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Research Article

## Evaluating the Prevalence and Distribution of Envelope Wages in the European Union: Lessons from a 2013 Eurobarometer Survey

**Colin C Williams** *University of Sheffield*

**Ioana A Horodnic** *Alexandru Ioan Cuza University*

**Jan Windebank** *University of Sheffield*

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## Abstract

The aim of this article is to evaluate the prevalence and distribution in the European Union of a little discussed illegitimate employment practice whereby employers pay their formal employees both an official declared salary and an undeclared 'envelope' wage so as to evade the full tax and social security dues owed. To do this, a 2013 Eurobarometer survey involving 11,025 face-to-face interviews with formal employees in the 28 member states of the European Union is employed. The finding is that one in 33 employees received envelope wages during the 12 months prior to the survey, amounting on average to one quarter of their gross annual wage. Employers in East-Central and Southern European countries, and in smaller businesses, are more likely to use this fraudulent wage practice which is concentrated amongst weaker more vulnerable employee groups such as younger, skilled and unskilled manual workers, those facing financial difficulties and those with fewer years in formal education, but interestingly, also professionals and those travelling for their jobs. The paper then discusses possible causes as well as the policy options and approaches for tackling this illicit wage practice.

## Keywords

Illegal employment; tax evasion; undeclared work; informal economy; European Union

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Since the turn of the millennium, scholars studying the post-socialist societies in Central and Eastern Europe have begun to unravel a previously little discussed but fairly common fraudulent practice used by formal employers when paying their workers. This is the illegitimate practice whereby employers decide to pay their formal employees two wages, an official salary declared to the state for tax and social security purposes and an additional unofficial 'envelope' wage which is not declared, thus allowing employers to evade their full tax and social insurance liabilities (Karpuskiene 2007; Neef 2002; Williams 2009a; Woolfson 2007). The aim of this paper is to evaluate the prevalence and distribution of this wage arrangement in the contemporary European Union. Until now, most studies conducted of this illicit wage arrangement have been small-scale surveys of specific localities and/or more extensive surveys undertaken prior to the economic crisis (e.g., Meriküll and Staehr 2010; Sedlenieks 2003; Williams 2008a, b, 2010). The only research conducted on envelope wages using extensive data since the economic crisis data is a study reporting the reasons for the cross-national variations in the prevalence of this wage practice (Williams 2014a). Until now, there have been no studies evaluating the prevalence of this practice across different types of business and employee groups in the period since the economic crisis began. Here, therefore, we seek to fill this gap.

To commence, the first section provides a review of what is so far known about the prevalence and distribution of envelope wages in Europe by providing a brief review of the previous studies on this illegitimate wage practice. Identifying that there have been no contemporary studies of the varying prevalence of this illicit wage arrangement across different types of business and its distribution across employee groups, the second section then introduces the methodology used to fill this gap along with the data set used, namely a 2013 Eurobarometer survey involving 11,025 face-to-face interviews with formal employees in the 28 member states of the European Union (EU-28). The third section then reports the results by providing on the one hand, descriptive statistics of which businesses are most likely to use such a practice and the employee groups most likely to receive

such envelope wages and on the other hand, a multivariate logistic regression analysis of whether the greater propensity of various businesses types and employee groups to receive envelope wages remains significant when other characteristics are introduced and held constant. The fourth section then discusses the causes and different policy approaches which might be used to tackle this illegitimate wage practice before the fifth and final section draws some conclusions by summarising the findings.

## A REVIEW OF THE LITERATURE ON ENVELOPE WAGES

There is now an extensive body of scholarship on the size, growth and characteristics of the undeclared economy in Europe (e.g., Eurofound 2013; Feld and Larsen 2012; Morris and Polese 2014; Pfau-Effinger et al. 2009; Schneider 2013; Schneider and Williams 2013; Williams 2013a,b; Williams et al. 2013). Very little of this literature however, has analysed the issue of envelope wages. This is because the recurring assumption is that formal employment is separate and discrete from informal employment; formal employees working for formal employers, according to this dualistic mode of thought, cannot be engaged in informal practices. The result is that few studies of the undeclared economy have considered whether waged employment can be concurrently both. Instead, most studies have focused upon employees working wholly off-the-books either in formal or informal enterprises, or on a self-employed basis, who do not declare their earnings to the state for tax and social security purposes. Few have turned their gaze towards formal employees employed by formal employers with a written contract of employment and considered whether all is quite as formal as appears to be the case.

Over the past decade or so, however, a small emergent stream of literature studying the undeclared economy in East-Central Europe has started to recognise how an employment relationship can be at the same time both formal and informal. This small tributary of scholarship reveals that formal employers sometimes under-declare the salaries of formal employees by paying them both an official declared salary as well as an additional undeclared salary, or what is termed an 'envelope wage', which is hidden from, or unregistered by, the state for tax and social security purposes. This has been identified in studies conducted in Estonia (Meriküll and Staehr 2010), Latvia (Meriküll and Staehr 2010; Sedlenieks 2003; Žabko and Rajevska 2007), Lithuania (Karpuskiene 2007; Meriküll and Staehr 2010; Woolfson 2007), Romania (Neef 2002), Russia (Williams and Round 2007) and Ukraine (Williams 2007).

How, therefore, does this wage arrangement operate in practice? The finding from in-depth qualitative studies is that when a formal employer appoints a formal employee, they firstly agree in a formal written contract an official declared salary. However, the employer concurrently comes to an unwritten verbal agreement with the employee to pay them an additional undeclared (envelope) wage which will not be declared to the authorities for tax and social security purposes (Chavdarova 2014; Williams et al. 2013; Woolfson 2007). Hypothetically, this unwritten verbal agreement may simply be that the employee will receive a higher wage than is stated in their formal written contract. This, nevertheless, is seldom the case. Usually, additional terms and conditions to those stated in the formal written contract are included in this verbal agreement and attached to the receipt of this additional envelope wage.

The most common additional terms and conditions attached to the receipt of this undeclared (envelope) wage, and verbally agreed between the employer and employee, are firstly, that the formal employee will not take their full statutory entitlement to annual leave, secondly, that they will undertake different or additional tasks and responsibilities to those specified in their formal contract and/or thirdly, that they will work longer hours than stated in their formal contract, which will often mean that the employee works over the maximum hours stated in the working time

directive and/or is paid less than the minimum statutory hourly wage (Chavdarova 2014; Williams 2014a). The shared understanding of both the employer and employee, moreover, is that the terms and conditions agreed in this verbal contract supersede the terms and conditions in the formal written contract of employment. This verbal contract, put another way, constitutes the unwritten 'psychological contract' of shared understanding between the employer and employee regarding the terms and conditions of their employment (Rousseau 1995).

Of course, verbal agreements *per se* are not illegal, and in many states hold the same status in law as written agreements. However, this particular form of verbal agreement to pay an additional undeclared (envelope) wage is illegitimate because both parties are mutually agreeing to under-report fraudulently the salary earned by the employee in order to evade the full tax and social security dues owed by the employer and employee. It is also often illegitimate in the sense that it results in various aspects of employment legislation and labour law, such as the minimum wage level, statutory holiday entitlements and maximum working hours, being contravened.

Examining what is known about the prevalence and distribution of this illegitimate wage practice, most previous studies reveal little since they have been small-scale qualitative studies conducted in specific East-Central European nations, as identified above. For instance, the study in Lithuania by Woolfson (2007) is an in-depth case study of one person, albeit a *cause célèbre*, whilst the Latvian study by Sedlenieks (2003) reports 15 face-to-face interviews conducted in Riga. Although the Ukraine survey covers 600 households, it is limited to three localities (Williams 2007), whilst the evidence from Russia is based on interviews with 313 households in three districts of Moscow (Williams and Round 2007). The result is that although these studies reveal a richer nuanced understanding of this illegitimate wage practice, they have been unable to document the prevalence and distribution of this illicit wage arrangement.

Nevertheless, they did begin to hint at the extensiveness of this practice. For example, in Ukraine, 30 per cent of formal employees reported receiving an envelope wage from their formal employer (Williams 2007), whilst in Moscow, this figure was 65 per cent (Williams and Round 2007). Meanwhile, an analysis of the discrepancies between the results of labour force and employer surveys in Latvia by the OECD (2003) revealed that 20 per cent of formal employees in the private sector appeared to be receiving envelope wages from their formal employer. A further survey conducted in 1998 and 2002, and involving 900 interviews in Estonia, Latvia and Lithuania, similarly revealed the relatively widespread prevalence of this practice in these Baltic Sea states. In the case of Estonia, 19.5 per cent of respondents stated that they had received envelope wages in 1998 (and 9.6 per cent in 2002), whilst in Latvia, this figure was 16.3 per cent in 1998 (but 22.5 per cent in 2002) and in Lithuania 7.2 per cent and 11.7 per cent in 1998 and 2002 respectively (Meriküll and Staehr 2010). These surveys, therefore, began to suggest that this was not some minor practice of little importance.

It was not until 2007 however, that a cross-national survey to evaluate the prevalence and distribution of this illegitimate wage practice was conducted beyond East-Central Europe. As part of the Eurobarometer omnibus survey, a module was included on undeclared work that included questions on the issue of envelope wages, namely special Eurobarometer no. 284, involving 11,135 interviews with formal employees across the then-27 member states of the European Union (EU-27). The resultant dataset has been subsequently analysed to document in this pre-crisis period the prevalence of envelope wages in the EU-27 as a whole (Williams 2009a; Williams and Padmore 2013a, b) as well as regional analyses of South-Eastern Europe (Williams 2010, 2012a; Williams, Fethi and Kedir 2011), the Baltic region (Williams 2009d) and Central and Eastern Europe (Williams 2008a, b, 2009b, c, 2012b). Across the EU-27, 5.5 per cent of formal employees were found to receive envelope wages from their formal employer in the year prior to the survey. A clear regional divide, however, was identified between Western and Nordic nations on the one hand, and Southern and

Central and Eastern European nations on the other. The prevalence of envelope wages was lower in Western and Nordic nations. In Southern and Central and Eastern Europe in contrast, envelope wages were more prevalent (e.g., Williams 2009a).

Turning to the distribution of this wage practice across business types and employee groups meanwhile, it was found that although this is a ubiquitous practice not confined to specific enclaves of the labour market, it is nevertheless more concentrated in some business types and employee groups than others. Not only were men found to be significantly more likely to receive envelope wages than women, but the prevalence of envelope wages significantly decreased with age and income. There was also evidence that such work was more prevalent in smaller businesses (Williams and Padmore 2013a, b).

This research was conducted in 2007 prior to the economic crisis. A repetition of the Eurobarometer survey module on envelope wages in 2013 across the EU-28 however, provides a data set that enables study of this practice in the period since the economic crisis began. Until now, the only known reporting of this 2013 survey concentrates on the cross-national variations in the prevalence of envelope wages and its correlation with various national-level economic and social conditions, such as Gross Domestic Product (GDP), tax rates and state social expenditure (Williams 2014b). There have been no evaluations of the prevalence and distribution of envelope wages across different types of business and employee groups during the crisis period. To fill this significant gap in the literature therefore, this paper reports the findings of this 2013 Eurobarometer survey regarding the prevalence and distribution of envelope wages across different types of business and employee groups.

## **METHODOLOGY: DATA, VARIABLES AND ANALYTICAL METHODS**

### ***Data***

This paper reports the results of Special Eurobarometer survey no. 402, involving 27,563 face-to-face interviews conducted in April and May 2013 across the EU-28. Interviews were conducted in each country in the national language with respondents aged 15 years and older. In each country, a multi-stage random (probability) sampling methodology was used (the number of interviews varying from 500 in smaller countries to 1,500 in larger nations). This methodology ensured that on the issues of gender, age, region and locality size, each country as well as each level of sample was representative in proportion to its population size. Therefore, for the descriptive results that follow, and as recommended in both the wider literature (Sharon and Liu 1994; Solon, Haider and Wooldridge 2013; Winship and Radbill 1994) and the Eurobarometer methodology, the weighting scheme is used to obtain meaningful descriptive results. For the multivariate analysis however, debate exists over whether such a weighting scheme should be used (Pfefferman 1994; Sharon and Liu 1994; Solon et al. 2013; Winship and Radbill 1994). Given that the majority opinion is that the weighting scheme should not be used for multivariate analysis, this option was chosen.

The face-to-face interviews covered firstly, attitudinal questions about undeclared work, secondly, whether participants had purchased goods and services on an undeclared basis, thirdly, envelope wages and fourth and finally, whether respondents had engaged in undeclared work themselves. Here, we confine analysis to the questions on envelope wages. The 11,025 participants reporting themselves as formal employees were asked firstly whether they had received an undeclared (envelope) wage in addition to their official declared wage from their employer in the prior 12 months; secondly, whether this envelope wage was for their regular work, as payment for overtime hours, or for both; and thirdly, what percentage of their gross yearly income from their job was received as an additional undeclared wage.

## Variables

To analyse the prevalence and distribution of this illegitimate wage arrangement across business types and employee groups, the dependent variable is whether employees received envelope wages based on the question ‘Sometimes employers prefer to pay all or part of the salary or the remuneration (for extra work, overtime hours or the part above a legal minimum) in cash and without declaring it to tax or social security authorities. Has your employer paid you any of your income in the last 12 months in this way?’

To analyse the prevalence and distribution of envelope wages across business types and employee groups, and drawing upon the previous findings discussed above, the following independent variables are analysed:

- **Firm size:** a categorical variable for the number of employees in the firm in which the respondent is employed, with value 1 for firms with 1 to 4 people, value 2 for firms with 5 to 9 people, value 3 for firms with 10 to 19 people, value 4 for firms with 20 to 49 people, value 5 for firms with 50 to 99 people, value 6 for firms with 100 to 499 people, and value 7 for firms with 500 or more than 500 people.
- **Occupation:** a categorical variable grouping employed respondents by their occupation with value 1 for professional (employed doctor, lawyer, accountant, and architect), value 2 for general management, director or top management (managing directors, director general, other director), value 3 for middle management, other management (department head, junior manager, teacher, technician), value 4 for employed position, working mainly at a desk, value 5 for employed position, not at a desk but travelling (salesmen, driver etc.), value 6 for employed position, not at a desk, but in a service job (hospital, restaurant, police, fireman etc.), value 7 for supervisor, value 8 for skilled manual worker, and value 9 for other (unskilled) manual worker, servant.
- **Gender:** a dummy variable with value 1 for men and 0 for women.
- **Age:** a categorical variable for the age of the respondent with value 1 for those aged 15 to 24 years old, value 2 for those aged 25 to 34, value 3 for those aged 35 to 44, value 4 for those aged 45 to 54, value 5 for those aged 55 to 64, and value 6 for those over 65 years old.
- **Age when stopped full time education:** a categorical variable for age of the respondent when stopped full time education with value 1 for 15 years old and under, value 2 for 16-19 years old, and value 3 for 20 years old or over.
- **Difficulties paying bills:** a categorical variable for the respondent’s difficulties in paying bills with value 1 for having difficulties most of the time, value 2 for occasionally, and value 3 for almost never/never.
- **EU Region:** a categorical variable for the region where the respondent lives with value 1 for the Western Europe region, value 2 for the Southern Europe region, value 3 for the East-Central Europe region, and value 4 for the Nordic Nations region.

## Analytical methods

To evaluate the prevalence and distribution of envelope wages across businesses, employee groups and regions, first, descriptive statistics are produced regarding the percentage of formal employees in different business types, employee groups and EU regions that receive envelope wages and second, a multi-level logistic regression analysis is provided to decipher which of these variables remain important when the other variables are taken into account and held constant. Below, we report the results.

## FINDINGS

### *Descriptive results*

Of the 27, 563 participants in this survey across the EU-28, 42 per cent were formal employees. Of the remainder, eight per cent were self-employed and 50 per cent were not working. Here, therefore, and to analyse the prevalence and distribution of envelope wages, we confine our analysis to the 11,025 respondents reporting that they are formal employees. As Table 1 displays, one in 33 (three per cent) of these formal employees received an undeclared (envelope) wage from their formal employer in the 12 months prior to the survey. Just five per cent of the formal employees asked whether they received envelope wages from their formal employer either refused to answer or said they did not know. Of the 212 million formal employees in the EU-28 therefore, the intimation is that some 6.4 million receive envelope wages from their formal employer. This, therefore, is a significant number. This is not some marginal practice confined to only a small number of formal employees in the EU-28.

Compared with 2007 prior to the economic crisis, a small drop has thus taken place in the proportion of employees receiving an envelope wage (from 5 per cent to 3 per cent). Why, therefore, has there been a fall in the proportion of formal employees paid envelope wages since the onset of the economic crisis? One answer might be that during the economic crisis, envelope wages have declined because employers have turned to wholly undeclared labour and/or that fully declared labour has become more 'flexible' and cheaper. It may also be because of the reductions in the amount of overtime traditionally paid for using envelope wages since the onset of the economic crisis (Williams and Renooy 2013).

Similar to 2007, moreover, there is evidence that envelope wages are not evenly distributed across business types, employee groups and EU regions. As Table 1 displays, although this illegitimate wage practice prevails in all sizes of firm and across all occupations, socio-demographic groups and EU regions, it is nevertheless more common in some than others. Employers in smaller firms are more likely to pay envelope wages than those in larger businesses; in businesses with fewer than 20 employees, five per cent of formal employees (one in 20) receive envelope wages compared with just one per cent of formal employees in firms with 50 employees or more. In major part, this is without doubt a consequence of the relative absence of dedicated human resource management (HRM) staff and formal HRM practices in smaller businesses (Barrett and Mayson 2007; Benmore and Palmer 1996), meaning that employers in smaller firms can introduce terms and conditions of employment in unwritten verbal contracts that supersede the terms and conditions of employment in the formal written contract.

The payment of envelope wages is also unevenly distributed across different types of employee. First, manual workers are more likely to receive envelope wages; seven per cent of unskilled and five per cent of skilled manual workers. Indeed, unskilled manual workers are just 7 per cent of the European labour force surveyed but comprise 17 per cent of all employees who receive envelope wages. Similarly, those employed who travel as part of their job are more likely to be paid envelope wages. In this case, it is perhaps because of the need for flexibility in the hours they work. Employers thus use unwritten verbal contracts and pay envelope wages so that they work hours beyond their formal written contract employment in order to get tasks completed.

Turning to the socio-demographic characteristics of those more likely to be paid envelope wages, the finding is that men are more likely than women to be subjected to this illegitimate wage practice, as are younger people in the labour force, amongst whom joblessness is much higher (European Commission 2013), although those of retirement age are also more likely to be paid

envelope wages. Reflecting how some weaker and more vulnerable members of the labour force are also more likely to be recipients of envelope wages, those with fewer years in formal education and those having difficulties paying the household bills most of the time are more likely to receive envelope wages.

*Table 1: Distribution of envelope wages in EU-28: by business type, employee group and EU region*

	% of employees receiving envelope wages in last 12 months	% of gross salary paid as envelope wage (median)	% of all employees receiving envelope wages	% of all employees	Envelope wage paid as remuneration for:			
					Regular work (%)	Overtime/extra work (%)	Both regular and overtime work (%)	No answer + don't know (%)
<b>ALL EU28</b>	3	25	100	100	37	31	25	7
<b>COMPANY SIZE</b>								
1-4 employees	5	30	19	10	51	13	26	10
5-9	5	23	20	11	39	37	23	1
10-19	5	23	24	13	38	42	19	1
20-49	3	20	16	15	22	39	33	6
50-99	1	35	5	11	61	7	16	16
100-499	1	25	8	16	29	45	25	1
500+	1	28	8	24	43	9	31	17
<b>OCCUPATION</b>								
Employed professional	3	20	6	6	28	47	25	0
General, middle management, etc.	1	30	8	19	29	10	33	28
Employed position, at desk	1	20	8	20	40	33	19	8
Employed position, travelling	4	20	9	7	54	30	15	1
Employed position, service job	2	20	14	16	31	41	23	5
Supervisor	3	30	3	3	13	21	49	17
Skilled manual worker	5	30	35	22	34	34	29	3
Unskilled manual worker, etc.	7	50	17	7	48	23	21	8
<b>SEX</b>								
Male	3	25	63	53	29	40	27	4
Female	2	30	37	47	50	16	23	11
<b>AGE</b>								
15-24	6	25	17	9	50	30	17	3
25-34	3	25	27	23	21	45	32	2
35-44	3	20	28	28	43	24	29	4
45-54	2	30	21	27	43	21	16	20
55-64	1	15	6	12	19	39	41	1
65+	3	25	1	1	63	35	0	2
<b>EDUCATION (AGE EDUCATION ENDED)</b>								
<15	3	28	10	9	59	17	12	12
16-19	3	30	63	50	37	30	29	4
20+	2	20	27	41	25	37	27	11
<b>DIFFICULTIES PAYING BILLS</b>								
Most of the time	6	30	20	10	46	18	29	7
From time to time	4	30	39	29	40	30	27	3
Almost never/never	2	20	41	61	33	39	19	9
<b>EU REGION</b>								
East-Central Europe	6	30	68	42	32	32	32	4



Southern Europe	4	50	13	15	38	29	27	6
Western Europe	1	10	16	32	43	32	14	11
Nordic nations	1	3	3	11	58	36	6	0

It is similarly the case that envelope wages are not evenly distributed across EU regions. Akin to the 2007 pre-crisis survey, this wage arrangement is found to be more common in East-Central Europe where six per cent of formal employees receive envelope wages and Southern Europe where four per cent of employees are paid envelope wages. In Western Europe and Nordic countries by contrast, just one per cent receive envelope wages. It continues to be the case in the period since the economic crisis began therefore, that a clear East-to-West and North-to-South divide exists in the use of this fraudulent wage practice, although the East-to-West divide is starker than the North-to-South divide. Indeed, although just 42 per cent of the formal employees surveyed were in East-Central Europe, over two-thirds (68 per cent) of those receiving envelope wages were in this EU region, demonstrating the concentration of this practice in this EU region.

### *Analysis*

To analyse whether these variations across business types, employee groups and EU regions remain significant when other characteristics are taken into account and held constant, we here report the results of a staged multi-level logistic regression model.

The first step was to estimate a baseline random intercept model with no explanatory variables, in order to reveal whether a multi-level approach was appropriate. The likelihood-ratio test for the null hypothesis that there are no variations in the prevalence of envelope wages reveals that this can be rejected. Having determined that the multilevel mixed-effects logistic regression should be used therefore, the second stage involved constructing a model which included the business type and employee group characteristics in order to understand the effect of each of them when other variables are taken into account and held constant, and the third stage involved adding in the EU region variable to evaluate whether the findings remained the same when this was taken into account. Table 2 reports the results.

Model 1 in Table 2 reports the types of business and employee groups displaying a significantly greater propensity to pay and receive envelope wages when other characteristics are taken into account and held constant. This provides further validation that the prevalence of envelope wages is not evenly distributed across business types and employee groups. Smaller firms are significantly more likely to pay envelope wages to their employees than larger firms. So too do skilled and unskilled manual workers display a greater propensity to receive envelope wages than those in employed positions at a desk. Interestingly, when other characteristics are taken into account and held constant, those employed as professionals and those who travel for their jobs are also significantly more likely than those in employed positions at a desk to receive envelope wages. In the latter case, and as stated, this is doubtless because employers do so in order that such employees who travel work more flexible hours than is stated in their formal contracts. This is doubtless similarly the case for professionals who may often need to treat working hours more flexibly than their formal written contract stipulates.

Men are also found to be significantly more likely to receive envelope wages than women and the likelihood of being paid envelope wages decreases significantly with age up until retirement age. Furthermore, there is strong evidence that envelope wages are more likely to be paid to those who have difficulties most of the time in paying their household bills and those with fewer years in education. Regarding the variable of education, it is only people who left education between the

ages of 16 and 19 who tend to be significantly more likely to receive envelope wages. Nonetheless, and as Model 2 reveals, this significantly decreases once the variable of EU region is added. However, the significance of all other characteristics remains the same when the variable of the EU region is added. As expected from the descriptive results moreover, those employees working in East-Central Europe are significantly more likely to be paid envelope wages than in all other EU regions, even when all other variables are taken into account and held constant.

Table 2: Multilevel logistic regressions of the prevalence of envelope wages

Fixed part	MODEL 1			MODEL 2		
	$\beta$	se( $\beta$ )	Exp( $\beta$ )	$\beta$	se( $\beta$ )	Exp( $\beta$ )
Constant	-3.416***	0.379	0.033	-2.819***	0.391	0.060
<b>COMPANY SIZE (1-4 EMPLOYEES)</b>						
5 - 9	-0.174	0.201	0.840	-0.201*	0.200	0.818
10 - 19	-0.281	0.191	0.755	-0.328	0.190	0.720
20 - 49	-0.516***	0.198	0.597	-0.580***	0.197	0.560
50 - 99	-0.970***	0.240	0.379	-1.026***	0.239	0.358
100 - 499	-1.093***	0.237	0.335	-1.129***	0.237	0.323
500 or more	-1.351***	0.262	0.259	-1.345***	0.262	0.261
<b>OCCUPATION (EMPLOYED POSITION, AT DESK)</b>						
Employed professional	0.625**	0.288	1.869	0.589**	0.286	1.801
General, middle management, etc.	0.160	0.265	1.174	0.179	0.264	1.196
Employed position, travelling	0.791***	0.242	2.206	0.800***	0.242	2.226
Employed position, service job	0.398*	0.227	1.489	0.432*	0.226	1.541
Supervisor	0.700*	0.376	2.014	0.742**	0.375	2.100
Skilled manual worker	0.711***	0.209	2.037	0.714***	0.208	2.041
Unskilled manual worker, etc.	0.679**	0.271	1.973	0.684**	0.271	1.983
<b>GENDER (WOMEN)</b>						
Men	0.410***	0.124	1.507	0.424***	0.123	1.528
<b>AGE (CENTRED AGE: 41)</b>						
	-0.0183***	0.00524	0.982	-0.0192***	0.00525	0.981
<b>FORMAL EDUCATION (&lt;15)</b>						
16-19	0.641**	0.279	1.898	0.507*	0.279	1.661
20+	0.324	0.303	1.383	0.249	0.302	1.282
<b>DIFFICULTIES PAYING BILLS LAST YEAR (MOST OF THE TIME)</b>						
From time to time	-0.466***	0.155	0.627	-0.490***	0.155	0.613
Almost never/never	-1.083***	0.171	0.339	-1.082***	0.170	0.339
<b>EU REGION (EAST-CENTRAL EUROPE)</b>						
Western Europe				-0.802***	0.186	0.448
Southern Europe				-0.864***	0.225	0.421
Nordic nations				-0.717**	0.347	0.488
N	9263			9263		
Random part						
Country-level variance	0.2043***			0.0469**		
(Standard error)	0.0873			0.0389		
Countries	28			28		
Variance at country level (%)	5.85%			1.41%		

Notes: \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.

All coefficients are compared to the benchmark category, shown in brackets. Indicators were centred to the mean obtained using weighting scheme. We also controlled for tax morale.

## DISCUSSION

Given the prevalence of this illegitimate wage practice and the greater propensity of particular types of business to pay envelope wages and specific employee groups to receive such illicit wage payments, how can one explain the practice of paying envelope wages? And what is to be done about this illegitimate practice? What policy options and approaches are available for tackling this phenomenon?

To explain the existence of envelope wages, it is first necessary to recognise that this fraudulent under-reporting of wages to evade the full tax and social security payments owed is a violation of the social contract between the state and its tax payers. Employers and employees that is, are breaching their obligations to the state to pay the full taxes they owe. This can be understood through the lens of institutional theory (Baumol and Blinder 2008; Helmke and Levitsky 2004; North 1990). Institutions represent 'the rules of the game' (Denzau and North 1994; Mathias et al. 2014; North 1990). Every society has formal institutions (i.e., codified laws and regulations) that set out the formal rules of the game. All societies however, also have informal institutions which can be defined as 'socially shared rules, usually unwritten, that are created, communicated and enforced outside of officially sanctioned channels' (Helmke and Levitsky 2004: 727). These reflect the norms, values and beliefs of citizens.

Viewed through this lens, it can be proposed that when formal and informal institutions are wholly in symmetry, envelope wages will be largely absent because the individual morality (i.e., the socially shared norms, values and beliefs of informal institutions) of employers and employees will be aligned with the codified laws and regulations of formal institutions. However, when formal and informal institutions are not aligned, such as when there is a lack of trust in government, it can be proposed that envelope wages will be more prevalent. In this case, envelope wages can be seen to result from employers and employees flouting the codified laws and regulations of formal institutions and reaching a shared understanding based on a verbal unwritten agreement to evade the full tax and social security payments owed. To evaluate whether this is the case, future research will need to analyse whether the individual morality of employers who pay (and employees who receive) envelope wages is less aligned with state morality than those who do not pay envelope wages. Importantly, it will also need to evaluate the reasons for this lack of symmetry, such as whether it is due to a lack of trust in government, a perception that tax rates are too high, a sense that they do not receive public goods and services they feel they deserve in return for the taxes they pay, and so forth.

What, moreover, is to be done about this illegitimate practice? One option that cannot be rejected without first discussing it is to do nothing. The principal rationale for adopting a *laissez-faire* approach towards envelope wages is that the level of formal employment might decrease if one eradicates this illicit wage arrangement because of the increase in labour costs for employers of shifting work into the formal economy. The fear, therefore, is that if envelope wage practices are targeted, where at least the employees are officially registered and a portion of their earnings declared, employers will turn to wholly undeclared employment. Before accepting this rationale for a *laissez-faire* approach nevertheless, it is important to recognise that doing nothing not only results in employees being denied full access to social security payments, mortgages and loans but also the continuation of unfair competition between businesses and the acceptance of working conditions below the statutory minimum. It also hinders the government in achieving wider societal goals such as social inclusion by depriving the state of the revenue required to finance social protection. For these reasons, doing nothing about envelope wages is here rejected. Instead, intervention is seen to be required. What form however, should such intervention take, especially given the possibility that employers always have the option of turning to wholly undeclared employment?

When considering interventions to tackle envelope wages, a first policy option is for the state to adopt a *punitive* approach by detecting and punishing such non-compliant ('bad') behaviour. Measures that might be used by this 'negative reinforcement' approach include improving the detection of this wage arrangement, such as by improving data matching and sharing (e.g., comparing average official wages in a business with the regional average in that sector), and increasing the penalties for employers caught paying envelope wages in order to alter the actual and perceived cost/benefit calculation they confront. The problem is that evaluations in the wider realm of informal employment are far from conclusive about the effectiveness of pursuing this approach. Although some find that improving detection reduces non-compliance for some groups (Beron, Tauchen and Witte 1992; Slemrod, Blumenthal and Christian 2001), others find that non-compliance grows (Bergman and Nevarez 2006; Varma and Doob 1998; Webley and Halstead 1986). Similarly, although some find that increasing penalties reduces non-compliance (De Juan, Lasheras and Mayo 1994; Klepper and Nagin 1989), others identify that it leads to its growth (Murphy 2005; Varma and Doob 1998; Webley and Halstead 1986).

Given the inconclusive evaluations of the effectiveness of punitive measures, another option is to pursue more enabling approaches that encourage and reward compliance rather than punish non-compliance (European Commission 2007; Kirchler 2007; Renooy et al. 2004; Small Business Council 2004; Williams 2006, 2014a). To facilitate and reward such compliant ('good') behaviour (i.e., employers fully paying salaries on a declared basis) rather than taking it as given, three different approaches can be employed.

First, *preventative* measures can be used to prevent from the outset employers adopting this illegitimate wage practice. Measures might include: simplifying regulatory compliance such as the procedures required both to register and pay declared employees; shifting on a societal level from direct to indirect taxation systems, and raising the level of the minimum wage. For example, in many East-Central European countries where such a practice is relatively rife, minimum wage levels were largely set cautiously at around half the average wage level (European Commission 2007). The rationale was to stop a shift from formal to informal employment. The problem nevertheless, is that while setting the minimum wage level low may prevent a shift into wholly undeclared employment, it provides greater scope for paying a larger share of employees' earnings as an envelope wage. Raising the minimum wage nearer to the average wage rate reduces the share of the total wage that can be paid as an envelope wage. The issue of course is that employers may decide to employ workers on a wholly undeclared basis if the minimum wage level is raised. This policy of raising the minimum wage rate will therefore require piloting and evaluating, especially in relation to calculating whether there is a tipping point at which employers move from formalising to informalising their employment practices.

Second, *curative* measures can be used to help employers currently paying envelope wages to legitimise their practices. To achieve this, amnesties can be for example offered to employers who decide to declare fully the salaries of employees where they before paid envelope wages. Another curative measure might be to move from the use of direct to indirect taxes (e.g., VAT), a proposal that has been advocated by the European Commission (2007). This leads to reduced employer contributions and therefore the economic rationale for employers seeking savings by using envelope wage payments.

Third and finally, indirect rather than direct controls might be adopted to bring about behaviour change amongst employers. Mirroring the use of indirect controls (alongside direct controls) at the organisational level to enhance performance (Legge 1995; Watson 2007), such *commitment* measures could be scaled up and applied on a societal (rather than organisational) level to foster 'high-commitment' societies in relation to tax compliance. This approach is therefore founded more upon the institutional theory explanation discussed above that envelope wages arise where there is

an asymmetry between state morality and the individual morality of employers (and employees). One way of winning ‘hearts and minds’ in relation to tax compliance is to provide tax education. Another method is to pursue awareness campaigns regarding the benefits of formal employment. An example is the campaign in Latvia to promote the benefits of declared work and disadvantages of envelope wages entitled ‘work contracts work’. Although this campaign has not been evaluated, evidence from the UK shows that advertising campaigns on the benefits of declared work have a return-to-cost ratio of 19:1 in terms of the revenue returns for tax authorities (i.e., £19 return for every £1 spent) compared with a return-to-cost ratio of just 5:1 for punitive measures (National Audit Office 2008). This suggests that such indirect controls might well be an effective instrument for tackling this illegitimate wage practice.

In sum, envelope wages can be tackled using policy measures ranging from punitive, through preventative and curative, to commitment measures. Such policy measures are not mutually exclusive. Government for instance, might increase the minimum wage level at the same time as offering amnesties to those employers who bring envelope wage payments into the declared realm and then, for those failing to comply, tougher sanctions might be applied, whilst at the same time using campaigns to foster greater commitment amongst employers to paying the full tax and social contributions owed.

## CONCLUSIONS

Building upon a small literature emerging from East-Central Europe that has highlighted the existence of envelope wages, this paper has reported the first extensive survey of this illegitimate wage practice to have been conducted since the economic crisis began. In this paper, we have documented for the first time the prevalence and distribution of the practice of paying envelope wages across different types of business, employee groups and European regions. Analysing data from across the EU-28, the finding is that 1 in 33 formal employees received envelope wages from their formal employer in the 12 months prior to the survey being conducted. Such a wage practice, moreover, although ubiquitous across all types of business and employee groups, is more common in some than in others.

Smaller firms are significantly more likely to pay envelope wages and examining the employee groups who display a greater propensity to receive envelope wages, it is often more vulnerable and weaker employee groups who are subjected to this illegitimate wage practice. Not only are those with fewer years in education and those who have difficulties paying bills more likely to receive envelope wages, but so too are skilled and unskilled manual workers, and younger age groups. However, it is not just weaker and more vulnerable groups who display a greater propensity to receive envelope wages. Men are more likely than women to receive envelope wages, and so too are professionals and those who travel as part of their job, perhaps reflecting how envelope wages are paid to these employees to compensate for them working more hours than is stated in their formal employment contract. Envelope wages, moreover, are more prevalent in East-Central Europe and Southern Europe than in Western Europe and the Nordic nations, displaying a clear West-to-East and North-to-South divide within Europe in the tendency to engage in this illegitimate wage practice.

Examining the way forward, this paper has revealed the need to test the institutional theory explanation that views envelope wages as arising when there is a breach of the social contract between the state and employers (and employees) because employers (and employees) disagree with the codified laws and regulations. It has also revealed that there is a range of policy measures available for tackling envelope wages ranging from punitive, through preventative and curative, to commitment measures. Such policy measures are not mutually exclusive and can be used in combination. Until now, however, the most effective combination for tackling this illegitimate wage

practice has not been investigated. If this paper thus leads to this illicit wage practice being brought out of the margins, then one of the intentions of this paper will have been achieved. If this then leads to greater attention being paid to how this illegitimate wage practice can be tackled, and evaluations of different policy measures and combinations of policy measures, it will have achieved its fuller intention.

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### ***Correspondence Address***

Colin C Williams, School of Management, University of Sheffield, Conduit Road, Sheffield S10 1FL, United Kingdom [c.c.williams@sheffield.ac.uk]

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