

Informality on the rise: Dissecting quasi-formal employment in the EU

The Economic and
Labour Relations Review
2022, Vol. 33(3) 463–483

© The Author(s) 2022

Article reuse guidelines:

sagepub.com/journals-permissions

DOI: 10.1177/10353046221092431

journals.sagepub.com/home/elrr



Stanislaw Cichocki 

University of Warsaw, Poland

Josip Franic

Institute of Public Finance, Croatia

Abstract

In spite of a growing body of literature on quasi-formal employment in the European Union (EU), there is still limited knowledge regarding the exact functioning of this illegal employment scheme. To fill this gap, we report data from the 2019 Special Eurobarometer on undeclared work, which reveals that 30.1% of European workers have higher income from employment than reported to tax authorities. Explicitly, 2.6% of registered dependent employees are entitled to cash top-ups to the official wage, for 7.8% of them the amount of supplementary payments depends on the work efforts, whereas 9.2% receive informal remuneration under multiple arrangements. In addition to these ‘regular recipients’, we also found that 10.5% of employees in the EU can be classified as ‘sporadic quasi-formal workers’. Besides showing that wage underreporting is far more pervasive than previously assumed, the study also offers a more nuanced insight into different manifestations of this illicit practice in the EU. Results of a two-level random intercept multinomial logit model reveal that women are less likely to receive fixed and variable cash-in-hand payments, whereas older individuals have a lower propensity to receive work-time-related income. The analysis also highlights that professionals, service sector employees, manual job workers and individuals whose jobs require travelling are more prone to variable wages compared to the rest of the population. Given a modest success in combating the phenomenon to this date, these findings will be particularly valuable for policymakers in their endeavours to devise tailored policy measures.

JEL Codes: E26, H26

Keywords

Envelope wages, EU, quasi-formal employment, two-level multinomial logit, undeclared employment, wage underreporting

Corresponding author:

Stanislaw Cichocki, Faculty of Economic Sciences, University of Warsaw, ul. Długa 44/50, Warsaw 00-241, Poland.

Email: scichocki@wne.uw.edu.pl

Introduction

Recent years have witnessed a rise in precarious work, which has gone hand in hand with the decline of standard employment relations (Lewchuk, 2017; Mbara et al., 2020; Oddo et al., 2021; Stanford, 2017). There are many economic and legislative factors that motivate employers to prefer ‘contractual labourers’ over standard employees. Reduction of labour cost and circumvention of some labour directives (e.g. severance and sick pay provisions) are some of the most important, but certainly not the only drivers of employers’ behaviour in this respect.¹ However, the increasing prevalence of ‘quasi-formal employment’ in the European Union (EU) suggests that precarious work is not necessarily an alternative, but rather a complement to standard employment. Also referred to as ‘under-declared employment’ or ‘wage underreporting’, the practice is grounded on a verbal arrangement between an employer and their employee about dividing the total remuneration for the given job into two parts (Organization for Economic Cooperation and Development (OECD), 2008; Woolfson, 2007). Besides the officially declared wage, the employee receives a supplementary (unofficial and, obviously, untaxed) payment, which is commonly known as an ‘envelope wage’ (Meriküll and Staehr, 2010; Williams and Horodnic, 2016).²

Some earlier estimates showed that at least 11.6 million EU citizens are engaged in quasi-formal employment (Williams, 2013b). In certain countries, a significant number of employees were found to be involved in these arrangements, with Bulgaria (14%), Latvia (17%) and Romania (23%) being far above the EU average of 5% (OECD, 2008). Nonetheless, no EU member state is immune to this type of scheme, which has significant negative effects, both at the micro and macro-level (Williams, 2013b).

Lower pension, reduced social security benefits in case of losing a job and limited entitlement to loans and credits represent just the tip of the long list of problems quasi-formal workers usually face (see Franic, 2020a). In spite of its short-term benefits, this practice can also be harmful for the business owners in the long run. Being a significant source of unfair competition, pervasive wage underreporting can ignite ‘race to the bottom’ if many compliant companies are forced to apply the same strategy in order to survive. Turning to macroeconomic consequences, it suffices to say that deliberate misreporting of wages undermines the credibility of the official figures on GDP, labour market conditions and quality of life in general (Franic and Cichocki, 2022). Finally, besides deleterious effect on budgets of central and local governments, it also deprives the pension and healthcare systems from social security contributions.

It accordingly comes as no surprise that the need to tackle this phenomenon has been emphasised since the onset of the COVID-19 pandemic (Franic and Cichocki, 2022; Williams, 2020). Government deficits increased in the EU from 0.5% of GDP in 2019 to almost 7% in 2020, and the government debt rose from 77.2% in 2019 to 90.1% in 2020 (Eurostat, 2021). This has led national governments to try to find additional tax revenues, such as from labour taxes. Reducing tax evasion related to quasi-formal employment is beyond doubt one of the top priorities in this respect.

However, in spite of noteworthy contributions in this research field over the last few years (see Elek et al., 2011; Franic, 2020b; Kriz et al. 2007; Meriküll and Staehr, 2010;

Williams, 2009; Williams and Horodnic, 2015a), many aspects of quasi-formal employment are still not sufficiently understood. This leaves relevant authorities with large knowledge gaps regarding its roots and leads to important limitations when preparing adequate policy responses. Consequently, little success in the fight against the phenomenon has been evidenced so far, notwithstanding the strong commitment by the European Commission to eradicate it (European Commission, 2018; Mineva and Stefanov, 2018).

Several recent studies have suggested that the excessive reliance on repression is the main reason for this failure (see Franic, 2019; Williams and Horodnic, 2016). Particularly, it has been shown that neither workers nor business owners find the risk of being detected and penalised as a deterrent. Indeed, since both sides possess valid documentation supporting their employment relation with no trace of the agreement to hide part of the wage, labour inspectors find it quite challenging (and often even impossible) to detect the fraud during an on-site audit. Tax administrations, on the other hand, must follow the flow of money on the company level only to get a clue that something is wrong (Franic, 2020a, 2020b). As a consequence, proving the existence of wage underreporting typically requires cooperation of the violators, which rarely happens in practice (Franic, 2020a).

Given this, suggestions have been made not only to rely on indirect policy approach but also to shift the attention from employers to workers. The latter notion arose from the emerging body of literature showing that many contemporary workers willingly join this scheme, contrary to the prevalent belief that such arrangements are being imposed by reckless company owners (Franic, 2019, 2020b; Franic and Cichocki, 2022). Since under-declared employment has substantial long-term consequences for their well-being, while providing modest (if any) benefits in the short run, workers indeed appear to be a much better target population to tackling this illegitimate practice.

However, such a decisive shift in the strategic approach requires an in-depth understanding of the factors driving the decision of workers to accept, or even initiate, wage underreporting. Yet, most studies so far have focused solely on exploring which groups of labour suppliers are susceptible to quasi-formal employment, whereas the exact socio-economic background of this scheme and the specificities of verbal agreements between employers and their workers remain insufficiently understood. This is because available insights have implicitly assumed the homogeneity of the quasi-formal workforce on one hand and neglected the potential complexity of payment arrangements on the other.

This article seeks to fill precisely these gaps by evaluating the findings from the 2019 Special Eurobarometer Survey on undeclared work. Representing one of the most comprehensive cross-national sources of information on illegitimate economic transactions, this latest wave of the survey was the first one to dig deeper into the foundations of quasi-formal employment. To make use of it, we examine the various types of envelope wage arrangements identified by the survey and explore driving forces behind them. The main goal is to provide a much broader and more realistic picture of quasi-formal employment in the EU.

As one of the very first attempts to understand different manifestations of the practice, this study is hence expected to have a broad theoretical contribution. While adding

to the existing knowledge about quasi-formal employment, our findings will also open the prospects for devising tailored policy responses targeting specific categories of workers.

To achieve these aims, the rest of the article is structured as follows: in the next section, we briefly summarise the literature on drivers of quasi-formal employment and further elaborate the main motivation for our research. In Section 3, we describe the data and methods employed to achieve our research goals. After summarising the main results (Section 4), the final part of the article concludes and gives key policy recommendations.

Literature review

Quasi-formal employment most probably appeared for the first time in post-socialist countries during the initial phase of the transition as a result of economic and social turbulences. However, not much attention was paid to this practice until the mid-2000s (see Hazans, 2005; Kriz et al. 2007; Woolfson, 2007). The first studies on the phenomenon, which were conducted for Central and Eastern European, and the Former Soviet Union countries, characterised quasi-formal employment as ‘the “dark side” of employers’ illicit wage practices’ (Williams, 2013a: 1). These studies described company owners as abusers making use of widespread unemployment and weak enforcement institutions for their financial benefit. Accordingly, quasi-formal workers were viewed as individuals struggling to make ends meet, ‘forced to accept or even typically collude in the receipt of envelope wages for fear of jeopardising their employment’ (Woolfson, 2007: 555).

These earliest studies further revealed that 1 in 10 formal employees from Central and Eastern Europe had been receiving envelope wages at that time (Williams and Padmore, 2013). In comparison, the incidence rate accounted for just 2% in Western Europe, 4% in Southern Europe and 2% in Nordic countries (Williams and Padmore, 2013).

The early 2010s brought a surge in the number of academic papers on this issue, which led to new insights on the development of quasi-formal employment in the EU. Most importantly, the research insights from that period concluded that the difference between new and older member states regarding the pervasiveness of the practice has been gradually diminishing over time (Williams and Padmore, 2013). In addition, manual workers and individuals whose job requires travelling were emphasised as the most common envelope wage earners across the EU (Williams and Horodnic, 2016), whereas retail, hospitality, construction and agriculture appeared to be the most susceptible sectors in this respect (European Commission, 2007; Krynska et al., 2007). Furthermore, a high correlation between the size of the company and the reliance on quasi-formal employment was found, with illicit wage arrangements prevailing in micro and small enterprises (Meriküll and Staehr, 2010; Williams and Horodnic, 2016; Williams and Padmore, 2013). In case of socio-demographic determinants, the findings suggested that women have a lower probability of joining the quasi-formal employment. The same is true for older workers, more affluent individuals and especially those who are married (Kedir et al. 2011; Meriküll and Staehr, 2010; Williams and Horodnic, 2017).

It is important to stress that quasi-formal employment was still depicted as a highly exploitative practice at that time. This notion has, however, started to change with some recent studies, which did not challenge the idea itself, but rather its universality (Franic 2019, 2020a; Williams and Franic, 2017; Williams and Horodnic, 2017). Although the latest research confirms that some employers still use the scheme to exploit their employees, there is growing evidence that many workers today actively take part in such arrangements. For instance, a representative survey of 6019 individuals from Bulgaria, Croatia and North Macedonia showed that one in three quasi-formal workers in these countries were accepting, however reluctantly, the receipt of envelope wages (Franic and Williams, 2017; Williams and Bezeredi, 2017; Yang and Williams, 2017). However, South-East Europe seems not to be an exception in this respect as in other European countries workers are more and more ready to underreport their wages (see Franic, 2019).

The failings and imperfections of both the formal and informal institutions appear to be the main reasons for this state of affairs (Williams and Horodnic, 2017). The most apparent issue in this respect is the declining level of trust in the ruling elites, which has come to the fore since the outbreak of the global economic crisis (Algan et al., 2018; Karina, 2008; Kroknes et al., 2015). Many citizens nowadays believe their paid taxes are not efficiently spent, and therefore look for strategies to retain in their own pockets as much money as possible (Franic, 2019, 2020b). It hence comes as no surprise that the intrinsic motivation of citizens to pay taxes (the so-called tax morale) is declining in many societies. This in turn nurtures quasi-formal employment and akin tax evasion schemes. Indeed, the latest studies have shown that tax morale is the most important factor influencing the behaviour of workers with regard to wage underreporting (see Williams and Horodnic, 2016, 2017).

Even though the cited studies provide general knowledge regarding quasi-formal workforce, not much is known when it comes to the different forms of this scheme and the exact functioning of theirs in practice. To the best of our knowledge, the qualitative study by Franic (2020a) is the only one digging into different approaches applied by employers to ensure the collaboration of their personnel, as well as into the role of workers in the process. Franic (2020a) distinguishes between the following types of quasi-formal employment:

1. Quasi-formal employment with fixed payments
2. Performance-related quasi-formal employment
3. Work-time-related quasi-formal employment
4. Occasional quasi-formal employment.

The arrangement with fixed envelope wages represents the most typical type of wage underreporting. Workers operating under this scheme always receive identical amounts, both in their bank account and in 'an envelope'. As explained by Franic (2020a), quasi-formal employment with fixed remuneration is highly common in situations where it is fairly easy to substitute an existing employee and the cost of adapting the new employee to the job is low. It is therefore low-skilled workers who dominate this cohort. Being certain that they will eventually find someone to fill the empty workplace, which is a direct consequence of the abundance of such labour suppliers in many sectors, employers commonly

make ‘take it or leave it’ offers. Due to a low negotiating power and poor working conditions, the majority of individuals belonging to this category are dissatisfied with their position and are waiting the very first opportunity to escape (Franic, 2020a). It is precisely this group of workers that had been in the focus of the pioneering research studies, which resulted in somewhat skewed knowledge about this phenomenon.

The most important among the ‘novel types’ is performance-related quasi-formal employment, which appears to be widespread in companies where it is easy to link the effort of an individual worker to the business revenue (Franic, 2020a). To maximise their input, employers hence offer to pay workers an agreed share of the company’s income resulting directly from their personal achievement. As a result, workers receive variable cash-in-hand supplements every month, which motivates them to work as hard as possible in order to increase the overall remuneration. Given the nature of the arrangement, it is not surprising to hear that this type of employment is especially popular in retail and wholesale jobs. Additionally, it is most frequent among young people, not only due to having a higher inclination towards risky behaviour but also because many of them are still not married. The latter gives them more flexibility in time and work management on the one hand and more tolerance towards unsteady income on the other.

The third type of quasi-formal employment assumes a fixed net payment for each hour worked by the employee. Thus, the total monthly payment is a product of the numbers of hours worked and the price per hour. As in the previous case, workers employed under this scheme also receive fluctuating envelope wages, but these amounts are here dependent on the exact number of work hours completed rather than on the business revenue. Given this, it is not hard to understand why this particular type of quasi-formal employment is pervasive in sectors where the business activity is characterised by seasonality (e.g. construction and agriculture).

Franic (2020a) emphasised mutual trust between the two stakeholders as the vital factor underlying the two aforementioned types of quasi-formal employment with fluctuating wages. As he explained, the scheme can function if, and only if, the worker honestly reports the exact number of working hours and/or number of agreed business deals. Even though business owners can reduce the risk of misreporting to a certain extent, it is not always possible for them to control the trustworthiness of their personnel, especially if there is a large number of individuals working under such arrangements. The employer, on the other hand, has to obey their part of the agreement and always pay the promised amount, as failure to do so commonly leads to disputes and eventually to the end of the employment (Franic, 2020a). This ‘social dimension’ of the deal explains why quasi-formal employment is particularly prevalent in micro and small companies. Unlike workers receiving fixed envelope wages, individuals with fluctuating remuneration have greater freedom to refute the proposed fraud, as well as to initiate wage underreporting in the first place (Franic, 2020a).

As the name of the last category suggests, the occasional quasi-formal employment assumes the worker receiving envelope wages on an intermittent basis. This strategy is mostly used by employers for motivational purposes or in the case of rewarding employees. However, it can also serve as an efficient solution to unforeseen fluctuations in business activities: instead of hiring new workers, an employer can increase the workload of existing personnel and pay this additional effort in cash. Just like workers with variable

envelope wages, individuals belonging to this category are also generally happy with their arrangement (Franic, 2020a).

To our knowledge, the study by Franic (2020a) is the first and only one so far to explore the variety of agreements between employers and their quasi-formal workers. However, besides being focused only on one country (Croatia), a further limitation of this qualitative inquiry lies in a rather small sample of 30 interviewees. Apart from testing the validity of the findings on a larger geographical area, in the rest of this article we seek to build on these conclusions so as to further develop our understanding of the existing payment schemes.

Data and methods

We use data from the Special Eurobarometer 498 – Wave EB92.1. The Survey, which was conducted during September 2019 in all EU member states, provides a comprehensive coverage of the experience, opinions and attitudes of 26,514 individuals with respect to different forms of undeclared work.³ More precisely, approximately 1000 respondents above the age of 15 were recruited in every country following a multi-stage random (probability) sampling. The only exceptions were Germany (with a total of 1565 survey participants), Malta and Luxembourg (505 and 504 interviewees, respectively).⁴

Among other things, every respondent who identified themselves as a dependent employee was asked the following question⁵:

Which of the following situations apply to you?

1. You are employed without a formal written contract
2. You receive a cash supplement to your official wage and the amount is always the same
3. You receive cash supplements to your official declared wage, which vary according to professional achievements
4. Your pay varies depending on the total number of hours worked, but only a fixed amount is declared
5. Your pay is fixed, although you occasionally receive additional undeclared payments
6. None of the above.

Since fully informal employment is not the focus of this article, scenario 1 was excluded from the analysis. This gave a final sample of 11,327 individuals.⁶ Given that no apparent ordering exists between scenarios 2 to 6, multinomial logit modelling appeared as a natural choice in our quest for the factors explaining why some groups of dependent employees are more likely to accept certain types of wage underreporting. However, it was first necessary to address the issue of between-cluster overlaps, which arose from allowing survey participants to give multiple answers. We hence defined a new category of workers, namely those who receive their cash-in-hand supplements under multiple arrangements.⁷ Another important issue to consider was the two-level structure of data (i.e. individuals nested within countries), which entails within-country correlation (see Hox, 2010; Snijders and Bosker, 1999). To obtain unbiased estimates,

we applied a two-level random intercept multinomial logit modelling. In its general form, the model is defined as:

$$\ln \left(\frac{P(y_i = m)}{P(y_i = 0)} \right) = \beta_{0j} + \sum_{k=1}^K \beta_k X_{ijk}, \quad m = 1, 2, 3, 4, 5$$

$$\beta_{0j} = \beta_0 + u_j, \quad j = 1, 2, \dots, 27$$

where y_i represents the value of the dependent variable for an individual i and $X_1 - X_K$ are individual-level covariates exerting effects $\beta_1 - \beta_K$ on the dependent variable. Since data are given on two levels (note the presence of a country indicator j), the intercept value is allowed to vary from country to country by including the group-level residuals $u_j \sim N(0, \sigma^2)$.⁸

In our specific case, we model the log-odds of receiving each of the five categories of envelope wages rather than having all income from employment fully declared. Based on the answers to the aforementioned question, the analysed types of envelope wage payments are:

1. Fixed envelope wages
2. Performance-related envelope wages
3. Work-time-related envelope wages
4. Occasional envelope wages
5. Envelope wages under multiple schemes

Following the results of previous studies exploring the mechanisms behind quasi-formal employment, we include three different sets of individual-level determinants in the model:

Socio-demographic variables

This group includes gender, age and marital status of a worker. In line with the existing literature, we hypothesise that women will be less inclined to accept any form of wage underreporting. Likewise, a negative effect of age is anticipated for all examined types of envelope wages, meaning that older individuals will be less likely to have part of their income concealed. When it comes to marital status, we envisage a strong effect of this variable on one's willingness to arrange work-time-related envelope wages. More specifically, married individuals are expected to have a lower propensity towards this particular scheme compared to the remaining cohorts. A similar pattern is also foreseen for performance-related envelope wages, whereas no effect of marital status is expected in the case of other quasi-formal arrangements.

Occupational covariates

To grasp the economic dimension of quasi-formal employment, the model also evaluates whether the size of the company in which an individual works and their occupation exert

any influence on their payment scheme. Given the previously presented arguments, occupation is expected to be significant in case of performance-related and time-related envelope wages. We hypothesise that individuals who find it easy to draw a clear line between their efforts and the business revenues of the employer (e.g. service sector employees, commercial travellers and manual workers) would be more likely to have fluctuating incomes. The size of the company, on the other hand, is expected to be significant for all five types of arrangements. As noted in earlier studies, not only do micro and small firms have more options for extracting cash from the system, but their owners also find it much easier to develop decent social contract with their workers (Franic, 2020a). The latter is particularly important given that mutual trust plays a vital role for workers in their decision about whether to accept/initiate wage underreporting (see Franic, 2020a).

Subjective perceptions

To assess the importance of subjective reasoning on the readiness to accept envelope wages, the model also included a tax morale index and the perceived risk of being detected by the authorities when engaged in noncompliant tax practices. Since previous analyses exposed limited effect of the perceived detection risk on the willingness of workers to join the quasi-formal employment, the same outcome is anticipated here as well.

To test the relevance of tax morale, we created a composite tax morale index from the variables quantifying the level of one's tolerance towards the following four activities: undeclared work by a firm for a household, undeclared work by an individual 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 the scenarios, the participants were asked to express their attitude on a 10-point Likert-type scale, with larger values designated a greater level of acceptance. In line with this, the resultant tax morale index, which was extracted by applying factor analysis, is also given on an opposite scale (i.e. higher values of the index indicate lower tax morale). Following existing studies, we hypothesise that people with lower tax morale will be more prone to accept any type of envelope wage arrangement.

The models were processed in MLwiN software using the Markov Chain Monte Carlo method. However, to speed up the procedure, data pre-processing and descriptive analysis were done in STATA. The only exception was the task of addressing missing values, which was carried out with REALCOM-IMPUTE software. The latter was preferred to STATA due to enabling the multiple imputation procedure for multilevel data. Finally, post-stratification weights were applied in all parts of the analysis, and therefore the estimates presented in the rest of the article are, in fact, population-based projections.

Findings

The results of the survey shed new light on the real extent of envelope wage practices in the EU. As can be seen from Figure 1, 3 out of 10 European workers receive higher incomes than reported to the authorities. More specifically, 2.6% of dependent employees receive fixed cash supplements every month, whereas 7.8% of them get variable net

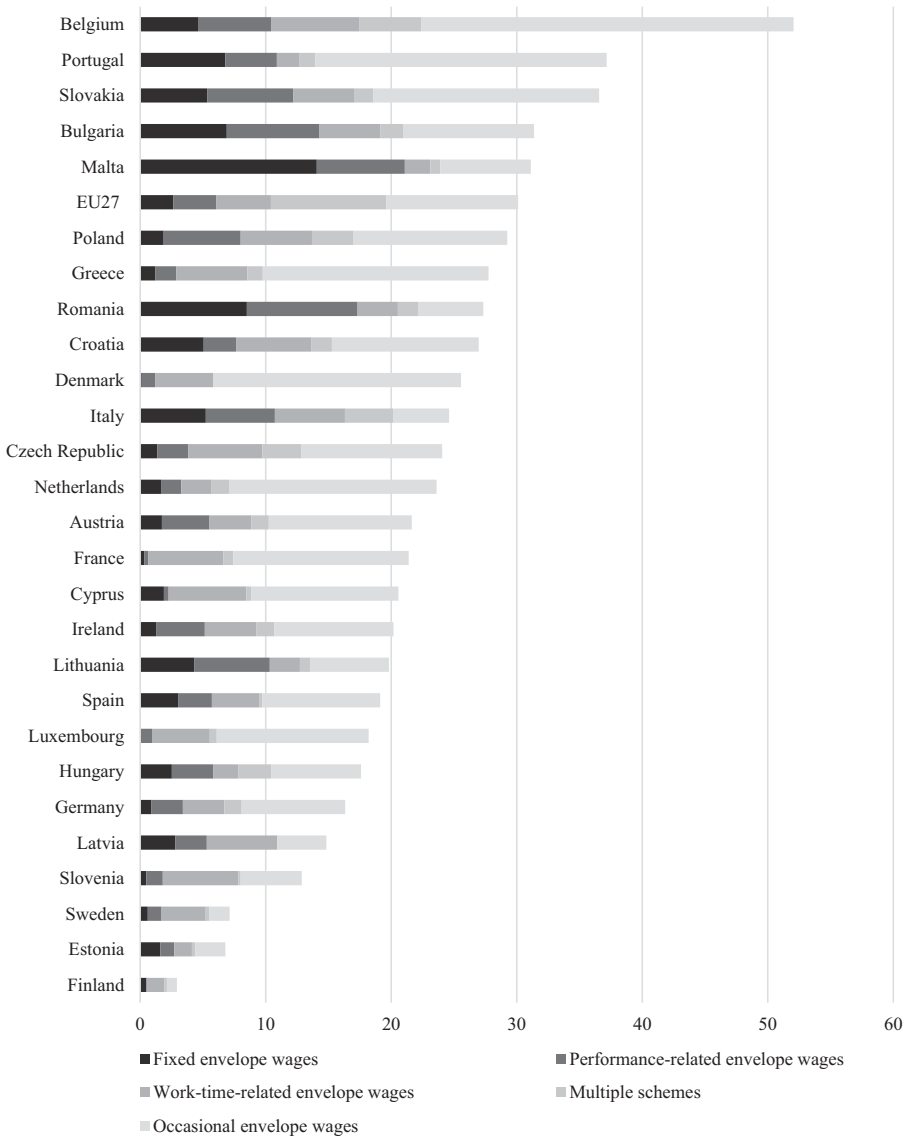


Figure 1. Quasi-formal employment in EU27 by country, %.

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

wages (3.4% are entitled to performance-related envelope wages and for further 4.4% cash payments depend on the exact number of working hours). This represents only a portion of workers with fluctuating incomes, given that additional 9.2% of workers receive envelope wages under multiple informal arrangements. There is also a non-negligible cohort of those who receive cash-in-hand payments on an occasional basis (10.5%).

When it comes to the results for individual countries, they are mostly in line with the previous insights into the matter. Looking only at the ‘standard’ form of envelope wages, namely fixed monthly cash supplements to the formal wage, one can see it is mainly post-socialist (e.g. Romania, Bulgaria, Slovakia, Croatia and Lithuania) and Mediterranean (Malta, Portugal and Italy) countries that dominate in this respect. Continental and North Europe, on the other hand, record lower incidence of quasi-formal employment with fixed envelope wages.

The situation is also similar in the case of other illicit wage arrangements. Fluctuating envelope wages most often occur in Bulgaria, Romania, Poland, Slovakia and Italy, whereas Finland, the Netherlands and Sweden are on the opposite side of the list. Generally speaking, performance-related envelope wages seem to be slightly more prevalent than those attached to the exact number of working hours completed. However, both these schemes appear to be more preferable than fixed remuneration by employers in the majority of countries.

A descriptive insight into economic and socio-demographic characteristics of quasi-formal employment, which is provided in Table 1, suggests a pivotal role of gender in this respect. This is not surprising given that women are not only less prone to risky behaviour but also generally exhibit higher intrinsic willingness to pay taxes (Franic, 2020b; Williams and Horodnic, 2015b). The effect of age and marital status, on the other hand, is much less pronounced. The only category for which the effect of these two variables is evident at this point is work-time-related quasi-formal employment, which also reflects the findings from earlier studies on the matter (see Franic 2020a).

This is not the case with firm size, as workers in micro and small companies seem to be receiving envelope wages more often than their counterparts in larger firms, regardless of the underlying payment scheme. Although a similar argument is applicable to occupation, this variable appears to be particularly relevant in situations where fluctuating envelope wages are in place. As hypothesised, it is service sector employees, people whose jobs assume travelling and manual workers who are more prone to variable cash-in-hand supplements.

The findings on deterrence are also in line with the expectation, given that descriptive statistics reveal no apparent link between perceived risk of being detected in noncompliance and participation in any of the discussed types of envelope wage payments. The opposite is true for tax morale, which shows substantial correlation with one’s propensity to receive part of wage in cash. However, conclusions about the causal effects have to be made cautiously at this point, owing to a considerable number of missing answers. Since almost 8% of respondents either refused to answer this question or did not provide an exact answer, it is plausible that the true underlying distribution on quasi-formal workers significantly diverges from the one presented in Table 1.

For a more robust analysis of the driving factors, it is essential to look at the results of the two-level multinomial logit modelling, which properly addressed the issue of missing values (see Table 2). The conducted analysis, however, not only does strongly endorse these descriptive insights but also reflects the findings of earlier studies (see Franic, 2020a). Starting with envelope wage with fixed payments, the analysis exposed this arrangement as being more intrinsic for small and mid-sized companies (see Table 2). What is more, men are found to be statistically more likely to receive them than women.

Table 1. Economic and socio-demographic characteristics of quasi-formal employment in the EU, %.

	Fixed envelope wages	Performance-related envelope wages	Work-time-related envelope wages	Occasional envelope wages	Multiple schemes	All income always declared	Refusal/ do not know
Gender							
Male	2.9	4.2	4.4	10.6	8.6	61.7	7.6
Female	2.3	2.6	4.3	10.4	9.9	62.4	8.1
Age							
15–24	2.7	3.4	5.8	12.4	6.5	59.4	9.8
25–34	4.0	4.8	4.4	10.4	8.5	59.5	8.4
35–44	2.0	3.5	4.1	10.3	9.0	63.9	7.2
45–54	2.3	2.1	4.3	10.8	10.4	62.5	7.6
55–64	2.3	3.5	4.0	10.2	9.6	63.1	7.3
65+	2.9	5.7	7.1	6.8	7.8	57.6	12.1
Marital status							
Single	3.6	3.7	5.7	9.3	7.7	59.6	10.4
Cohabiting	2.5	3.2	4.1	12.4	8.5	63.6	5.7
(Re-)Married	2.5	3.5	3.9	10.6	9.5	62.3	7.7
Divorced or separated	1.5	2.3	5.2	9.9	11.3	61.8	8.0
Widowed	2.0	3.4	2.8	1.8	16.0	68.4	5.6
Occupation							
Professional	5.1	8.5	3.0	6.4	9.9	61.8	5.3
Manager/supervisor	1.6	3.0	2.2	11.8	11.1	63.2	7.1
Employed position, at desk	2.2	3.5	3.1	9.7	9.2	63.1	9.2
Employed position, travelling	3.4	5.7	5.4	11.4	8.2	58.1	7.8
Employed position, service job	2.1	1.8	5.2	9.4	10.9	63.0	7.6
Manual worker	3.6	3.2	6.5	11.2	6.7	60.9	7.9

(Continued)

Table 1. (Continued)

	Fixed envelope wages	Performance-related envelope wages	Work-time-related envelope wages	Occasional envelope wages	Multiple schemes	All income always declared	Refusal/ do not know
Size of the company							
Up to 9	3.8	3.3	6.9	10.2	7.9	60.4	7.5
10–49	3.8	5.0	4.9	10.9	7.5	59.5	8.4
50–499	1.5	2.7	4.3	11.0	9.4	64.7	6.4
500+	1.2	1.9	2.3	10.7	12.6	66.5	4.8
Detection risk							
Very high	1.8	2.6	5.3	12.6	9.2	60.6	7.9
High	3.1	4.5	5.1	11.4	8.1	60.4	7.4
Small	2.2	2.8	4.4	10.3	9.3	63.9	7.1
Very small	3.5	3.2	2.9	8.5	12.6	62.7	6.6
Tax morale							
Less than 2	2.4	1.7	3.8	9.5	9.9	66.6	6.1
2–4	2.9	3.6	4.7	12.0	9.2	61.1	6.5
4–6	3.4	6.8	5.1	13.4	8.3	52.4	10.6
6–8	2.8	9.8	6.0	10.2	6.2	49.4	15.6
Above 8	1.2	6.0	5.8	7.2	7.0	53.7	19.1
Total	2.6	3.4	4.4	10.5	9.2	62.0	7.9

Source: Authors' own calculations based on the Special Eurobarometer 498 – Wave EB92.1. Age and tax morale are grouped for descriptive purposes.

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

	Fixed envelope wages	Performance-related envelope wages	Work-time-related envelope wages	Occasional envelope wages	Multiple schemes
Intercept	-2.456*** (0.408)	-2.865*** (0.381)	-2.220*** (0.315)	-1.411*** (0.291)	-3.992*** (0.512)
Gender (RC: Male)	-0.226* (0.111)	-0.169* (0.103)	-0.192* (0.099)	0.096 (0.065)	-0.269* (0.163)
Age (group centred)	-0.007 (0.005)	-0.003 (0.004)	-0.008* (0.004)	0.003 (0.003)	0.002 (0.008)
Marital status (RC: married)					
Cohabiting	-0.015 (0.164)	0.069 (0.150)	0.384*** (0.132)	0.103 (0.090)	0.222 (0.224)
Single	0.233 (0.156)	0.171 (0.152)	0.363*** (0.138)	0.029 (0.094)	0.394* (0.221)
Divorced or separated	-0.284 (0.243)	0.010 (0.193)	0.371* (0.167)	-0.143 (0.120)	-0.041 (0.318)
Widowed	0.317 (0.349)	0.101 (0.352)	0.016 (0.380)	-1.124*** (0.342)	0.168 (0.564)
Occupation (RC: manager)					
Professional	0.319 (0.241)	0.357* (0.214)	0.052 (0.259)	-0.296* (0.177)	-1.103* (0.567)
Employed position, at desk	-0.063 (0.191)	0.138 (0.162)	-0.026 (0.181)	-0.010 (0.098)	-0.157 (0.252)
Employed position, travelling	0.239 (0.223)	0.376* (0.199)	0.467* (0.204)	0.112 (0.133)	0.328 (0.284)
Employed position, service job	-0.101 (0.199)	-0.291 (0.191)	0.356** (0.173)	-0.197* (0.105)	-0.261 (0.273)
Manual worker	0.210 (0.173)	-0.046 (0.161)	0.645*** (0.157)	0.099 (0.097)	-0.137 (0.238)
Size of the company (RC: up to nine employees)					
10–49	-0.128 (0.131)	0.326** (0.143)	-0.317** (0.124)	-0.071 (0.084)	0.227 (0.209)
50–499	-0.616*** (0.154)	0.129 (0.153)	-0.518*** (0.135)	-0.326*** (0.093)	-0.065 (0.230)
500+	-0.938*** (0.221)	0.142 (0.196)	-0.871*** (0.177)	-0.158 (0.106)	-0.550* (0.322)
Detection risk (RC: very high)					
High	-0.046 (0.404)	0.069 (0.194)	-0.184 (0.171)	0.062 (0.122)	0.628* (0.365)
Low	-0.147 (0.234)	-0.158 (0.195)	-0.279 (0.172)	0.055 (0.122)	0.282 (0.375)
Very low	0.063 (0.398)	-0.004 (0.226)	-0.290 (0.202)	-0.110 (0.143)	0.061 (0.431)
Tax morale (group centred)	0.107*** (0.027)	0.184*** (0.024)	0.159*** (0.023)	0.104*** (0.016)	0.277*** (0.033)
σ^2	0.818*** (0.244)	0.530*** (0.163)	0.106*** (0.045)	0.462*** (0.133)	0.658*** (0.224)
Bayesian DIC	24,454.19	24,454.19	24,454.19	24,454.19	24,454.19
Variance partition coefficient (VPC)	0.191	0.138	0.031	0.123	0.167

Source: Authors' own calculations based on the Special Eurobarometer 498 – Wave EB92.1. Standard errors presented in parentheses. Variance partition coefficient denotes the share of variability in behaviour of workers arising from the economic and social environment in which they operate. In other words, VPC explains to what extent the decision to join the quasi-formal realm has to do with country in which one lives, irrespectively of their personal characteristics.

RC: reference category.
 * $p < 0.05$. ** $p < 0.01$. *** $p < 0.001$.

On the other hand, even though the estimated coefficient has the expected sign, we did not find a significant effect of age on one's propensity to receive fixed envelope wages. The same is true for marital status, and occupation, which can be partially a consequence of a rather small portion of positive answers in the sample (only 2.6% of respondents acknowledged the existence of this particular scheme).

This was certainly not the case for tax morale, as the estimated coefficients and accompanying test statistics suggest a strong positive effect of this feature on workers' readiness to receive part of their wages in cash. This says that lower tax morale leads to a greater inclination towards envelope wages. Furthermore, this does not apply only to the case when a worker is offered fixed cash payments but also to all other types of quasi-formal employment. As a matter of fact, the results presented in Table 2 underline tax morale as being a more important element in workers' decision-making process for performance-related and work-time-related envelope wage payments than is the case with the fixed cash-in-hand remuneration.

Indeed, the results for these two types of quasi-formal employment reveal a much stronger role of workers in the process. This can be seen by examining the VPCs for the five models. For fixed envelope wages, almost 20% of the variation in behaviour of workers across the EU can be ascribed to the economic and social environment in which they operate. On the other hand, for work-time-related envelope wages this drops to 3.1%, which suggests that the differences between countries in this respect can be almost fully explained by peculiarities of individual workers. Despite being somewhat higher (0.138), the VPC for performance-related envelope wages is also way below than the one for fixed remuneration.

Further evidence on the vital role of labour suppliers for the development and sustaining of fluctuating envelope wage arrangements can be found by examining the results related to their socio-economic characteristics. For instance, the analysis emphasised workers whose jobs assume travelling as being far more prone to variable envelope wages compared to the rest of the population. In addition, performance-related cash supplements appear to be more prevalent among professionals, whereas manual workers and service sector employees show a higher inclination towards work-time-related payments.

These findings are in line with Franic (2020a), who also pointed at the link between the nature of a job in place and workers' readiness to accept flexible working hours. Furthermore, our study validated the idea that married individuals are significantly less likely to engage in quasi-formal employment with an unsteady work schedule than any other group (see Franic, 2020a). Given this, one should not be surprised to see that age does play an important role. However, neither age nor marital status were found to be significant in the case of performance-related envelope wages, which seem to be driven primarily by worker's tax morale and occupation type. Finally, the size of one's company also matters, although its effect is more pronounced in the case of work-time-related envelope wages.

Turning to occasional cash-in-hand payments, they seem to be related mainly to the occupation of the worker and their tax morale. In particular, professionals and service sector employees are less likely to receive sporadic cash payments than other groups. On the other hand, the effect of tax morale is as envisaged: lower intrinsic willingness to pay taxes implies higher eagerness to accept occasional cash payments.

Tax morale of a worker seems to be the most salient, and certainly one of the rare factors explaining the existence of multiple envelope wage schemes. Generally speaking, having several wage arrangements is most typical for unmarried men, whereas professionals show a much lower inclination towards the combination of schemes compared to other occupation groups. No other socio-economic characteristic was found significant in this respect.

Before moving to the discussion, it should be mentioned that the fear of being detected and prosecuted by the authorities was not found to exert influence on the decisions of workers, and this applies to all evaluated forms of wage underreporting. These results are, again, fully in line with previous studies on the matter (see Franic, 2019; Williams and Horodnic, 2016), as well as with the descriptive statistics presented earlier.

Discussion and conclusions

Using the data from the 2019 Special Eurobarometer Survey on undeclared work, we found that 3 out of 10 European workers receive higher incomes than reported to the authorities. This number is about three to six times higher than in previous studies, which were focused only on quasi-formal employment with fixed payment (Williams, 2013b; Williams and Horodnic, 2016). Since our analysis embraces other types of payments schemes, it gives a much broader and more realistic picture regarding the pervasiveness of quasi-formal employment in the EU.

These numbers are especially worrying when considering the current state of public finances in the EU due to the COVID-19 pandemic. A significant increase of public deficits and debts has pushed governments to find additional sources of tax revenues to finance the budgets, including from labour taxes. Reducing tax evasion related to quasi-formal employment is certainly one of the most appealing options to provide such revenues. However, incomplete knowledge regarding quasi-formal employment and its types leaves relevant authorities in the dark and leads to important limitations when preparing adequate policy measures to tackle this phenomenon.

To start filling this gap, in this article we dug deeper into the structure of envelope wage arrangements and analysed the composition of workforce inside this realm. Our article represents one of the very first attempts to provide a comprehensive overview of the forces driving different subtypes of quasi-formal employment. The conducted two-level random intercept multinomial logit modelling underscored individuals whose jobs assume travelling, service sector employees and manual job workers as the most frequent recipients of envelope wages (primarily the fluctuating ones). This is not surprising since in these cases employers find it much easier to draw a line between worker's effort and the revenue of a company. As explained by Franic (2020a), some business owners take advantage of this by offering to share a certain proportion of company's income arising from the worker's accomplishment. Not only does this strategy ensure larger motivation of workers, but it also leads to increased business revenues.

Since people regularly place more emphasis on current-day situation, many workers accept or even personally initiate this arrangement owing to somewhat larger take-home pay under such schemes. However, this comes with substantial consequences for their future well-being, which is something many of them either are unaware or simply do

not to care about presently (Franic, 2020b). It is this precise category of workers that should be under the microscope of policymakers. While certain results can be achieved by prevention (for instance by making employee attendance tracking technology compulsory in certain sectors), awareness raising campaigns seem to be a more viable solution to this issue.

The same option imposes itself in the case of young/new entrants to the labour market, who are found to be particularly prone to work-time-related envelope wages. Although a national-level education campaigns targeting inexperienced individuals would yield best results, a lot can be achieved even if interventions are restricted to those working in micro and small companies. While quasi-formal workers recruited through the 'take it or leave it' strategy should be encouraged to cooperate with enforcement bodies, the enthusiastic envelope wage earners ought to be informed about all the pitfalls of this scheme.

Even though education does look as a promising strategy, it is by no means sufficient to eradicate wage underreporting on its own. This can be best exemplified with the findings on highly educated professionals, who appear to be quite susceptible to fluctuating and occasional envelope wage payments. Given higher negotiation power compared to the rest of the workforce, such individuals are very unlikely to participate against their will. Likewise, it is difficult to expect that low income from regular employment lies behind the decision of professionals to receive part of the wage off-the-books. As suggested by earlier studies (e.g. Williams and Horodnic, 2016), it is not the economic factors that underlie the behaviour of such workers, but rather the socio-psychological ones. This primarily refers to the unwritten contract between the state and citizens, the perceived trustworthiness of other taxpayers and a range of personal peculiarities, which jointly shape individual's willingness to pay taxes. Indeed, our analysis identified tax morale as the key determinant of quasi-formal employment, and this applies to all five examined types of payment arrangements.

Yet, while there is no doubt that improving tax morale represents a vital precondition for a more successful fight against envelope wage practices, it is not going to be an easy task. Above all, this would require various measures related to governance and public finance. Improving the quality of public administration and delivered public goods, enhancing the transparency of the tax system, combating corruption, strengthening the rule of law and addressing the sustainability issues of pension and healthcare systems are just some of the essential moves that have to be done in this respect. Although challenging and time-consuming, the long-delayed structural reforms will have to be conducted in a due time so as to close an increasing gap between the authorities and taxpayers in the EU.

Before concluding, it is important to stress certain limitations of the conducted study. First, the trustworthiness of the respondents who respond negatively when being asked if they receive envelope wages was beyond our control. Therefore, it is reasonable to assume that with some positive probability, part of these respondents are engaged in quasi-formal employment. A second limitation relates to the incomplete set of explanatory variables at our disposal. For instance, it would be interesting to investigate the dispersion of discussed payment schemes across sector. However, this was not possible at this point given that workers were not inquired about the nature of their job. Other

variables whose effect is worth examining include individual's satisfaction with the government in general, views on the quality of the welfare systems, involvement in other forms of violation, experience with surveillance bodies, religious views, etc. These aspects should be investigated by future research so as to allow us to fully understand the phenomenon of quasi-formal employment.

Finally, it would be incorrect to claim that the list of payment schemes discussed here is exhaustive. Although the majority of individuals who chose 'Other' as response probably referred to multiple schemes, it is plausible that some of them were in fact working under so far not described arrangements. Hence, if this article motivates other researcher to continue dissecting this deleterious practice, it will have fulfilled one of its broader aims.


Declaration of conflicting interests

The authors declare no potential conflicts of interest with respect to the research, authorship and/or publication of this article.

Funding

The author(s) received no financial support for the research, authorship and/or publication of this article.

ORCID iD

Stanislaw Cichocki  <https://orcid.org/0000-0003-2500-5046>

Notes

1. For a detailed discussion on this matter, see Kalleberg (2009).
2. Hereafter, the phrases 'envelope wage', 'cash payment', 'cash supplement', 'cash-in-hand payment' and 'supplementary payment' will be used interchangeably to denote the undeclared part of the wage.
3. The survey took place in the United Kingdom as well, but we excluded the respondents from this country given that it is not an EU member as of 1 February 2020.
4. For a detailed overview of the methodology, see European Commission (2020).
5. The survey also contained a more straightforward question on the 'standard' form of quasi-formal employment, which was identical to those asked in the previous two waves (conducted in 2007 and 2013). However, to acknowledge the existence of other payment schemes, the European Commission introduced this indirect question in the last wave of the survey.
6. The survey embraced 11,567 dependent employees, 240 of whom admitted to receiving all their income 'under the table'.
7. Respondents were also offered the option 'Other', without the requirement to clarify their answer. Although the nature of employment relations reported under this category is unknown, it is highly plausible that the bulk of them refer to multiple arrangements. To ensure the completeness of the dataset, the decision was hence made to treat them as multiple schemes. However, we are aware that there could exist some other payment strategies, which we are not aware of at this point.
8. The model can be easily extended to incorporate country-level variables. However, owing to rather small sample sizes for certain types of envelope wages, as well as for certain EU member states, the inclusion of level-two predictors was not possible at this point.

References

- Algan Y, Guriev S, Papaioannou E, et al. (2018) The European trust crisis and the rise of populism. In: Eberly J and Stock JH (eds.) *Brookings Papers on Economic Activity: Fall 2017*. Washington, DC: Brookings Institute, pp. 309–382.
- Elek P, Kollo J, Reizer B, et al. (2011) An attempt to identify grey employment: Estimation of wage under-reporting and tests of the predictions. In: *Paper presented at the IZA/World Bank Workshop: Institutions and informal employment in emerging and transition economies*, Bonn, Germany, 9–11 June 2011. Bonn, Germany: IZA.
- European Commission (2007) *Special Eurobarometer 284. Undeclared Work in the European Union*. Brussels: European Commission.
- European Commission (2018) *European Platform Tackling Undeclared Work – Platform Newsletter*. Brussels: European Commission. Available at: <https://ec.europa.eu/social/main.jsp?catId=1299&langId=en> (accessed 18 May 2021).
- European Commission (2020) *Special Eurobarometer 498: Undeclared work in the European Union*. Brussels: European Commission.
- Eurostat (2021) Provision of deficit and debt data for 2020 – second notification. Available at: <https://ec.europa.eu/eurostat/documents/2995521/11563331/2-21102021-AP-EN.pdf/257365fa-8a66-cab8-f60c-06ca9c916a7a> (accessed 12 February 2022).
- Franic J (2019) Explaining workers' role in illegitimate wage underreporting practice: Evidence from the European Union. *Economic and Labour Relations Review* 30(3): 366–381.
- Franic J (2020a) Dissecting the illicit practice of wage underreporting: Some evidence from Croatia. *Economic Research-Ekonomska Istrazivanja* 33(1): 957–973.
- Franic J (2020b) Why workers engage in quasi-formal employment? Some lessons from Croatia. *Eastern Journal of European Studies* 11(2): 94–112.
- Franic J and Cichocki S (2022) Envelope wages as a new normal? An insight into a pool of prospective quasi-formal workers in the European Union, *Employee Relations* 44(1): 37–53.
- Franic J and Williams CC (2017) *Illegitimate economic practices in Croatia: Findings from a representative survey of 2,000 citizens*. GREY Working Paper No. 9. Sheffield, UK: Sheffield University Management School.
- Hazans M (2005) Latvia: Working too hard? In: Vaughan-Whitehead D (ed.) *Working and Employment Conditions in New EU Member States – Convergence or Diversity?* Geneva: ILO-EC, pp. 161–212.
- Hox JJ (2010) *Multilevel Analysis: Techniques and Applications*, 2nd edn. New York, NY: Routledge.
- Kalleberg AL (2009) Precarious work, insecure workers: employment relations in transition. *American Sociological Review* 74(1): 1–22.
- Karina V (2008) Declining trust in elites and why we should worry about it—with empirical evidence from Germany. *Government and Opposition* 43(3): 405–423.
- Kedir AM, Fethi MD and Williams CC (2011) *Evaluating tax evasion in the European Union: A case study of the prevalence and character of 'envelope wage' payments*. Working Paper No. 11/33. Leicester: Department of Economics, University of Leicester.
- Kriz KA, Meriküll J, Paulus A, et al. (2007) *Why do individuals evade payroll and income taxation in Estonia?* Working Paper No. 49-2007, University of Tartu Economics and Business Administration. Available at: <https://majandus.ut.ee/en/research/workingpapers> (accessed 18 May 2021).
- Kroknes VF, Jakobsen TG and Gronning LM (2015) Economic performance and political trust: The impact of the financial crisis on European citizens. *European Societies* 17(5): 700–723
- Krynska E, Bednarski M, Walewski M, et al. (2007) Raport z badania “Przyczyny pracy nierejestrowanej, jej skala, charakter i skutki społeczne” (Report from a survey “Causes of unregistered employment, scale character and social implications”). *Technical report*. Warsaw, Poland: Ministry of Labour and Social Affairs, Center for Socio-Economic Research.

- Lewchuk W (2017) Precarious jobs: Where are they, and how do they affect well-being? *Economic and Labour Relations Review* 28(3): 402–419.
- Mbara G, Tyrowicz J and Kokoszczynski R (2020) Striking a balance: Optimal tax policy with labor market duality. *Journal of Macroeconomics* 66: 103245
- Meriküll J and Staehr K (2010) Unreported employment and envelope wages in mid-transition: comparing developments and causes in the Baltic countries. *Comparative Economic Studies* 52: 637–670.
- Mineva D and Stefanov R (2018) *Evasion of Taxes and Social Security Contributions*. Brussels: European Commission.
- Oddo VM, Zhuang CC, Andrea SB, et al. (2021) Changes in precarious employment in the United States: A longitudinal analysis. *Scandinavian Journal of Work, Environment & Health* 47(3): 171–180.
- Organisation for Economic Cooperation and Development (OECD) (2008) Declaring work or staying underground: informal employment in seven OECD countries. Available at: <https://www.oecd.org/els/emp/40843646.pdf> (accessed 18 May 2021).
- Snijders TAB and Bosker RJ (1999) *Multilevel Analysis: An Introduction to Basic and Advanced Multilevel Modeling*. Thousand Oaks, CA: SAGE.
- Stanford J (2017) The resurgence of gig work: Historical and theoretical perspectives. *Economic and Labour Relations Review* 28(3): 382–401.
- Williams CC (2009) Formal and informal employment in Europe: Beyond dualistic representations. *European Urban and Regional Studies* 16(2): 147–159.
- Williams CC (2013a) Evaluating cross-national variations in envelope wage payments in East-Central Europe. *Economic and Industrial Democracy* 36(2): 283–303.
- Williams CC (2013b) Evaluating cross-national variations in under-declared wages in the European Union: An exploratory study. *The Open Area Studies Journal* 5: 12–21.
- Williams CC (2020) COVID-19 and undeclared work: Impacts, challenges and policy responses. Sarajevo, Bosnia: Western Balkan Network Tackling Undeclared Work.
- Williams CC and Bezeredi S (2017) Tackling the illegal practice of under-reporting employees' wages: Lessons from the Republic of Macedonia. *UTMS Journal of Economics* 8(3): 243–258.
- Williams CC and Francic J (2017) Tackling the illegitimate under-reporting of salaries in Southeast Europe: Some lessons from a 2015 survey in Bulgaria, Croatia and FYR Macedonia. *Eastern Journal of European Studies* 8(1): 5–28.
- Williams CC and Horodnic IA (2015a). Evaluating the prevalence of the undeclared economy in Central and Eastern Europe: An institutional asymmetry perspective. *European Journal of Industrial Relations* 1: 1–18.
- Williams CC and Horodnic IA (2015b) Who participates in the undeclared economy in South-Eastern Europe? An evaluation of the marginalization thesis. *South Eastern Europe Journal of Economics* 13(2): 157–175.
- Williams CC and Horodnic IA (2016) Evaluating the illegal employer practice of under-reporting employees' salaries. *British Journal of Industrial Relations* 55(1): 1–29.
- Williams CC and Horodnic IA (2017) *Under-Declaring Work, Falsely Declaring Work: Under-Declared Employment in the European Union*. Brussels: European Platform Tackling Undeclared Work.
- Williams CC and Padmore J (2013) 'Envelope wages' in the European Union. *International Labour Review* 152(3–4): 411–429.
- Woolfson C (2007) Pushing the envelope: the 'informalization' of labour in post-communist new EU member states. *Work, Employment & Society* 21(3): 551–564.
- Yang J and Williams CC (2017). *Illegitimate economic practices in Bulgaria: Findings from a representative survey of 2,005 citizens*. GREY Working Paper No. 11. Sheffield, UK: Sheffield University Management School.

Author biographies

Stanislaw Cichocki is an adjunct professor at the Faculty of Economic Sciences, University of Warsaw (Poland). His research interests concern informal work and the issue of estimating the size of the shadow economy. He is also interested in corruption and economics of labour.

Josip Franic is a research associate at the Institute of Public Finance, Zagreb (Croatia). His research interests relate to the economics of labour, with primary emphasis on the issue of informal work and other forms of income tax evasion. At present, he is a member of the international research team providing analytical support to the European Platform Tackling Undeclared Work.