relations*, 37(1), 2015a, pp. 48-65.
- ⁹⁴ C. C. Williams, and I. Horodnic, 'Evaluating the prevalence of the undeclared economy in Central and Eastern Europe: an institutional asymmetry perspective', *European Journal of Industrial Relations*, 2015b, doi: 10.1177/0143831X14568835.
- ⁹⁵ BICA, *Неформалната Икономика и Работодателите* [The Informal Economy and the Employers]. BICA, Sofia, 2011b.
- ⁹⁶ Center for the Study of Democracy, *Crime without Punishment. Countering Corruption and Organised Crime in Bulgaria*. Sofia: CSD, Sofia, 2009.
- ⁹⁷ A. Efendic, G. Pugh and N. Adnett, 'Confidence in formal institutions and reliance on informal institutions in Bosnia and Herzegovina: an empirical investigation using survey data', *Economics of Transition*, 19 (3), 2011, pp. 521-540.
- ⁹⁸ A. Marcic, 'Informal institutions in the Western Balkans: an obstacle to democratic consolidation', *Journal of Balkan and Near Eastern Studies*, 2014 doi: 10.1080/19448953.2014.986386
- ⁹⁹ K. Murphy, 'Regulating more effectively: the relationship between procedural justice, legitimacy and tax non-compliance', *Journal of Law and Society*, 32, 2005, pp. 562-589.
- ¹⁰⁰ K. Murphy, 'Enforcing tax compliance: to punish or persuade?', *Economic Analysis and Policy*, 38(1), 2008, pp. 113-35.
- ¹⁰¹ Molero and Pujol, op. cit.
- ¹⁰² Kirchgässner, 'Tax Morale, Tax Evasion and the Shadow Economy', Discussion Paper no 2010-17, op. cit.

-
- ¹⁰³ K. Cinar and T. Kose, 'Economic crises in Turkey and pathways to the future', *Journal of Balkan and Near Eastern Studies*, 17 (2), 2015, pp. 159-180.
- ¹⁰⁴ V. Ramadani, 'The woman entrepreneur in Albania: an exploratory study on motivation, problems and success factors', *Journal of Balkan and Near Eastern Studies*, 17(2), 2015, pp. 204-221.
- ¹⁰⁵ S. Marcic, 'Informal institutions in the Western Balkans: an obstacle to democratic consolidation', *Journal of Balkan and Near Eastern Studies*, 17(1), 2015, pp. 1-14.

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