

TACKLING SALARY UNDER-REPORTING IN CROATIA: EVIDENCE FROM EMPLOYER AND EMPLOYEE SURVEYS

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ABSTRACT

The aim of this paper is to evaluate how to tackle the illegal wage practice where formal employers pay their formal employees an undeclared (envelope) wage in addition to their official declared salary, which reduces the tax and social contributions paid to the authorities. Until now, two competing policy approaches have been advocated, namely a conventional rational economic actor approach which seeks to increase the perceived or actual penalties and probability of being caught, and an emergent social actor approach that seeks to improve tax morale. Reporting two nationally representative surveys of employers and employees conducted in 2015 in Croatia, the finding is that just under 1 in 15 formal employees (6.6%) reported receiving an envelope wage from their formal employer, with the mean amount of their net income unreported amounting to 30%. Salary under-reporting is not always employer initiated. Employees in 30% of cases asserted it was either a joint idea or they had suggested it. To tackle salary under-reporting, logit regression analysis reveals support for the rational economic actor approach of increasing the risk of detection and the social actor approach of improving tax morality with regard employers, but only support for improving tax morale with regard to employees. The paper concludes by discussing implications for theory and policy.

Keywords: envelope wages; tax morale; informal economy; tax evasion; illegal behaviour; Croatia.

1. Introduction

Recently, there has been a recognition that not all jobs are wholly either declared or undeclared (Chavdarova 2014; Williams 2009c,d; Williams and Padmore, 2013a; Woolfson 2007). Under-declared employment is an exemplar. This is where a formal employer pays a formal employee an official declared salary but also an undeclared (envelope) wage so as to evade their full social insurance and tax liabilities (Horodnic, 2016; Karpuskiene, 2007; Meriküll and Staehr, 2010; Williams et al., 2013, 2016; Žabko and Rajevska, 2007). The aim of this paper is to advance understanding of the effectiveness of different policy approaches for tackling this illegal wage practice.

Until now, two approaches have been adopted. Firstly, the dominant policy approach has been to deter salary under-reporting by ensuring that the perceived likelihood and cost of being caught and punished outweighs the benefits (Allingham and Sandmo, 1972). This seeks to increase the actual or perceived sanctions and risks of detection. Secondly, and given the difficulties in detecting salary under-reporting, a new more indirect social actor approach has emerged that seeks to improve tax morale, namely the intrinsic motivation to pay taxes (Alm et al., 2010; Cummings et al., 2009; Kirchler, 2007; Murphy, 2008; Torgler, 2007), so as to elicit greater voluntary compliance. Viewed from the perspective of institutional theory, this social actor approach therefore aligns the informal institutions (i.e., the norms, values and beliefs of employers and employees) with the codified laws and regulations of the formal institutions (Webb et al., 2009). This paper evaluates which of these two approaches is effective in tackling salary under-reporting using a case study of Croatia.

To do so, section 2 reviews the literature on the prevalence, nature and distribution of salary under-reporting followed by the literature on these two policy approaches so as to formulate hypotheses. Section 3 then introduces the data and variables used to evaluate these hypotheses through a logit regression analysis, namely a nationally representative survey of 357 employers and a nationally representative survey of 661 employees based on face-to-face interviews conducted in 2015 in Croatia. Section 4 then reports the results. Revealing that employers reduce salary under-reporting when there is a higher risk of detection and when tax morale is higher, but that employees are significantly less likely to accept envelope wages when they have high tax morale, but are not affected by increasing the penalties and probability of being caught, section 5 then discusses the implications for understanding and tackling salary under-reporting in Croatia and beyond.

2. Tackling salary under-reporting: literature review and hypotheses development

Over the past decade, a body of scholarship has begun to reveal how some formal employers pay formal employees an undeclared ('envelope') wage in addition to their official declared salary. This is found to be normally agreed at the job interview stage. Besides agreeing an official declared wage specified in a formal written contract, there is a verbal agreement to pay an additional 'envelope wage' that is not declared to the authorities for tax and social contribution purposes (Chavdarova, 2014; Williams, 2009a; Woolfson, 2007). Although verbal agreements are not by definition illegal, this particular verbal contract is illegal. It is an agreement to fraudulently under-report to the state the full salary of an employee in order to evade the full tax and social security contributions owed by the employee and employer.

Early studies of salary under-reporting were small-scale qualitative studies in East-Central European nations, such as Bulgaria (Chavdarova, 2014), Estonia (Meriküll and Staehr, 2010), Latvia (Kukk and Staehr, 2014; Meriküll and Staehr, 2010; OECD, 2003;

Sedlenieks, 2003), Lithuania (Meriküll and Staehr, 2010; Woolfson, 2007), Romania (Neef, 2002), Russia (Williams and Round, 2008) and Ukraine (Round, Williams and Rodgers, 2008; Williams, 2007). A study in Lithuania by Woolfson (2007) for instance is an in-depth case study of one person, while Sedlenieks (2003) reports 15 face-to-face interviews conducted in Riga., Latvia Although the Ukraine study covers 600 households, these were in just three localities (Williams, 2007), whilst a Russian study of 313 households was in just three districts of Moscow (Williams and Round, 2007). These studies, therefore, are unrepresentative and were undertaken mostly in post-socialist societies at the peak of the transition process.

The first representative survey of salary under-reporting was a 2007 Eurobarometer survey involving 11,135 interviews with formal employees in all 27 member states of the European Union (EU-27). Analyses showed the prevalence of salary under-reporting across the EU-27 as a whole (Williams, 2009a; Williams and Padmore, 2013a,b), as well as in South-Eastern Europe (Williams, 2010, 2012a; Williams et al., 2011), the Baltic region (Williams, 2009d) and East-Central Europe (Williams, 2008a,b, 2009b,c, 2012b; Williams and Round, 2008). In the EU-27 as a whole, 5.5% of formal employees received under-reported salaries, with the undeclared amount averaging 43% of their gross wage, with its prevalence much lower in Western and Nordic nations than in Southern and East-Central Europe, as was the share of the gross wage not reported lower (e.g., Williams, 2009a, 2013).

This Eurobarometer was repeated in 2013 with 11,025 employees in the EU28 (European Commission, 2014). One in 33 employees reported receiving under-reported salaries with the regional variations the same as in 2007 (Williams and Horodnic, 2017). Here, therefore, the focus is less upon its prevalence, character and distribution and more upon salary under-reporting can be tackled. To do so, the effectiveness of two policy approaches is evaluated.

Rational economic actor policy approach

The view that those disobeying the law are rational economic actors derives from the utilitarian theory of crime (Beccaria, 1797; Bentham, 1788). This views citizens as evaluating the benefits and costs, and as disobeying the law if the expected penalty and risk of being caught is smaller than the benefits received. Following popularisation by Becker (1968) in the late 1960s, Allingham and Sandmo (1972) applied it to tax non-compliance, arguing that this occurs when the pay-off is greater than the expected cost of being caught and punished. The resultant approach was to change the cost/benefit ratio confronting employers and employees, achieved by increasing the penalties and risks of detection. This was subsequently widely adopted by governments (e.g., Hasseldine and Li, 1999; Job et al., 2007; Richardson and Sawyer, 2001).

Indeed, this is also the dominant policy approach in Croatia where the emphasis when tackling the informal economy is on increasing the penalties and risks of detection, so as to ensure that the costs outweigh the benefits (Baric, 2016; Baric et al., 2016; Dzhekova and Williams, 2014; Dzhekova et al., 2014; Franic and Williams, 2014a; Williams and Franic, 2016; Williams et al., 2014, 2017).

Despite this, the evidence that increasing sanctions and the risks of detection results in compliance is less than conclusive (Alm et al., 1992, 1995; Slemrod et al., 2001; Varma and Doob, 1998). A further problem with salary under-reporting is that this is difficult for tax and labour inspectors to detect; they are formal employees with a formal written contract working

for a formal employer and the additional contract is verbal, so is difficult to prove. In consequence, to evaluate the effectiveness of this rational economic actor approach in tackling salary under-reporting, the following hypothesis can be tested:

Rational economic actor hypothesis (H1): the higher are the perceived penalties and probability of detection, the lower is the likelihood of salary under-reporting.

H1a: the higher are the perceived penalties, the lower is the likelihood of salary under-reporting.

H1b: the higher is the perceived probability of detection, the lower is the likelihood of salary under-reporting.

Social actor policy approach

Recently, there has been recognition that employers and employees do not always evaluate the cost/benefit ratio since many voluntarily comply even when the cost/benefit ratio intimates that they should not if they are rational economic actors (Alm et al., 2010; Kirchler, 2007; Murphy, 2008; Murphy and Harris, 2007). The outcome is the emergence of a ‘social actor’ approach which views salary under-reporting to result from low tax morale, by which is meant a low intrinsic motivation to pay taxes (Alm and Torgler, 2006, 2011; Cummings et al., 2009; McKerchar et al, 2013; Torgler, 2011; Torgler and Schneider, 2007). Improvements in tax morale are thus pursued in order that voluntary compliance occurs (Kirchler, 2007; Torgler, 2007, 2011).

In the classical work of von Schanz (1890), attention was drawn to the tax contract between the state and its citizens. Six decades later, the German ‘Cologne school of tax psychology’ further advanced this by measuring tax morale (see Schmolders, 1952, 1960, 1962; Strümpel, 1969). Although the popularity of this approach declined from the 1970s with the emergence of the rational economic actor approach, over the past few years, there has been a revival (Alm et al., 2012; Kirchler, 2007; Torgler, 2007, 2011, 2012; Williams, 2014; Williams and Kayaoglu, 2016).

This approach can be conceptualised using institutional theory (Baumol and Blinder, 2008; North, 1990). Every society has both formal institutions, namely laws and regulations defining the legal rules of the game, and informal institutions, namely ‘socially shared rules, usually unwritten, that are created, communicated and enforced outside of officially sanctioned channels’ (Helmke and Levitsky, 2004, p. 727). As such, tax morale measures the asymmetry between the formal institutions and informal institutions. When there is asymmetry, tax morale will be lower and under-reported salaries more prevalent. The solution is thus to reduce this asymmetry. To evaluate this, the following hypothesis can be analysed:

Social actor tax morale hypothesis (H2): the higher is tax morale, the lower is the likelihood of under-reporting salaries.

3. Data and Variables

Data

To evaluate the effectiveness of these two policy approaches towards salary under-reporting, data is reported from a nationally representative survey of 357 employers and a nationally

representative survey of 661 employees based on face-to-face interviews conducted between July and October 2015. The employee survey analysed the nature of the verbal contract between employers and employees, which employees receive envelope wages, and the relationship between receiving envelope wages and the perceived penalties and risk of detection, and level of tax morale. 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 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. The employer survey, meanwhile, was again a nationally representative sample using a multi-stage random (probability) sampling methodology which ensured that on the issues of firm size, sector and region, the national level sample, as well as each level of the sample, was representative in proportion to its population size. This again analysed the prevalence of salary under-reporting and the relationship between receiving envelope wages and the perceived penalties and risk of detection, and level of tax morale.

Variables

To evaluate whether increasing the penalties and risks of detection, and greater tax morale, reduces the likelihood of salary under-reporting, the dependent variable used is a dummy variable with recorded value 1 for employees who answered ‘yes’ to the question: “Sometimes employers prefer to pay all or part of the salary or the regular salary of the remuneration for extra work or overtime hours cash-in-hand and without declaring it to tax or social security authorities. Did your employer pay you all or part of your income in the last 12 months in this way?”, or for the employers’ survey, “Did you pay your employees all or part of their income in the last 12 months in this way?”.

To evaluate the association between salary under-reporting and the policy approaches, three explanatory variables were used. Firstly, to evaluate whether the perceived risk of detection influences engagement in salary under-reporting, a dummy variable was used describing the perceived risk of being detected, with value 0 for a very small or fairly small risk, and value 1 for fairly high or very high risk. Secondly, to evaluate how penalties are associated with participation, a dummy variable was employed, describing the expected sanctions, with value 0 for those asserting that the normal tax or social security contributions would be due, and value 1 for those stating that the normal tax or social security contributions due, plus there would be a fine or imprisonment.

Third and finally, to evaluate the relationship between salary under-reporting and tax morale, an interval variable was used by constructing an index of self-reported attitudes towards the acceptability of different types of undeclared work based on a 10-point Likert scale. Rather than use a single question to assess tax morale, this survey uses a range of questions by asking the following:

Now I would like to know how you would rate various actions or behaviours. For each of them, please tell me to what extent you find it acceptable or not. Please use the following scale: “1” means that you find it absolutely unacceptable and “10” means that you find it absolutely acceptable: (1) an individual is hired by a household for work and s/he does not declare the payment received to the tax or social security authorities even though it should be declared; (2) A firm is hired by a household for work and it does

not declare the payment received to the tax or social security authorities; (3) a firm is hired by another firm for work and it does not declare its activities to the tax or social security authorities; (4) a firm hires an individual and all or a part of the wages paid to him/her are not officially declared and (5) someone evades taxes by not declaring or only partially declaring their income.

Collating the responses, and giving equal weight to each response, an aggregate 'tax morale index' is constructed. The Cronbach's Alpha coefficient of the scale is 0.78 which shows an internal consistency of the scale (Kline, 2000). The index is represented here in the 10-point Likert scale original format. The lower the index value, the higher is the tax morale.

Based on previous studies evaluating salary under-reporting in terms of the important socio-demographic and socio-economic variables influencing participation (Williams and Horodnic, 2015a,b, 2017; Williams and Padmore, 2013a,b), the control variables selected for the employee survey are gender, age, financial situation, type of locality and region. Moreover, for the employer survey, they are firm size, sector and the characteristics of the owner in terms of gender and age. Given the 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 these values. This was achieved using a system of chained equations for each variable with missing values, with fifty imputations simulated for each missing value. Furthermore, population weights were applied based on age and gender to correct for under- and over-representation in the sample.

To evaluate the relationship between salary under-reporting and the perceived penalties and risk of detection, and the level of tax morale, a logit regression analysis is here conducted.

4. Findings

Some one in 15 employees (6.6%) reported receiving under-reported salaries in 2015 in Croatia, with the mean amount unreported amounting to 30% of their net income. Examining whether envelope wages are paid for the regular work of employees, or for overtime/extra work, the finding is that 47% of employees receive envelope wages for their regular work, 29% for overtime/extra work, and 24% receive envelope wages for both their regular work and overtime/extra work.

A common assumption has been that salary under-reporting is instigated by employers (e.g., Sedlenieks, 2003; Williams, 2007; Woolfson, 2007). The finding, however, is that although 70% of employees asserted that this was suggested by their employer, 30% stated that it was either a joint idea (20%) or that they as an employee had suggested this arrangement (10%). In a significant proportion of cases of salary under-reporting, the employee therefore played an active role in deciding this, contrary to the common assumption that this is always employer-instigated. Indeed, 19% of employees were happy with receiving under-reported salaries, 23% neutral, and 55% would prefer their wage to be fully declared, with the remaining 3% either refusing to answer or not knowing.

Interestingly, those most likely to be happy with this arrangement also agreed in their verbal contract to additional conditions not stated in their written contract, intimating that these additional conditions might be proposed to the employer by the employee as compensation for receiving the additional envelope wage. Such additional conditions prevailed in 61% of all reported cases of salary under-reporting. Firstly, 34% of employees receiving envelope wages verbally agreed to work longer hours than stated in the formal

contract, such as those on a part-time formal written contract working full-time. Secondly, 27% agreed to undertake tasks, or take on responsibilities, not stated in their written contract. Third and finally, 19% agreed not to take their full statutory holiday entitlements.

Given this finding that employees are sometimes active participants in the decision to receive envelope wages, often happy with this arrangement, and propose additional conditions to those in their written contract in return for an envelope wage, attention now turns to the distribution of salary under-reporting, and how this practice can be tackled.

Which employee groups are more likely to receive envelope wages? Examining the employees survey, Table 1 reveals that men and younger age groups are more likely to receive envelope wages, as are those who are struggling financially, living in rural areas and North Croatia, and also those who believe that a large proportion of the population are engaged in the undeclared economy. This latter point is particularly important since it shows that salary under-reporting is much more prevalent among those where 'horizontal trust' is lacking, namely they believe that the majority of the population are non-compliant.

Table 1. Distribution of salary under-reporting in Croatia, 2015: by socio-demographic, socio-economic and spatial characteristics

		Yes	No	Refusal	DK
Gender	Male	7.7	89.0	2.4	0.9
	Female	5.5	93.2	1.3	0.0
Age	15 – 24	22.3	75.7	2.0	0.0
	25 – 34	8.4	91.2	0.4	0.0
	35 – 44	5.1	90.9	3.4	0.6
	45 – 54	3.5	94.5	1.4	0.6
	55 – 64	2.3	93.2	3.5	1.0
	65+	0.0	100.0	0.0	0.0
Financial situation	Struggling	10.0	87.8	1.5	0.7
	Maintaining	7.3	91.5	1.2	0.0
	Just comfortable	3.6	92.3	3.2	0.9
	No money problems	0.0	100.0	0.0	0.0
Estimated share of population engaged in UW	Less than 5%	5.4	90.0	4.6	0.0
	5 to 10%	4.3	93.8	0.5	1.4
	10 to 20%	2.8	96.1	0.4	0.7
	20 to 50%	8.8	89.5	1.7	0.0
Type of community	50% or more	12.8	76.5	9.1	1.6
	Rural area or village	7.1	90.6	1.4	0.9
	Small or middle sized town	6.2	90.5	3.3	0.0
Region	Large town	6.6	92.0	0.8	0.6
	Zagreb	5.7	93.0	1.3	0.0
	North Croatia	10.9	85.5	1.7	1.9
Region	Slavonia	3.4	96.6	0.0	0.0
	Lika and Banovina	6.0	94.0	0.0	0.0
	Istria. Primorje and Gorski Kotar	8.0	90.4	1.6	0.0
	Dalmatia	5.7	87.9	5.5	0.9
Total		6.6	91.0	2.0	0.4

Source: Authors' own calculations based on 2015 GREY employees survey

To evaluate the effectiveness of the rational economic actor and social actor policy approaches in Croatia, firstly, their effectiveness at reducing the participation of employees in

salary under-reporting and secondly, reducing the participation of employers in this illegal wage practice, is evaluated.

Evaluating the policy approaches

Table 2 reveals the perception of employees regarding the risk of detection, the penalties for operating undeclared, and whether their attitudes towards operating undeclared are aligned with the laws and regulations. The descriptive finding is that individuals who think the risk of detection is very high are slightly more likely to report receiving envelope wages (7.5%) than those who think the risk is fairly small (7.2%). On the whole, however, there does not appear to be a strong association between whether employees engage in under-declared employment and their perceptions of the risks of detection. This is not the case with the penalties. Under-declaration of wages is more common among employees who are certain that a financial fine will result alongside taxes and contributions due if caught (7.9%) than among those who do not expect any additional penalty (5.2%). A plausible explanation for this rather unusual finding is that employees do not consider themselves as being responsible for under-declaration of their wages and therefore expect that their employer is the only one who will be prosecuted by the authorities. There is a strong association, however, by tax morale. Those employees who are not aligned with the codified laws and regulations are much more likely to receive envelope wages.

Table 2. Employee participation in salary under-reporting: by employees' perceptions of the risk of detection, penalties and their tax morale, 2015

		Yes	No	DK/Refusal
Detection risk	Very small	7.6	89.0	3.4
	Fairly small	7.2	90.8	2.0
	Fairly high	5.4	92.9	1.7
	Very high	7.5	92.5	0.0
Expected sanctions	Tax + social security contributions due	5.2	91.4	3.4
	Tax + contribution + fine	7.9	91.0	1.1
	Prison	0.0	100	0.0
Tax morale	<2	5.7	92.3	2.0
	2-4	7.7	91.6	0.7
	4-6	7.1	83.6	9.3
	6-8	18.4	81.6	0.0
	8-10	0.0	100	0.0

Source: Authors' own work based on the 2015 GREY Employees Survey

To evaluate whether employees' engagement in salary under-reporting is associated with these policy measures when socio-demographic and regional characteristics are included and held constant, Table 3 reports a logit regression analysis. This reveals no association between the participation of employees in salary under-reporting and the perceived level of penalties and risk of detection, but a strong association between employees' participation and their views on the acceptability of operating undeclared (i.e., their lack of alignment with the laws and regulations). This confirms in the Croatian context that there is a need to move beyond using hard direct policy measures (i.e., 'sticks' and 'carrots') with regard to employees, and

to focus upon the use of soft indirect policy measures to improve the tax morale of employees so as to encourage greater voluntary compliance. For employees, therefore, H2 is confirmed but H1a and H1b are not confirmed.

Table 3. Logit estimations of the relationship between policy measures and employee engagement in salary under-reporting, 2015

	Model 1	Model 2	Model 3
Risk of being caught	0.151	0.132	0.109
Severity of the penalty	0.172	0.1	0.125
Tax morale	-0.046**	-0.043*	-0.046*
Socio-demographic characteristics	No	Yes	Yes
Regional characteristics	No	No	Yes
N	661	648	648
Pseudo R-square	0.026	0.247	0.28

Note: * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

Source: 2015 GREY employees survey

What however, is the association between the perceived risk of detection and levels of penalties, and tax morale, as determinants of employer participation in under-declared employment when firm characteristics and the characteristics of the employer are included and held constant? Table 4 reports the results using logit model estimations. This reveals that although the severity of the penalty does not determine whether employers pay envelope wages (refuting H1a), the risk of detection is a significant determinant of whether employers engage in salary under-reporting (confirming H1b). Unlike employees, therefore, improving the perceived risk of detection does have a significant impact on reducing the likelihood of employers paying envelope wages.

Table 4. Logit estimations of the relationship between policy measures and employers' participation in salary under-reporting, 2015

	Model 1	Model 2	Model 3
Risk of being caught	-0.018***	-0.022***	-0.024***
Severity of the penalty	0.326	0.321	0.359
Tax morale	0.049*	0.059**	0.067**
Firm characteristics	No	Yes	Yes
Characteristics of the replying person	No	No	Yes
N	357	357	357
Pseudo R-square	0.051	0.137	0.19

Note: * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

Source: 2015 GREY employers survey

This additional important finding is that besides the risk of detection being a strong significant determinant of whether employers pay envelope wages, so too is there a significant correlation with tax morale. The higher is their tax morale, the lower is the likelihood of employers paying envelope wages (confirming H2 for employers). This suggests that although the primary focus should be upon increasing the perceived risk of detection among employers, a secondary focus should be upon soft indirect policy measures to improve the tax morale of employers to encourage greater voluntary compliance.

5. Discussion and Conclusions

This analysis of salary under-reporting in Croatia reveals that the verbal agreement to pay envelope wages is not always purely employer-initiated, and that employees in 30% of cases of under-reporting active participants in the decision. Analysing how this practice of salary under-reporting might be tackled, this paper has provided an evidence-based evaluation of the contrasting policy approaches. This for the first time reveals the need for different policy approaches when tackling employers and employees participating in salary under-reporting.

As Table 5 summarises, in relation to employees, there is a need to move beyond the rational economic actor approach, which seeks to deter employee engagement in salary under-reporting by increasing the penalties and risk of detection, and for more emphasis on a social actor approach which seeks to improve employee tax morale so as to encourage greater self-regulation among employees.

To tackle employers who under-report salaries, however, it is primarily the risk of detection that needs to be addressed followed only secondarily by seeking improvements in their tax morale. Increasing the perceived level of penalties has no impact on the probability of employers under-reporting employee wages. The rational economic actor approach therefore needs to be used, with a focus upon increasing the risk of detection, and also to be complemented by a tax morale approach.

Table 5. Evaluation of hypotheses

Hypothesis	Employees	Employers
<i>H1</i> : The higher are the perceived penalties and probability of detection, the lower is the likelihood of salary under-reporting.		
<i>H1a</i> : The higher are the perceived penalties, the lower is the likelihood of salary under-reporting.	Not confirmed	Not confirmed
<i>H1b</i> : The higher is the perceived probability of detection, the lower is the likelihood of salary under-reporting.	Not confirmed	Strongly confirmed
<i>H2</i> : The higher is tax morale, the lower is the likelihood of salary under-reporting.	Strongly Confirmed	Weakly confirmed

What policy measures can be pursued, therefore, so that employers view there to be a higher risk of detection? Improving the probability of detection of salary under-reporting is difficult due to the problems of identifying this fraudulent wage practice during workplace inspections. This is because they are a formal employee with a written contract or terms of employment and a declared salary, and only 55% of employees receiving envelope wages would prefer full declaration. Moreover, those who might like to whistle blow fear that they might lose their job if they do so. For this reason, a shift away from workplace inspections and towards data matching is required when detecting salary under-reporting. For example, data bases are required that can analyse average earnings in firms and cross-tabulate this with average salaries in their region and/or sector, or by occupation, in order to examine whether organisations pay below the average wage for their region and/or sector, or for particular occupations. This identification of potential organisations paying envelope wages so as to enable more targeted inspections, however, does not help when it comes to employers and

employees admitting during the inspection visits that they receive an envelope wage in addition to their declared salary.

For this reason, it is thus perhaps the perceived risk of detection, rather than actual risk of detection, that needs to be improved. This requires a marketing campaign regarding how the authorities are developing effective tools to identify organisations paying envelope wages, and that unless employers put their affairs in order, then they will be caught in a matter of time. This marketing campaign might run alongside either an amnesty for employers who decide to fully declare their workers in a certain time period, or for those who voluntarily disclose to the authorities that they have been paying envelope wages, it may be decreed that no penalties will be imposed. This could then be coupled with the threat of severe sanctions for those who fail to put their affairs in order.

However, besides increasing the perceived risk of detection, and coupling this other initiatives (e.g., amnesties or penalty-free voluntary disclosure, followed by harsher penalties for those not coming forward), there is also a need for awareness raising and education about the benefits of fully declared work targeted at both employers and employees.

For employers, such an awareness raising campaign in Croatia could be targeted at those regions and/or sectors where salary under-reporting is more prevalent, namely agriculture, construction, hotels and restaurants, transport and communications, and household services.

For employees, meanwhile, such an awareness raising campaign could be targeted particularly at younger men, especially in the sectors stated above where envelope wages are prevalent. This could focus upon the benefits of not under-reporting salaries and the costs of doing so in terms of the future benefits foregone. More widely, initiatives are also required to educate citizens about the wider benefits of taxation in terms of the public goods and services that they receive in return for the taxes they pay. Such policy initiatives might range from introducing into the civics curriculum in schools the issue of taxation and adhering to labour legislation, through letters to employees and employers as taxpayers about how their taxes are being spent, to signs stating ‘your taxes paid for this’ on fire engines, roads and ambulances, and in hospitals, doctors’ surgeries and schools.

Awareness raising and educational initiatives, however, will not lead to compliant behaviour unless the formal institutions are also reformed, especially in a country such as Croatia where formal institutional deficiencies result in a lack of trust in government (Williams and Franic, 2016). On the one hand, therefore, policy measures are required to alter the macro-level conditions that lead to lower tax morale, which includes increasing the level of expenditure on active labour market policies to support vulnerable groups and the level of expenditure on social protection (Autio and Fu, 2015; Horodnic, 2016; Thai and Turkina, 2014). On the other hand, it also involves modernising the quality of governance, not least to overcome the actual and perceived level of corruption. As shown in previous studies, voluntary compliance and tax morale improves when employees and employers: view the state authorities as treating them in a respectful, impartial and responsible manner (Gangl et al., 2013; Murphy, 2005); believe that they pay their fair share compared with others (Kirchgässner, 2010, 2011; Molero and Pujol, 2012), and they believe that they receive the goods and services they deserve for the taxes they pay (McGee, 2005). If they believe that their taxes are going into the pockets of corrupt politicians or public sector officials, then they will continue to display low tax morale and be willing to continue to under-report salaries.

These findings about tackling salary under-reporting, nevertheless, are based on just one relatively small-scale dataset in one country and are thus tentative. Further studies in

Croatia and other countries regarding the effectiveness of different policy approaches in relation to employers and employees are required. If this paper thus stimulates further evaluations in a wider range of countries of these contrasting policy approaches in reducing the likelihood of both employees and employers engaging in this fraudulent wage practice, then it will have fulfilled one of its intentions. If this then stimulates government authorities to consider the adoption of approaches other than simply increasing the penalties and risks of detection, then it will have fulfilled its wider intention.

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