

Envelope wages as a new normal? An insight into a pool of prospective quasi-formal workers in the EU

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DRAFT VERSION

Abstract

In spite of millions of quasi-formal workers in the EU, there is still limited understanding of what exactly motivates labour suppliers to participate in this detrimental employment scheme. To fill the gap, we take a novel approach by putting prospective envelope wage earners in the centre of our analysis. According to the 2019 Special Eurobarometer on undeclared work, whose results are utilised in this paper, one in seven fully declared EU workers would have nothing against receiving one part of their wages off-the-books. The two-level random intercept cumulative logit modelling showed that manual workers and individuals whose job assumes travelling are the most willing to accept such kind of remuneration, and the same applies to workers with low tax morale and those who perceive the possibility of being detected and persecuted as very small. On the other hand, women, older individuals, married persons and employees from large enterprises express the smallest inclination towards envelope wages. The environment in which an individual operates also plays a non-negligible role, as the quality of the pension system and the strength of social contract were also identified as significant determinants of workers' readiness to accept envelope wages.

Keywords: quasi-formal employment, under-declared employment, envelope wages, EU, multi-level cumulative logit

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Introduction

No society is immune to undeclared work, regardless of their level of development (OECD 2009; ILO 2012). However, its ‘hidden’ nature makes this phenomenon quite challenging to understand and tackle. The endeavours of the authorities, academic community and relevant institutions to combat non-compliant tax behaviour are additionally undermined not only by a vast number of existing types of undeclared work but also by the continuous emergence of novel strategies to outsmart the system (Williams & Lansky, 2013). This paper is dedicated to quasi-formal employment, which represents one of the recently described, and certainly one of the most detrimental tax evasion schemes. Also known as ‘under-declared employment’ or ‘wage underreporting’, this illicit practice is grounded on an oral agreement between an employer and their formally registered employee about slicing the total remuneration for the given job into two parts (OECD, 2008; Woolfson, 2007). In addition to the officially declared wage the employee hence receives a supplementary (untaxed) cash-in-hand payment, which is commonly referred to as an ‘envelope wage’ (Merikull & Staehr, 2010, Williams and Horodnic, 2016).

Some estimates suggest that as many as 11.6 million EU citizens work on a quasi-formal basis (Williams, 2013b). These employment arrangements affect a significant number of employees in the certain Member States, with Bulgaria (14%), Latvia (17%) and Romania (23%) being far above the EU average of 5% (OECD, 2008). Nevertheless, quasi-formal employment is an important problem in all Member States (Williams, 2013b), which made the European Commission to start seeking effective policy remedies (European Commission, 2018; Mineva & Stefanov, 2018).

Still, despite a growing body of literature on the matter (see Elek et al., 2011; Kriz et al. 2008; Merikull & Staehr, 2010; Williams, 2009; Williams & Horodnic, 2015; Franic, 2020), the existing knowledge about the roots and functioning of this practice is far from being complete. This particularly applies to the workers’ side of the story, as it is not clear why so many of them tend to accept envelope wages regardless of all consequences this form of

work entails[‡]. This, in turn, leads to important limitations when programming adequate policy responses to tackle quasi-formal employment.

This paper seeks to fill the gap by analysing what workers outside this realm think about under-declared employment. Efforts to understand the viewpoints of such individuals are important not only because they represent a pool of prospective quasi-formal workers, but also because they are expected to provide more objective (or at least less subjective) judgment about quasi-formal employment compared to the dependent employees who are already receiving envelope wages. The results presented here will hence be of value not only for the academics but also for policymakers, as they will shed a broader light on mechanisms underlying quasi-formal employment. To accomplish this aim, we apply a two-level random intercept cumulative logit model on data from the 2019 Special Eurobarometer on undeclared work.

The remaining part of the article is structured as follows: in the next section we briefly summarise the literature on the drivers of quasi-formal employment and discuss the main motivation for our research. Section 3 then explains data and methods employed to achieve our research goal, while Section 4 presents the results of the conducted analysis. The paper ends with conclusions and policy recommendations.

Literature review

Although quasi-formal employment most probably emerged in post-socialist countries as a by-product of economic and social turbulences during the initial phases of transition, this practice remained below the radar all until the mid-2000s (see Hazans, 2005; Kriz et al. 2008; Woolfson, 2007). The pioneering studies on the phenomenon, which were mainly focused on Central and Eastern European Countries and the Former Soviet Union, described quasi-formal employment as “the ‘dark side’ of employers’ illicit wage practices” (Williams, 2013a, p. 1). Company owners were labelled as abusers who were exploiting the combination of pervasive unemployment and weak enforcement institutions for their financial benefit. Quasi-formal workers, on the other hand, were mainly depicted as individuals struggling to make their ends meet, who are “forced to accept or even typically collude in the receipt of envelope wages for fear of jeopardizing their employment” (Woolfson, 2007, p. 555).

[‡] Lower pension, limited entitlement to loans and credits and lower unemployment benefits in case of losing the job are some of the items from the long list of drawbacks related to quasi-formal employment (for more details, see Franic, 2020).

Yet, the early 2010s have witnessed an increased interest of the academic community for this tax evasion strategy, which brought new evidence on the pervasiveness and roots of quasi-formal employment in the whole European Union. Studies from that period identified manual workers and individuals whose job is related to travelling as the most common envelope wage earners (Williams & Horodnic, 2016). As well, the likelihood of being trapped inside this realm was found to be highly correlated with the size of the company in which one worked, given that quasi-formal employment prevailed in micro and small enterprises (Merikull & Staehr, 2010; Williams & Horodnic, 2016; Williams & Padmore, 2013). When it comes to socio-demographic characteristics, women were found to have a lower probability of working on a quasi-formal basis and the same is true for older individuals (Kedir et al. 2011; Merikull & Staehr, 2010). Marital status also seems to play a significant role, as the statistical analyses showed married individuals are less likely to engage in quasi-formal employment compared to other groups of citizens. Finally, more affluent persons appear to be less susceptible to quasi-formal employment (Williams & Horodnic, 2017).

It was exactly the notion about a strong link between socio-demographic characteristics of an individual and their propensity to participate in quasi-formal employment that led some researchers to question whether nowadays this practice is as exploitative as it was during the inception period (Williams & Horodnic, 2017; Williams & Franic, 2017; Franic 2019, 2020). Indeed, while the latest studies confirm that some employers still use the scheme to manipulate and abuse their employees, it seems that many workers today enthusiastically participate in such arrangements. For instance, according to a representative survey of 6,019 individuals from Bulgaria, Croatia and North Macedonia, every third quasi-formal worker in these countries was happy with receiving envelope wages (Franic & Williams, 2017; Williams & Bezeredi, 2017; Yang & Williams, 2017). What is more, in 30% of cases it was actually the worker who initiated the arrangement. In fact, South-East Europe seems not to be an exception in this respect, as other European countries are also experiencing an increasing readiness of workers to underreport their wages (see Franic, 2019).

An explanation for this state of affairs seems to reside in failings and imperfections of both formal and informal institutions (Williams & Horodnic, 2017). Most importantly, there is a declining level of trust in the ruling elites, an issue that has been especially pronounced since the outbreak of the global economic crisis (Algan et al., 2017; Karina, 2008; Kroknes et al., 2015). Many citizens believe their paid taxes are not efficiently and fairly spent, and therefore

seek effective strategies for retaining as much money as possible in their own pockets (Franic, 2019; 2020)[§].

This comes in parallel with population ageing, which exerts a direct influence on the quality and sustainability of the pension and healthcare systems. For instance, the majority of European governments were recently forced to reduce pension benefits for newly retired individuals and/or to increase retirement age so as to address the fall of the employed persons to pensioners ratio (Carone et al., 2016). These changes prolonged the period during which active labour market participants will act as financers of current pensioners on the one hand, and reduced duration of their own pension and/or the size of received benefits in future on the other.

It, therefore, comes as no surprise that many societies have witnessed a deterioration in the intrinsic motivation of citizens to pay taxes, which in turn represents a fertile ground for the development and sustaining of quasi-formal employment. Indeed, recent studies have identified tax morale as the key factor shaping the behaviour of workers when it comes to wage underreporting (Franic, 2019; Williams & Horodnic, 2016; Williams & Horodnic, 2017).

The latest insights into the matter have thus clearly demonstrated that quasi-formal employment has outgrown its primary label of ‘early transition by-product’. Not only has this illegitimate practice become a constituent part of labour markets around Europe, but it rather seems it is here to stay in the long-run. It was exactly this notion that motivated us to conduct the research whose results are presented in the rest of the paper. Explicitly, the main aim of the study was to evaluate prospects of quasi-formal employment in the EU, as well as to add further evidence to the debate on the drivers of this phenomenon. This was done by focusing on fully declared workers and their attitudes towards this form of noncompliance, as described in the following section.

[§] It should also be added that no study so far has found any effect of perceived risk of being detected and punished on the behavior of workers (Franic, 2019; Williams & Horodnic, 2016). The few who are certain that the authorities have the means to expose them mostly believe they will be treated as victims, not as offenders (Franic, 2019;2020).

Data and methods

To monitor the dynamics of undeclared work in the EU and explore its causes, the European Commission periodically conducts wide-scale surveys on this matter. This paper is focused on the most recent of such insights, which took place in September 2019 as part of Special Eurobarometer 498 – Wave EB92.1. The survey embraced a total of 26,514 individuals above 15 years of age, who were recruited following a multi-stage random (probability) sampling approach^{**}.

While this latest inquiry followed the thematic pattern of the previous two waves (which date back to 2007 and 2013), it did contain a few novel questions that sought to evaluate some emerging aspects of dishonest tax behaviour. The question on readiness to receive undeclared wage supplements, which is in the focus of our analysis, represents one of these ‘new questions’. Explicitly, every survey participant who acknowledged to be a formally registered dependent employee was first asked whether they had been receiving undeclared top-ups to the official wage. Interviewees who denied such behaviour (11,011 of them in total) were asked the following:

Would you be open to receiving payment from your employer that you knew would not be declared to the tax authorities?

Every respondent had to choose among three options: No; Yes, for small amounts and; ‘Yes, for any amount’. Due to the natural ordering of the offered answers, a cumulative logit model appeared as a natural choice in our endeavours to understand what lies behind an inclination of some dependent employees towards wage underreporting^{††}. However, data are given on two levels (i.e. individuals nested within countries), and therefore it was essential to address the issue of within-country correlation in order to obtain unbiased estimates (see Hox, 2010; Snijders & Bosker, 1999). For this purpose, we utilised two-level random intercept cumulative logit model defined as:

^{**} Approximately 1,000 citizens were interviewed in every EU member state, except for Germany (1,565), Luxembourg (504) and Malta (505). Although it was encompassed by the survey, we excluded the United Kingdom from our analyses as it officially left the EU on 1 February 2020. For more details on the methodology of the survey, see European Commission (2020).

^{††} A Brant test showed that the proportional odds assumption indeed holds true. Multinomial logit and continuation ratio logit links were also considered, but the results did not prove to be as robust as those from cumulative logit.

$$\ln\left(\frac{P(y_i > m)}{P(y_i \leq m)}\right) = \alpha_{mj} + \sum_{k=1}^K \beta_k X_{ijk} + \sum_{s=1}^S \gamma_s Z_{js}, \quad m = 1, 2$$

$$\alpha_{mj} = \alpha_m + u_j, \quad j = 1, 2, \dots, 27$$

where y_i represents the value of the dependent variable for an individual i , α_{mj} denote thresholds, $X_1 - X_K$ are individual-specific covariates exerting effects of $\beta_1 - \beta_K$ on the dependent variable, and $Z_1 - Z_S$ are country-level covariates with corresponding coefficients $\gamma_1 - \gamma_S$. As data are given on two levels, each threshold value is allowed to vary from country to country by including the group-level residuals $u_j \sim N(0, \sigma^2)$.

In our specific case, each of the parameters $\beta_1 - \beta_K$ quantifies the effect of a unit change in the accompanying individual-level determinant on the log-odds of expressing higher permissiveness towards envelope wages (provided that the country-effect u is held constant). On the other hand, covariates $Z_1 - Z_S$ are used to analyse if economic, social and/or institutional specificities of the country in which they live and work also exert influence on workers' willingness to receive envelope wages.

The set of explanatory variables for our analysis arises naturally from the discussion presented in earlier parts of the paper. Starting with individual-level covariates, they can be roughly divided into three groups: socio-demographic characteristics; economic and job-related variables; and subjective perceptions. The first group includes age, gender and marital status, which were all previously underlined as the key factors behind quasi-formal employment in the EU from the perspective of labour suppliers. Following conclusions from earlier studies, we expect the negative effect of age on one's enthusiasm concerning envelope wage payments. Likewise, it is anticipated that women will be less inclined to accept wage underreporting than men, and the same is expected for married individuals in comparison to other groups.

Economic aspects of the practice are evaluated by examining the effect of one's occupation, size of the company in which they work, as well as of their wealth. Given previously presented arguments, we envisage that workers who can draw a clear line between own efforts and the business revenue of their employer (manual workers, service sector employees, commercial travellers, etc.) would be more willing to engage in wage underreporting than other occupational groups. The same is foreseen for individuals working

in micro and small firms in comparison to employees from large corporations. Finally, more affluent individuals are expected to be less motivated for increasing income through this illicit scheme^{‡‡}.

Turning to the effect of subjective reasonings on the readiness to join the quasi-formal realm, we also evaluate the following variables: perceived share of population engaged in undeclared work, the assessed risk of being discovered by the authorities when conducting illicit economic activities, and tax morale index. The latter was constructed by applying factor analysis on the variables quantifying the level of tolerance for these four types of dishonest tax behaviour: undeclared work by an individual for a household; undeclared work by a firm for a household; informal transactions between companies; and un(der)declaration of income by a private person (i.e. income from self-employment and/or from afternoon moonlighting). For each of these scenarios, the survey participants were asked to express their attitude on a 10-point Likert-type scale. Since larger values indicated greater tolerance, the resultant tax morale index is essentially an interval variable given on an opposite scale (i.e. larger values of the index correspond to lower tax morale).

In line with previous studies on quasi-formal employment, it is assumed that citizens with low tax morale will be keener to receive envelope wages than those expressing high intrinsic willingness to pay taxes. Similarly, taxpayers who believe that undeclared activities are highly prevalent in society are expected to be more eager to cheat personally compared to individuals seeing other fellow citizens as trustworthy. Although previous analyses did find any effect of the perceived detection risk in the case of workers who already receive envelope wages, we hypothesise that this variable will exert influence on the standpoints of individuals who are still operating on a fully formal basis.

To further elucidate what motivates some workers to accept undeclared wage supplements, the following country-level variables were also included in our models: implicit tax rate on labour, income inequality, percentage of workers having multiple jobs, consumer health index, relative median income ratio for persons above 65 years of age (a proxy for the quality of the pension system), rule of law index, an average level of trust in government and average tax morale within society (see Table 1 for details).

^{‡‡} Since the survey participants were not directly asked about financial well-being, this variable is approximated by the self-assessed rate of recurrence of difficulties to pay bills. A detailed description of this and other explanatory variables is given in Table 1.

Table 1 An overview of the covariates used in two-level random intercept cumulative logit model

	Variable name	Type	Coding details	Remarks
Individual-level variables	Gender	Binary	1: male 2: female	No missing values
	Age	Categorical	1: 15 - 24 2: 25 - 34 3: 35 - 44 4: 45 - 54 5: 55 - 64 6: 65+	No missing values
	Marital status	Categorical	1: married 2: single 3: cohabiting 4: divorced or separated 5: widowed	43 missing values
	Occupation	Categorical	1: manager 2: professional 3: employed position, at desk 4: employed position, travelling 5: employed position, service job 6: manual worker	No missing values
	Size of the company	Categorical	1: up to 9 employees 2: 10 - 49 employees 3: 50 - 499 employees 4: 500+ employees	638 missing values
	Financial difficulties	Categorical	1: most of the time 2: from time to time 3: almost never/never	98 missing values
	Perceived detection risk	Categorical	1: very high 2: fairly high 3: fairly small 4: very small	876 missing values
	Tax morale	Interval	Values from 1 to 10, where larger numbers represent lower tax morale	405 missing values
	Perceived % of the population engaged in undeclared work	Categorical	1: less than 5% 2: 5 - 20% 3: 21 - 50% 4: more than 50%	1786 missing values
	Country-level variables	Implicit tax rate on labour	Interval	The sum of all direct and indirect taxes and employees' and employers' social contributions levied on employed labour income divided by the total compensation of employees working in the economic territory increased by taxes on wage bill and payroll
Income inequality index		Interval	The ratio of total income received by the 20% of the population with the highest income to that received by the 20% of the population with the lowest income	Data refer to 2018; Source: Eurostat (2020d)
% of workers with more than one job		Interval	The total number of people with two jobs divided by the total employment	Data refer to 2018; Sources: Eurostat (2020a) and Eurostat (2020b)
Consumer health index		Interval	A composite index evaluating a total of 46 indicators related to healthcare; larger values indicate a better quality of the system	Data refer to 2018; Source: Björnberg & Phang (2019)
Relative median income ratio for persons 65+		Interval	The ratio of the median equivalised disposable income of people aged above 65 to the median equivalised disposable income of those aged below 65	Data refer to 2018; Source: Eurostat (2020e)
Rule of law		Interval	Values are given on the scale from 0 to 100, with higher numbers indicating a stronger rule of law	Data refer to 2018; Source: World Bank (2020)
Trust in government		Interval	Percentage of people that tend to trust the national government	Data from June 2019; Source: European Commission (2019)
Average level of tax morale		Interval	Average values by country of the tax morale index	Values constructed from level_1 variable

Source: Authors' own representation

Workers facing larger implicit tax rates are expected to be more inclined towards this type of dishonest behaviour, and the same applies to taxpayers from countries with more pronounced income inequality. Similarly, we hypothesise that individuals conducting more than one job will have a more benevolent attitude towards quasi-formal employment due to having a sense of paying much larger amounts of taxes compared to the rest of the population.

As the largest portion of paid social security contributions most commonly relates to retirement savings schemes and health insurance, we also test whether that the quality of the pension system and the healthcare indeed play an important role in this regard. The hypothesis is that workers who are less satisfied with received health services will be less willing to finance the system. Likewise, individuals who are surrounded by more pensioners struggling to have ends meet are expected to be less motivated for paying their own retirement contributions.

A similar argument is applicable in the case of the trust in government: the less confident workers are about the competences of the ruling elites, the less ready to subsidise the public purse will they be. When it comes to the rule of law, it is envisaged that societies with stronger rule of law will be less disposed to disobedient tax behaviour. Finally, countries experiencing lower average tax morale of citizens are more likely to have a larger number of workers and employers willing to outsmart the tax authorities^{§§}.

A total of 10 models were evaluated following a cumulative model-building strategy. Explicitly, we first estimated the model without any covariates (i.e. the empty model) so as to realise to what extent can the differences in the attitudes of EU workers be ascribed to their personal characteristics and to what extent this is a result of the environment in which they operate. Model 1 then examines the effect of individual-level variables, while in Models 2-9 each of the eight country-level variables is included separately to see whether it can help explain the differences in the reasoning of workers.

Before moving to the results, it should be mentioned that data pre-processing was done both in STATA and REALCOM impute. The latter was essential in addressing the issue of missing

^{§§} It is important to note that this variable serves first and foremost to scrutinise the role of horizontal trust (i.e. trust between taxpayers). Unlike the individual-level variable from which it was composed, this covariate evaluates the effect of other citizens' tax morale on the reasoning of an individual taxpayer.

values, as it allows multiple imputation procedure for multi-level data. The final models were processed in STATA with the Gauss–Hermite quadrature applied. Post-stratification weights were used both in descriptive analyses and statistical modelling.

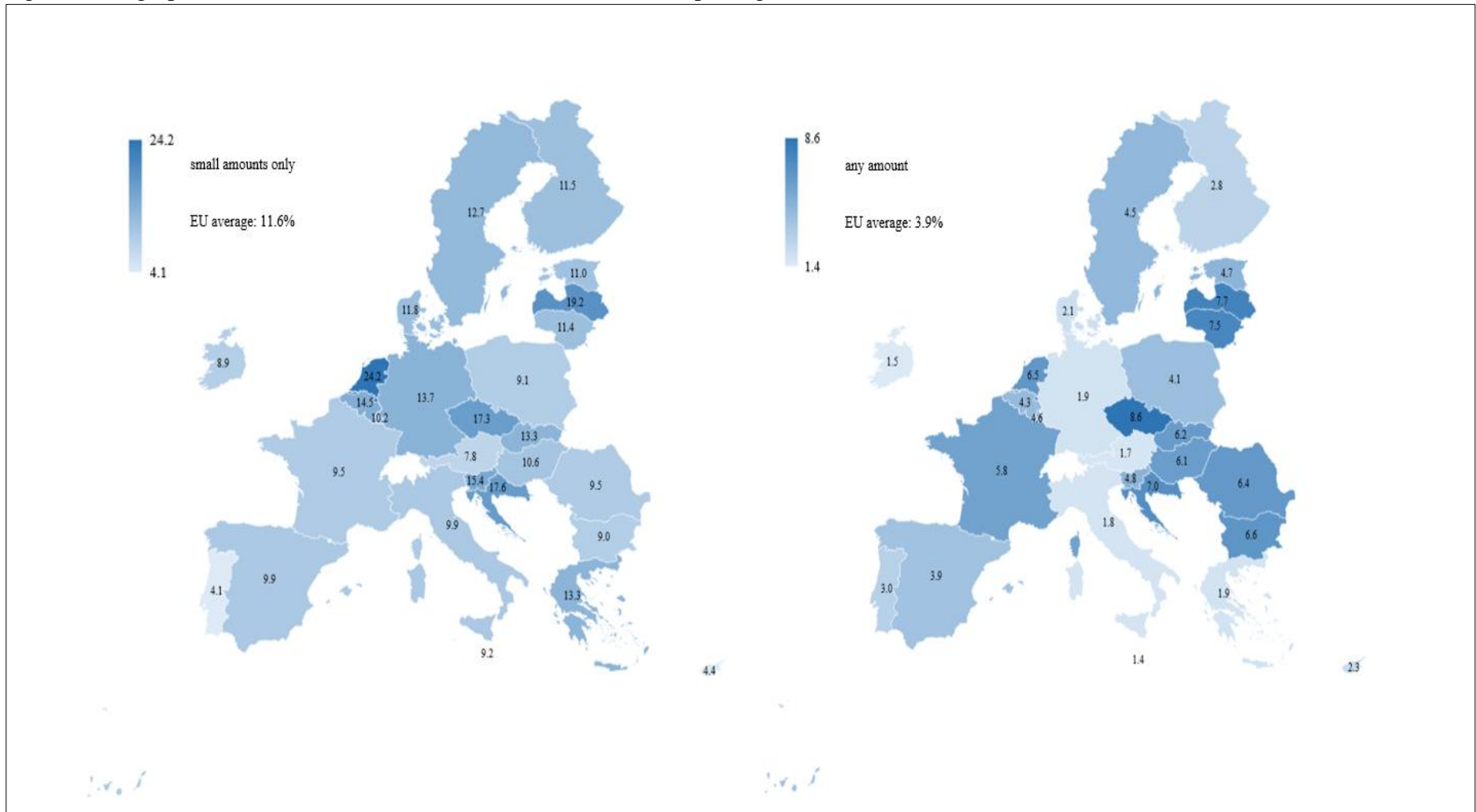
Findings

According to the survey, every seventh fully declared dependent employee in the EU is willing to receive undeclared cash supplements to their official wage (Figure 1). Specifically, 11.6% of workers would have nothing against small cash top-up, while 3.9% would always accept envelope wages regardless of the amount. In fact, the share of ready-to-be quasi-formal workers is probably much higher, given that almost 4% of the survey respondents did not provide a definite answer to this question. It is hence more illustrative to say that only 4 out of 5 dependent employees still working on a fully legitimate basis are openly against wage underreporting.

Before analysing the reasons for such a high approval rate among the individuals who are currently receiving their salaries through legitimate channels, it is essential to inspect the geographical distribution of prospective quasi-formal workers. As can be seen on the left panel of Figure 1, the support rates for small-scale cash payments range from 4.1% in Portugal to 24.2% in the Netherlands. Substantial levels of readiness to receive petty envelope wages is also evidenced in Latvia (19.2%), Croatia (17.6%) and the Czech Republic (17.3%), while the lowest support for such payments is expressed in Cyprus (4.4%), Ireland (8.9%) and Bulgaria (9.0%).

When it comes to the unconditional willingness to receive envelope wages, it is post-socialist countries that dominate in this respect (see the right panel of Figure 1). Explicitly, the highest approval rates are recorded in the Czech Republic (8.6%), Latvia (7.7%) and Lithuania (7.5%), while workers in Ireland (1.5%), Austria (1.7%) and Italy (1.8%) are the least enthusiastic about this scheme.

Figure 1 Geographical distribution of the readiness to receive envelope wages in the EU



Source: Authors' illustration based on the Special Eurobarometer 498 – Wave EB92.1

Nevertheless, these results do indicate that the difference between new member states and older democracies has been gradually vanishing over time^{***}. Indeed, workers from Malta and Cyprus are found to be least sympathetic towards this form of tax evasion in the whole EU (Figure 1), while France and the Netherlands do not deviate substantially from transition economies in this respect.

This notion is confirmed by the results of the two-level random intercept cumulative logit models, which are presented in Table 2. As suggested by the variance partition coefficient of Model 0, only 3.8% of the variation in attitudes towards this illegitimate wage scheme across the EU can be ascribed to country-level characteristics. The viewpoints of workers are, therefore, mostly determined by their personal characteristics.

Starting with the role of socio-demographic features, the conducted analysis revealed that women are far less willing to receive envelope wages than men and the same is true to experienced individuals compared to new entrants to the labour market. These findings are in line with previous studies on the matter, which also underlined the vital importance of age and gender in this respect (see Kedir et al., 2011; Meriküll & Staehr, 2010; Williams & Horodnic, 2015). Results for marital status are also consistent with the existing literature on the drivers of quasi-formal employment in the EU (Fronic, 2020; Williams & Fronic, 2017). Explicitly, our study confirmed that married individuals are less eager to accept undeclared payments than other groups.

Economic circumstances also seem to be important for the development of quasi-formal employment, but not as much as one would expect. For instance, workers from micro and small companies were not found to have a larger propensity towards quasi-formal employment compared to individuals from mid-sized and moderately large firms. Nevertheless, employees from companies hiring more than that 500 workers appear to be less ready to receive cash supplements. When it comes to occupation, the analysis underlined manual workers and individuals whose job assume travelling as the most likely candidates for wage underreporting. This outcome is anticipated given that these two groups of workers are most suitable for performance-related envelope wages, as described by Fronic (2020).

^{***} For an overview of previous surveys on the matter see European Commission (2007, 2014).

Table 2 Results of the two-level random intercept cumulative logit modelling

	Model 0	Model 1	Model 2	Model 3	Model 4
Individual-level indicators					
Gender (RC: Male)	-	-0.296*** (0.062)	-0.296*** (0.062)	-0.296*** (0.063)	-0.296*** (0.062)
Age (RC: 15 - 24)					
25 - 34	-	-0.207 (0.116)	-0.207 (0.116)	-0.207 (0.117)	-0.207 (0.116)
35 - 44	-	-0.278* (0.141)	-0.278* (0.140)	-0.277* (0.141)	-0.278* (0.141)
45 - 54	-	-0.318* (0.155)	-0.318* (0.155)	-0.318* (0.155)	-0.318* (0.155)
55 - 64	-	-0.261 (0.152)	-0.261 (0.152)	-0.261 (0.152)	-0.261 (0.153)
65+	-	-0.823*** (0.202)	-0.823*** (0.202)	-0.824*** (0.202)	-0.823*** (0.202)
Marital status (RC: Married)					
Single	-	0.224*** (0.068)	0.224*** (0.067)	0.225*** (0.067)	0.224*** (0.068)
Cohabiting	-	0.317*** (0.090)	0.317*** (0.090)	0.319*** (0.091)	0.317*** (0.091)
Divorced or separated	-	0.316** (0.115)	0.316** (0.115)	0.316** (0.115)	0.316** (0.115)
Widowed	-	0.209 (0.237)	0.209 (0.237)	0.208 (0.237)	0.209 (0.236)
Occupation (RC: Manager)					
Professional	-	-0.173 (0.133)	-0.173 (0.133)	-0.174 (0.133)	-0.173 (0.133)
Employed position, at desk	-	0.091 (0.083)	0.091 (0.084)	0.091 (0.083)	0.091 (0.083)
Employed position, travelling	-	0.367*** (0.089)	0.367*** (0.089)	0.367*** (0.089)	0.367*** (0.089)
Employed position, service job	-	0.152 (0.085)	0.152 (0.085)	0.152 (0.085)	0.152 (0.085)
Manual worker	-	0.335*** (0.068)	0.335*** (0.068)	0.334*** (0.068)	0.335*** (0.067)
Size of the company (RC: Up to 9 employees)					
10 - 49	-	0.039 (0.082)	0.038 (0.082)	0.039 (0.082)	0.039 (0.082)
50 - 499	-	-0.102 (0.101)	-0.102 (0.101)	-0.101 (0.101)	-0.101 (0.102)
500+	-	-0.289** (0.102)	-0.289** (0.102)	-0.286** (0.101)	-0.288** (0.104)
Financial difficulties (RC: Most of the time)					
From time to time	-	0.004 (0.168)	0.004 (0.168)	0.005 (0.169)	0.004 (0.168)
Almost never/never	-	-0.276 (0.165)	-0.276 (0.165)	-0.273 (0.167)	-0.275 (0.167)
Perceived detection risk (RC: Very high)					
Fairly high	-	0.331** (0.139)	0.331** (0.139)	0.331** (0.139)	0.331** (0.139)
Fairly small	-	0.543*** (0.150)	0.543*** (0.150)	0.544*** (0.151)	0.543*** (0.151)
Very small	-	0.666*** (0.187)	0.666*** (0.187)	0.667*** (0.187)	0.666*** (0.187)
Tax morale (group centered)					
	-	0.215*** (0.024)	0.215*** (0.024)	0.215*** (0.024)	0.215*** (0.024)
Perceived % of the population engaged in undeclared work (RC: Less than 5%)					
5 - 20%	-	0.265** (0.094)	0.265** (0.094)	0.264** (0.094)	0.265** (0.094)
21 - 50%	-	0.574*** (0.118)	0.574*** (0.118)	0.572*** (0.119)	0.574*** (0.118)
More than 50%	-	0.726*** (0.118)	0.726*** (0.118)	0.723*** (0.119)	0.726*** (0.118)
α_1	1.409*** (0.075)	1.900*** (0.306)	1.804** (0.712)	2.123*** (0.481)	1.874*** (0.291)
α_2	2.523*** (0.106)	3.076*** (0.267)	2.980*** (0.699)	3.300*** (0.438)	3.051*** (0.272)
Country-level indicators					
Implicit tax rate on labour	-	-	-0.003 (0.017)	-	-
Income inequality	-	-	-	0.045 (0.059)	-
% of workers with more than one job	-	-	-	-	-0.006 (0.035)
σ_u^2	0.130*** (0.035)	0.125*** (0.041)	0.125*** (0.041)	0.122*** (0.059)	0.125*** (0.042)
Log likelihood	-6245.9	-4656.1	-4655.9	-4656.0	-4655.6
VPC	0.038	0.037	0.037	0.036	0.037
Level_2 units	27				
Level_1 units	11,011				

Notes: 1) *p < 0.05; **p < 0.01; ***p < 0.001

2) Estimates based on multiple imputation technique with 10 imputed values

3) RC stands for 'reference category'

Source: Authors' own calculation based on the Special Eurobarometer 498 – Wave EB92.1

Table 2 (Continued) Results of the two-level random intercept cumulative logit modelling

	Model 5	Model 6	Model 7	Model 8	Model 9
Individual-level indicators					
Gender (RC: Male)	-0.296*** (0.062)	-0.297*** (0.062)	-0.296*** (0.063)	-0.296*** (0.062)	-0.297*** (0.063)
Age (RC: 15 - 24)					
25 - 34	-0.207 (0.116)	-0.207 (0.117)	-0.207 (0.116)	-0.207 (0.117)	-0.205 (0.116)
35 - 44	-0.277* (0.141)	-0.277* (0.140)	-0.277* (0.141)	-0.277* (0.141)	-0.277* (0.140)
45 - 54	-0.317* (0.156)	-0.318* (0.154)	-0.318* (0.155)	-0.318* (0.155)	-0.316* (0.154)
55 - 64	-0.260 (0.153)	-0.262 (0.152)	-0.261 (0.153)	-0.261 (0.153)	-0.258 (0.152)
65+	-0.822*** (0.202)	-0.827*** (0.202)	-0.822*** (0.201)	-0.823*** (0.202)	-0.825*** (0.200)
Marital status (RC: Married)					
Cohabiting	0.318*** (0.092)	0.316*** (0.090)	0.319*** (0.091)	0.318*** (0.091)	0.317*** (0.092)
Single	0.225*** (0.068)	0.224*** (0.068)	0.226*** (0.068)	0.225*** (0.068)	0.230*** (0.067)
Divorced or separated	0.316** (0.115)	0.315** (0.115)	0.318** (0.115)	0.316** (0.115)	0.314** (0.117)
Widowed	0.209 (0.237)	0.206 (0.237)	0.210 (0.236)	0.210 (0.236)	0.208 (0.235)
Occupation (RC: Manager)					
Professional	-0.175 (0.132)	-0.181 (0.134)	-0.174 (0.133)	-0.173 (0.133)	-0.175 (0.132)
Employed position, at desk	0.090 (0.083)	0.092 (0.083)	0.089 (0.082)	0.090 (0.083)	0.082 (0.084)
Employed position, travelling	0.366*** (0.089)	0.368*** (0.089)	0.364*** (0.090)	0.365*** (0.089)	0.359*** (0.088)
Employed position, service job	0.152 (0.085)	0.151 (0.085)	0.151 (0.085)	0.151 (0.085)	0.148 (0.084)
Manual worker	0.334*** (0.067)	0.335*** (0.068)	0.333*** (0.068)	0.333*** (0.067)	0.326*** (0.068)
Size of the company (RC: Up to 9 employees)					
10 - 49	0.039 (0.082)	0.037 (0.082)	0.040 (0.082)	0.040 (0.082)	0.038 (0.082)
50 - 499	-0.101 (0.101)	-0.104 (0.102)	-0.099 (0.102)	-0.100 (0.102)	-0.103 (0.101)
500+	-0.286** (0.103)	-0.290** (0.102)	-0.283** (0.104)	-0.285** (0.104)	-0.283** (0.100)
Financial difficulties (RC: Most of the time)					
From time to time	0.005 (0.168)	0.003 (0.168)	0.005 (0.169)	0.005 (0.168)	-0.007 (0.168)
Almost never/never	-0.275 (0.166)	-0.280 (0.165)	-0.271 (0.169)	-0.273 (0.167)	-0.281 (0.165)
Detection risk (RC: Very high)					
Fairly high	0.331** (0.139)	0.331** (0.139)	0.330** (0.139)	0.331** (0.139)	0.329** (0.138)
Fairly small	0.543*** (0.150)	0.542*** (0.151)	0.543*** (0.150)	0.543*** (0.150)	0.543*** (0.149)
Very small	0.666*** (0.187)	0.666*** (0.187)	0.666*** (0.187)	0.666*** (0.187)	0.663*** (0.187)
Tax morale (group centered)					
	0.215*** (0.024)	0.215*** (0.024)	0.215*** (0.024)	0.215*** (0.024)	0.215*** (0.024)
Perceived % of the population engaged in undeclared work (RC: Less than 5%)					
5 - 20%	0.265** (0.094)	0.264** (0.094)	0.264** (0.094)	0.264** (0.094)	0.265** (0.093)
21 - 50%	0.573*** (0.119)	0.572*** (0.119)	0.571*** (0.119)	0.572*** (0.119)	0.574*** (0.117)
More than 50%	0.724*** (0.119)	0.724*** (0.118)	0.722*** (0.119)	0.724*** (0.119)	0.732*** (0.118)
α_1	1.599*** (0.633)	1.088* (0.532)	1.515*** (0.440)	1.778*** (0.322)	3.202*** (0.344)
α_2	2.775*** (0.656)	2.264*** (0.506)	2.691*** (0.462)	2.954*** (0.312)	4.378*** (0.320)
Country-level indicators					
Consumer health index	-0.001 (0.001)	-	-	-	-
Relative median income ratio for persons 65+	-	-0.955** (0.394)	-	-	-
Rule of law	-	-	-0.005 (0.006)	-	-
Trust in government	-	-	-	-0.003 (0.005)	-
Average level of tax morale	-	-	-	-	0.536*** (0.100)
σ_u^2	0.123*** (0.046)	0.108*** (0.041)	0.120*** (0.046)	0.123*** (0.044)	0.063*** (0.020)
Log likelihood	-4655.8	-4654.3	-4655.8	-4655.9	-4652.0
VPC	0.036	0.032	0.035	0.036	0.019
Level_2 units	27				
Level_1 units	11,011				

Notes: 1) *p < 0.05; **p < 0.01; ***p < 0.001

2) Estimates based on multiple imputation technique with 10 imputed values

3) RC stands for reference category

Source: Authors' own calculation based on the Special Eurobarometer 498 – Wave EB92.1

On the other hand, individuals facing a constant shortage of money for making their ends meet do not exhibit a larger propensity to accept undeclared wage supplements compared to those who never have financial troubles. Contrary to our expectation, the financial situation hence seems not to be a relevant factor in one's reasoning (Table 2).

In fact, it is personal beliefs, norms and standpoints rather than crude wealth that exert influence on workers' propensity to receive envelope wages. Starting with tax morale, we found that lower intrinsic willingness to pay taxes indeed entails higher inclination towards wage underreporting (Table 2). These results are expected and fully in line with previous studies on the phenomenon, which all emphasised tax morale as one of the key determinants of quasi-formal employment from the perspective of workers (Francic, 2020; Williams & Francic, 2017; Williams & Horodnic, 2015).

Yet, the fear of being caught in such an imposture represents the opposite side of the coin. As can be seen from Table 2, workers who believe that the authorities have efficient means to detect and prosecute perpetrators are not as ready to accept envelope wages as those who express complete distrust in the capabilities of the enforcement bodies.

Finally, perceived trustworthiness of fellow taxpayers also appears to play one of the pivotal roles in the process. In short, the larger the estimated percentage of the population working on an undeclared basis is, the greater individual's readiness to illegitimately reduce own tax duties is. The effect of horizontal trust further came to the fore when country-level variables were examined. As evidenced in Table 2, individuals from countries with lower average levels of tax morale are statistically more likely to be open for quasi-formal employment compared with their counterparts from member states where this problem is less pronounced. In point of fact, it seems that this variable is crucial for explaining rather high approval rates in the Netherlands, the Czech Republic and Latvia, as the three countries scored the worse on this particular indicator.

When it comes to other country-level covariates, only the quality of the pension system and seems to be important in this regard. As expected, individuals from countries where pensioners are relatively poorer than the rest of the population are found to be statistically more willing to engage in wage underreporting. None of the remaining six country-level determinants was found significant, which is actually not surprising having in mind a rather weak country-level effect, as revealed by Model 0.

Discussion and conclusions

Quasi-formal employment is an EU-wide phenomenon, with approximately 11.6 million employees receiving envelope wages (Williams, 2013b). However, despite a growing body of literature, the knowledge on the reasons and determinants of taking up quasi-formal employment is still quite limited. To start filling this gap we utilised data from the 2019 Special Eurobarometer Survey on undeclared work and applied a two-level random intercept cumulative logit model, combining the individual-level data with country variables.

The data shows that about one in seven dependent employees in the EU is willing to accept an undeclared wage on top of their official wage, with approval rates being the highest for the Czech Republic, Latvia and Lithuania. Our analysis also reveals that women, older individuals, married persons and employees from large enterprises are less eager to accept envelope wages. On the other hand, manual workers and those whose job requires them to travel are the main candidates for quasi-formal employment. Additionally, individuals with low tax morale and who perceive the possibility of being detected and persecuted as very small have a high probability to enter the quasi-formal realm. Finally, the perceived trustworthiness of other taxpayers also plays a significant role. The higher the perceived percentage of the population working informally, the higher the probability of accepting envelope wages.

In the case of country-level variables, only the quality of the pension system and the average level of tax morale are significant. Explicitly, individuals from countries where pensioners are relatively poorer than the rest of the population are statistically more willing to engage in wage underreporting. The same is true for workers whose fellow citizens express lower tax morale.

Our results suggest several policy measures which can help in tackling the problem of quasi-formal employment. First, improving tax morale can be a significant factor in the fight against envelope wage practices. As a matter of fact, improving tax morale would also have a beneficial influence on reducing tax evasion and the size of the shadow economy in general (Torgler & Schneider, 2007). However, this might not be an easy task and may require various measures related to public governance and the tax system. Such measures could encompass for example improving the quality of public administration and public goods and enhancing the transparency of the tax system.

Another policy measure concerns an increase in the perceived probability of detection and prosecution. Our results show that an increase in the perceived repression would result in a lower probability of accepting envelope wages. Therefore, particular attention should be paid by policymakers to means which significantly influence and increase the belief amongst employees about the capabilities of authorities in terms of detection and prosecution.

Our study has also some limitations. First, we do not investigate the extra conditions related to quasi-formal employment which are imposed on the employees – something which is still being poorly understood. Second, the power relations between employer and employees leading to under-declared employment is also an issue which needs attention. Both these aspects should be investigated by future research so as to allow us to fully understand the phenomenon of quasi-formal employment.

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