Trends in the undeclared economy and policy approaches

Evidence from the 2007, 2013 and 2019 Eurobarometer surveys

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Executive summary

The Eurobarometer special surveys on undeclared work conducted in 2007, 2013 and 2019 provide a unique insight into the trends in the undeclared economy in the EU.[1]

Examining these surveys[2], this report evaluates the prevalence, characteristics, distribution and trends over time in (i) undeclared work, (ii) under-declared employment, and (ii) bogus self-employment in the EU-27 and provides an evidence-based evaluation of the trends in the effectiveness of different policy approaches.

Prevalence, characteristics and distribution

The finding is that undeclared work and under-declared employment has reduced from 2007 to 2019. However, there has been little progress between 2013 and 2019, with similar shares of the population reporting involvement in undeclared work and under-declared employment in 2019 and 2013 (i.e., 4 % participated in undeclared work and 3 % of employees in under-declared employment).

In 2019, questions to measure bogus self-employment have been added. The findings show that some 1 in 10 of all the self-employed and 1 in 8 of the self-employed without employees are in bogus self-employment.

Therefore, undeclared work and under-declared employment are still persistent features of the EU economy, as is bogus self-employment.

Undeclared work[3]:

- In the EU-27 in 2019, 4 % of citizens reported engaging in undeclared work, which is the same as 2013 but an improvement on 2007 when 5 % of citizens engaged in undeclared work. In 2019, 21 % of those engaged in undeclared work (0.8 % of all EU citizens, or one in every 132 citizens) report that all their paid work is undeclared.
- Examining changes over time in respondents` motives for engaging in undeclared work, there has been a decrease in the prevalence of motives associated with social exclusion (e.g., difficult to live on welfare benefits alone, no regular job, no other income) and with financial issues (e.g., high taxes and contributions). Meanwhile, there has been an increase in the prevalence of motives associated with the perceived failings of formal institutions (e.g., too much bureaucracy involved in registering occasional and regular work, dissatisfaction with how public money is spent). For example, the proportion engaging in undeclared work because they believe they receive nothing back from the state, so it makes no sense to pay taxes, has doubled from 5 % in 2007 to 11 % in 2019.
- Of those participating in undeclared work, 49 % undertook undeclared work on an own account or self-employed basis, 17 % undeclared waged employment for an employer, 10 % both own-account and waged undeclared work, 8 % undeclared work for a partner or family business and 4 % stated other types.
- More than one in ten (11 %) of those undertaking undeclared work used collaborative platforms to sell their goods and services (4 % conducted all their

[1] Special Eurobarometer No. 498 conducted in 2019 (26 514 respondents), Special Eurobarometer No. 402 conducted in 2013 (26 257 respondents), and Special Eurobarometer No. 284 conducted in 2007 (25 346 respondents). Sample size after excluding the United Kingdom.

[2] These direct surveys might under-estimate the level of undeclared work due to some respondents not reporting their undeclared activity to interviewers. If correct, then the results reported should be treated as lower-bound estimates of the level of participation in the undeclared economy.

[3] This report focuses on EU_27 countries. It should be noted that the report from the Eurobarometer Survey published in February 2020 focuses in particular on EU-28 countries (since the UK was still a member of the EU at the time of conducting the survey), whilst also emphasizing EU-27 data.

undeclared work via collaborative platforms and 7 % some of their undeclared work via platforms).

- Variations exist across Member States in the prevalence of undeclared work. In 2019, the proportion of citizens reporting participating in undeclared work was highest in the Netherlands (10 %), Denmark (8 %), Luxembourg and Sweden (7 %). This does not mean that the size of the undeclared economy is larger as a share of Gross National Product. In these Member States, participation often can be one-off own-account jobs for close social relations (e.g., baby-sitting, home repairs) whilst in East-Central and Southern Europe undeclared work is more likely to be more continuous waged employment. Moreover, the level of excellent cooperation during interviews was identified by interviewers as more common in these Member States compared with the EU average. The interviewers reported excellent cooperation from the participant in 88 % of the interviews in the Netherlands, 79 % in Denmark, 74 % in Luxembourg and 96 % in Sweden compared with just 57 % overall in the EU.
- Analysing changes over time, the largest decreases in the share of those reporting engaging in undeclared work are in the Baltic Member States (i.e., 6 % in Latvia in 2019 compared with 15 % in 2007; 6 % in Estonia in 2019 compared with 11 % in 2007; 3 % in Lithuania in 2019 compared with 7 % in 2007).
- The socio-demographic groups more likely to report engaging in undeclared work are men, younger age groups, those facing difficulties in paying the household bills, those in self-employment, and those having worked outside their country of origin.
- Cross-border labour mobility is correlated with higher rates of participation in undeclared work. 8 % of those who have worked in another EU country engaged in undeclared work in the 12 months prior to the survey (compared with 4 % of all citizens surveyed).

Under-declared employment:

- The prevalence of under-declared employment (i.e. a formal employee receiving additional undeclared 'envelope wages' from their formal employer) has reduced from 5 % of all employees in 2007 to 3 % in 2013 and 2019.
- Of those engaged in under-declared employment in 2019, 42 % received their additional undeclared payments for over/extra time work, 29 % for both their regular work and overtime/extra work, and 25 % for their regular employment. Over time, 'envelope wages' are being more often used to pay for overtime, extra work or bonuses and less often used to pay for their regular employment.
- In 2019, 34 % of those in under-declared employment received less than a quarter of their gross salary as an envelope wage, 10 % received 25-49 % of their gross salary as an envelope wage and 5 % received 50 % or more of their gross salary as an envelope wage. The share of gross salary paid as an envelope wage has decreased between 2013 and 2019.
- Variations exist across Member States in the prevalence of under-declared employment. It is more prevalent in Latvia (7 % of all employees) and Hungary, Greece, Belgium and Bulgaria (6 %). Over the time, under-declared employment has reduced most in Romania (from 23 % of all employees in 2007 to 5 % in 2019), Bulgaria (from 14 % in 2007 to 6 % in 2019) and Latvia (17 % in 2007 to 7 % in 2019).
- The socio-demographic groups more likely to engage in under-declared employment are men, younger age groups, those facing difficulties paying the household bills, those living in larger urban areas, those having worked outside their country of origin and those employed in small businesses (below 9 employees).

- Indeed, 8 % of all employees surveyed who have worked in another EU country engaged in under-declared employment and 4 % of employees who have previously worked in a non-EU country (compared with 3 % of all employees surveyed).

Bogus self-employment:

- Bogus self-employment is here defined as those reporting that they are self-employed without employees who do not meet two or more of the following criteria: (a) have more than one client or do not have a dominant client which provides at least 75 % of total income, (b) have the authority to hire/dismiss employees, and (c) not get paid an agreed fee on a weekly or monthly basis. 85 % of the self-employed without employees do not have the authority to hire or to dismiss employees, 10 % are paid a weekly or monthly fee and 6 % are economically dependent on one client or a dominant client who provides more than 75 % of their income.
- 1 in 8 self-employed without employees (12 %) are bogus-self-employed (not meeting two or more of the above criteria). Across all self-employed, including those having employees, 1 in 10 of the self-employed are bogus self-employed (10 %).
- Bogus self-employment is more prevalent in Slovenia (26 % of all self-employed without employees), Sweden (22 %), Malta (19 %), Latvia (18 %) and Italy and the Netherlands (17 %), and less prevalent in France, Germany and Portugal (3 %), Denmark and Greece (4 %).
- The groups significantly more likely to engage in bogus self-employment are the younger self-employed and those facing difficulties in paying the household bills.
- Cross-border labour mobility did not show major differences: 11 % of the self-employed who have worked in another EU country engaged in bogus self-employment and 12 % who have worked in a non-EU country, compared with 10 % of all self-employed surveyed.

Changing effectiveness of different policy approaches

- The European Platform tackling undeclared work[4] in its holistic approach has recognised two complementary sets of policy measures. Participation in the undeclared economy can be prevented firstly, using direct measures and/or secondly indirect measures. Direct policy measures change the cost/benefit ratio of engaging in undeclared work, usually by increasing the actual and/or perceived penalties and risk of detection. Indirect policy measures foster citizens` trust in the state and in their fellow citizens and educate citizens on the unacceptability of undeclared work. This report empirically evaluates the effectiveness of both sets of policy measures in preventing undeclared work and how the effectiveness of each set of policy measures is changing over time.
- The finding is that participation in undeclared work and under-declared employment is prevented more by the indirect policy measures (that seek to improve the unacceptability of undeclared work, vertical trust (i.e., the trust of citizens in the state), and horizontal trust (i.e., the degree to which citizens trust each other not to engage in undeclared work) than the direct deterrence policy measures that seek to increase the sanctions and risk of detection. Indeed, from the direct policy measures, only the perceived risk of detection is significantly associated with preventing participation in undeclared work and under-declared employment. The perceived level of sanction does not prevent participation in

[4] This EU-level forum brings together relevant stakeholders including enforcement authorities such as labour inspectorates, tax and social security authorities, and social partners with the aim of tackling undeclared work more effectively and efficiently. The Platform will be integrated into European Labour Authority as a permanent working group.

undeclared work, under-declared employment or bogus self-employment in 2019. Indeed, its effect has gradually reduced from 2007 to 2013 and now in 2019 has no significant effect on preventing participation.

- In contrast, a strong significant relationship is identified between participation in undeclared work and under-declared employment and all the indirect policy measures. Those engaged in undeclared work and under-declared employment have significantly stronger views on the acceptability of undeclared work, lower horizontal trust (they think other people are engaged in undeclared work in their society) and lower vertical trust (they have markedly lower trust in the tax and social security authorities and labour inspectorates).
- Importantly, however, neither direct nor indirect policy measures are significantly associated with the propensity of the self-employed to be bogus self-employed. This suggests that this practice is largely employer instigated.
- In consequence, if participation in undeclared work and under-declared employment is to be tackled in a more effective manner, besides increasing the perceived risk of detection, there is a need to also use indirect policy measures that improve the unacceptability of undeclared work and foster vertical and horizontal trust so as to encourage greater voluntary compliance. As such, broader awareness-raising and education about the benefits of fully declared work targeted at both employers and employees are necessary.
- For workers, the 2019 survey reveals that these awareness-raising campaigns could be targeted at those employed in small firms and men, younger age groups, those who have difficulties paying the bills most of the time, and the occupations stated in the report where undeclared work and under-declared employment are prevalent.
- For employers, such awareness-raising campaigns could be targeted at those business types and sectors where undeclared work, under-declared work as well as bogus self-employment are more prevalent, namely companies employing manual workers, professionals or jobs involving travelling, and companies or the self-employed in the agricultural sector.
- It is improving horizontal trust (that others act in a compliant manner) which has the biggest effect on the likelihood of participation in undeclared work and under-declared employment. Improving horizontal trust now requires further consideration by policy makers. For example, it is becoming increasingly understood that publishing figures in the media that the undeclared economy is large and extensive reduces horizontal trust and leads to higher levels of participation. It is also increasingly understood that tools such as awareness raising campaigns and notification letters, are also more effective when they highlight the high levels of compliance in the sector, occupation, local area, etc. of the individuals being targeted. This 2019 Eurobarometer survey reveals that in future further consideration is required of how to use these tools to improve horizontal trust and whether there are additional tools to enhance horizontal trust.

In sum, the proportion of citizens engaged in undeclared work and under-declared employment has reduced between 2007 and 2019 but persists. To tackle it in an effective manner, the evidence is that the conventional direct approaches (i.e., increasing penalties and the risk of being caught) need to be complemented by indirect approaches which recognise that it is important to change citizens` views on the acceptability of undeclared work and improve their level of trust in the state and each other.

1 Introduction

The Eurobarometer special surveys on undeclared work conducted in 2007, 2013 and 2019 provide a unique insight into the trends in the undeclared economy in the EU.

Here, therefore, the changes in the prevalence, characteristics and distribution of undeclared work in the EU are evaluated to provide evidence on its trends useful for both enforcement authorities and policy makers.

A report has been already produced describing the key findings of the 2019 Eurobarometer survey.[5] The aim in the current report is to provide additional analysis of **the EU-27** for 2007, 2013 and 2019 on the prevalence, characteristics, distribution and changes over time in (i) undeclared work, (ii) under-declared employment, and (ii) bogus self-employment and to provide an evidence-based evaluation of the effectiveness of different policy approaches. To compare the results over the years, the United Kingdom has been excluded from both 2013 and 2019 survey results so that the data for 2013 and 2019 are on the EU-27. In 2007, data for Croatia was not available so the data is on the remaining 26 EU Member States.

The specific objectives are to answer the following questions:

- **What are the most common types of undeclared work in the EU and its Member States?** What is the composition of undeclared work in the EU? How has the prevalence and nature of (i) undeclared work and (ii) under-declared employment changed between the 2007, 2013 and 2019 surveys? How does the composition of undeclared work vary across Member States in terms of undeclared waged employment, undeclared self-employment and paid favours for close social relations? To what extent, and in what circumstances, is the collaborative economy used to undertake undeclared work? And what is the relationship between bogus self-employment and the collaborative economy?
- **Who participates in the undeclared economy?** What are the socio-demographic and socio-economic characteristics of those engaged in: (i) undeclared work; (ii) under-declared employment and (iii) bogus self-employment in the EU (e.g., age, gender, occupation, employment status, area type, difficulty in paying bills)? In what types of business are those engaged in: (i) undeclared work; (ii) envelope wages, and (iii) bogus self-employment (e.g., sector, firm size)? How do varying levels of participation in undeclared work across different occupations relate to wider findings about the level of societal trust in different occupational groups? What does the survey tell us about cross-border aspects of undeclared work?
- **What policy approaches are becoming more effective in tackling undeclared work, under-declared employment and bogus self-employment?** Is a perception of higher sanctions becoming more associated with a lower likelihood of participating in undeclared work, under-declared employment and bogus self-employment? Is a perception of a higher risk of detection becoming more associated with a lower likelihood of participating in undeclared work, under-declared employment and bogus self-employment? Is trust in government (i.e.., vertical trust) becoming more associated with a lower likelihood of participating in undeclared work, under-declared employment and bogus self-employment? Is trust in others in one's society to act legitimately (i.e., horizontal trust) becoming more associated with a lower likelihood of

[5] European Commission, Brussels (2020). Eurobarometer 92.1 (2019). Kantar Public [producer]. GESIS Data Archive, Cologne. ZA7579 Data file Version 1.0.0. Available at: https://doi.org/10.4232/1.13432.

participating in undeclared work, under-declared employment and bogus self-employment?

To do so, section 2 evaluates the prevalence of undeclared work, under-declared employment and bogus self-employment, and the changes over time, across EU Member States. Given the emergence of the collaborative economy since the 2013 survey, this section also investigates the extent to which collaborative economy is used for undeclared work and the relationship between bogus self-employment and the collaborative economy. Section 3 then explores the socio-demographic and socio-economic characteristics of those engaged in: (i) undeclared work; (ii) under-declared employment and (iii) bogus self-employment in the EU. Having highlighted its prevalence, characteristics and distribution, section 4 provides an evidence-based evaluation of the different policy approaches associated with preventing the undeclared economy, resulting in a set of broad policy recommendations for tackling this phenomenon.

Box 1 highlights the sample size of the 2019 survey and the method used to conduct the interviews.

Box 1. *The 2019 survey on undeclared work*

Special Eurobarometer No. 498 (Wave EB92.1, 2019) involved face-to-face interviews conducted between the 11th and 29th of September 2019 in the 28 Member States of the European Union (EU). All interviews were conducted face-to-face in people`s homes and in the appropriate national language with adults aged 15 years and over. The sample comprises 26 514 respondents out of which 11 670 were employees in employment and 1 853 were self-employed.

As far as the data capture is concerned, CAPI (Computer Assisted Personal Interview) was used in those countries where this technique was available. In each country, a multi-stage random (probability) sampling method was applied. A number of sampling points was drawn with probability proportional to population size (for a total coverage of the country) and to population density. A number of sampling points were drawn with probability proportional to population size (for total coverage of the country) and to population density according to the Eurostat NUTS II (or equivalent) and the distribution of the resident population in terms of metropolitan, urban and rural areas. In each of the selected sampling units, a starting address was then drawn at random. Further addresses (every Nth address) were subsequently selected by standard 'random route' procedures from the initial address. In each household, meanwhile, the respondent was drawn at random (following the 'closest birthday rule'). If no one answered the interviewer in a household, or if the respondent selected was not available, the interviewer revisited the same household up to three additional times. In the Netherlands and Sweden, samples of addresses were selected using address or population registers, within each sampling point: the selection of households was done in a random manner. Households were then contacted by telephone (Netherlands and Sweden) and e-mail (Sweden) and an appointment was made. For each country a comparison between the responding sample and the universe is carried out, weights being used to match the responding sample to the universe on gender by age, region and degree of urbanisation. For more details see technical specifications in the Report of the Special Eurobarometer No. 498 (https://ec.europa.eu/commfrontoffice/publicopinion/index.cfm/Survey/getSurveyDetail/instruments/SPECIAL/surveyKy/2250).

Here, we confine discussion to the questions on undeclared paid activities, under-declared employment and bogus self-employment, asked to respondents in EU-27 (European Union without the UK).

2 Participation in the undeclared economy

2.1 Changes in the prevalence and nature of undeclared work

In 2019, Europeans were asked whether they had participated in undeclared work in the past year, either on their own account or for an employer. As Figure 1 displays, 4 % of the citizens surveyed in the EU-27 state that they undertook undeclared work, 95 % that they have not and 1 % refused to answer. Comparing 2007, 2013 and 2019, although the question slightly changed[6], the finding is that **participation in undeclared work declined from 5 % of citizens in 2007 to 4 % in 2013 and 2019**. Taking account that those refusing to answer or stating that they do not know might include some respondents who are reluctant to declare their engagement in such activity, Figure 1 tentatively suggests that there might also have been a reduction in undeclared work between 2013 and 2019. This is because although the percentage admitting to undeclared work remained the same (i.e., 4 %), the number refusing to answer (and who therefore might well be engaged in undeclared work but unwilling to say so) declined from 3 % to 1 %.

Figure 1. Undeclared work in the European Union (population engaged in undeclared work, %)

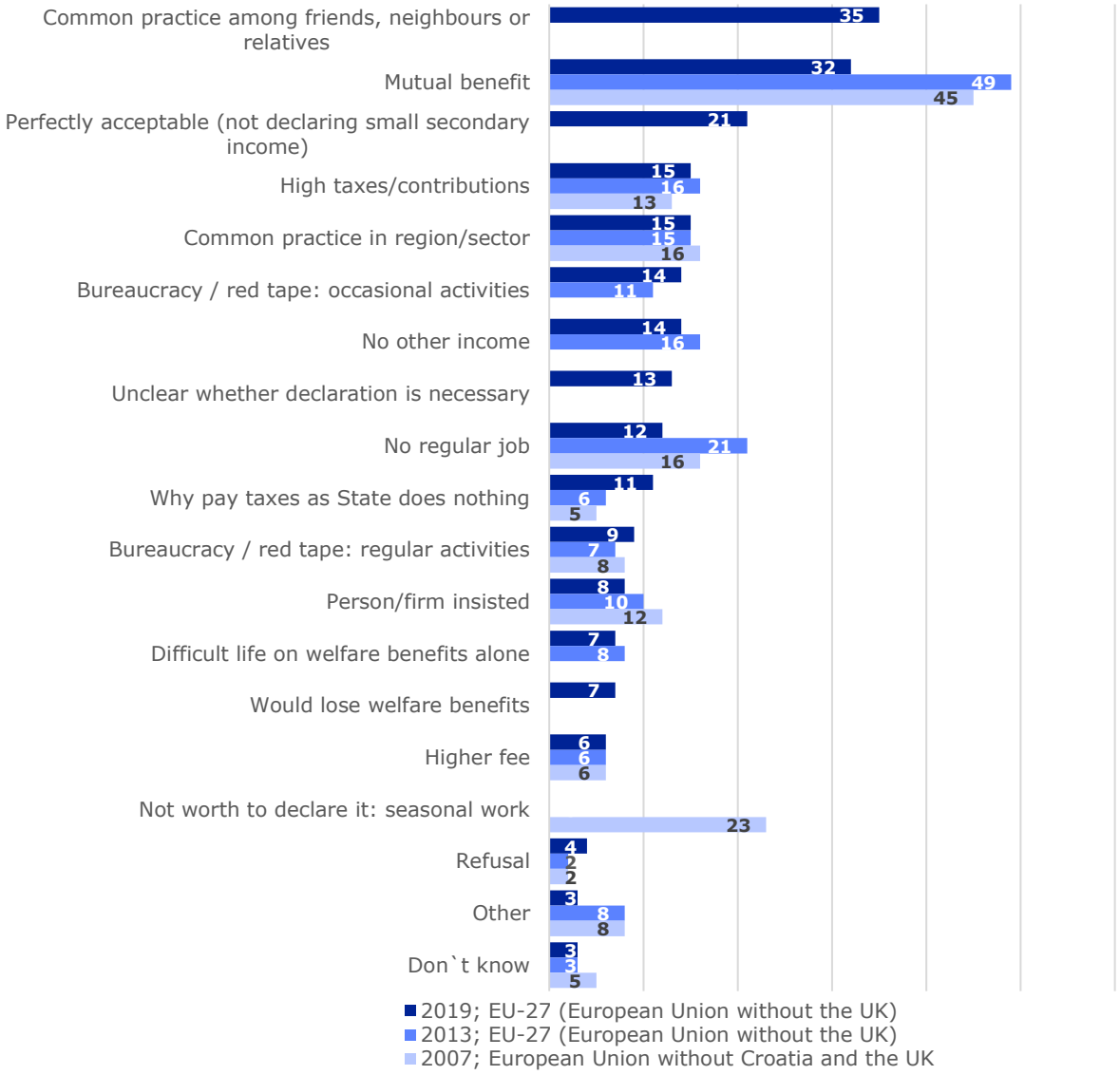
Source: based on data from Special Eurobarometer 284 (Wave EB67.3, 2007), 402 (Wave EB79.2, 2013), 498 (Wave EB92.1, 2019)

Figure 2 displays the **reasons for respondents undertaking undeclared work**. The most frequent response, stated by 35 %, is that undeclared work is a common practice among friends, neighbours or relatives, revealing how much undeclared work is a type of paid favour conducted voluntarily for close social relations to help them out. The second most frequent response, stated by 32 %, is that both parties benefit from this type of arrangement, followed by the rationale that it is perfectly acceptable not to declare a small secondary income (stated by 21 %). Comparing changes in the respondents` motives over the time, the finding is that prevalence of the motives associated with social exclusion (e.g., difficult living on welfare benefits alone, no regular job, no other income) and with financial issues (e.g., high taxes and contributions) have

[6] *Question wording:*
- ***2007*** 'Did you yourself carry out any undeclared activities in the last 12 months for which you were paid in money or in kind? Herewith we mean again activities which were not or not fully reported to the tax or social security authorities and where the person who acquired the good or service was aware of this?';
- ***2013*** 'Apart from a regular employment, have you yourself carried out any undeclared paid activities in the last 12 months?', and
- ***2019*** 'Have you yourself carried out any undeclared paid activities in the last 12 months, either on your own account or for an employer?'.

decreased over time. Meanwhile, the prevalence of motives related to the perceived failings of formal institutions have increased (e.g., too much bureaucracy for both occasional and regular activities, lack of satisfaction with how public money is spent). For example, the proportion who engage in undeclared work because they believe they receive nothing back from the state, so it makes no sense to pay taxes, has doubled from 5 % in 2007 to 11 % in 2019.

Figure 2. Reasons for engaging in undeclared work in the EU (%)



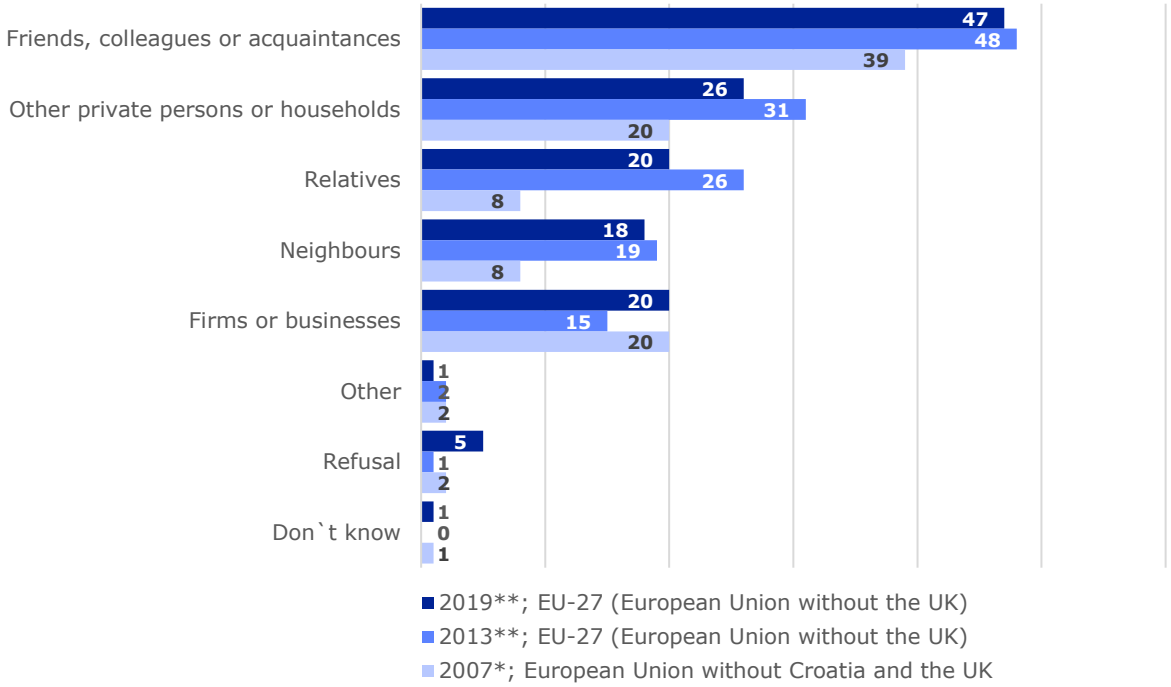
Note: Not available when not displayed

Source: based on data from Special Eurobarometer 284 (Wave EB67.3, 2007), 402 (Wave EB79.2, 2013), 498 (Wave EB92.1, 2019)

When undeclared work is undertaken, Figure 3 displays that 47 % of those who engage in undeclared work do so for friends, colleagues or acquaintances (48 % in 2013 and 39 % in 2007). However, it is important to note that although most undeclared work is still conducted for close social relations, the share conducted for close social relations is

declining over the years.[7] Comparing 2019 with 2013, fewer undeclared workers provided such work to friends, colleagues or acquaintances (47 % compared with 48 %), relatives (20 % compared with 31 %), neighbours (18 % compared with 19 %) or other private persons or households (26 % compared with 31 %). Meanwhile, the percentage providing undeclared work for firms and businesses, although decreasing from 2007 to 2013, increased in 2019 back to the same level as 2007 (20 %).

Figure 3. Recipients of undeclared work in the EU (%)



*Notes: * one answer only; ** Multiple answers possible*

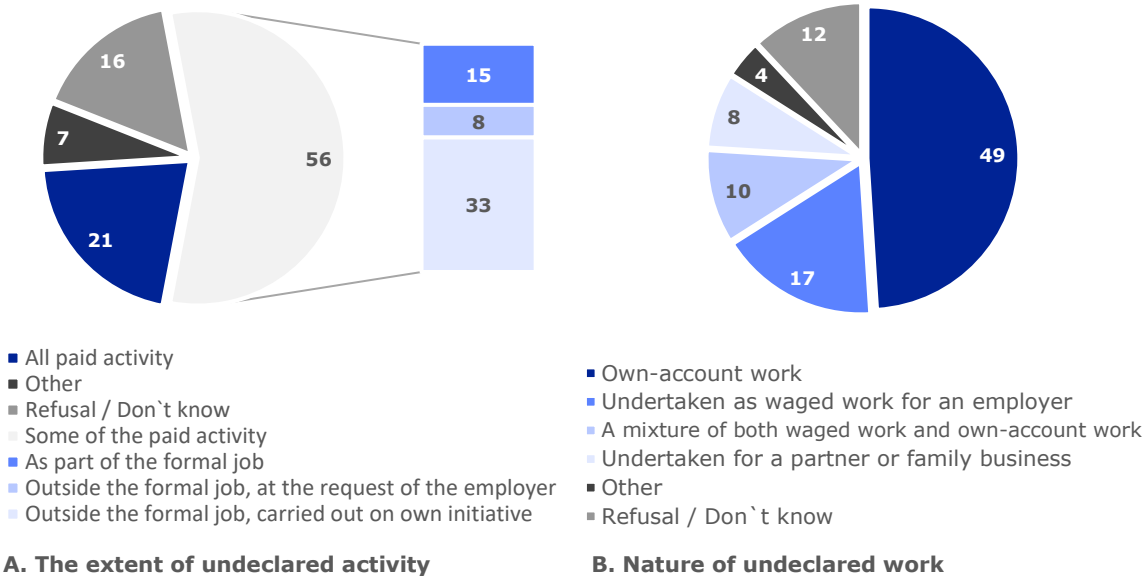
Source: based on data from Special Eurobarometer 284 (Wave EB67.3, 2007), 402 (Wave EB79.2, 2013), 498 (Wave EB92.1, 2019)

In 2019, respondents who reported undertaking undeclared activities were asked about how undeclared work fits into their overall portfolio of work. Most respondents reported that only some of their paid activity is undeclared (56 %), with just over a fifth (21 %) reporting that all their paid work is undeclared. The remaining respondents either refused to answer or did not know (16 %) or considered that other situations apply to them (7 %). Examining those who reported that only some of their paid work is undeclared (56 %), and as Figure 4A displays, the finding is that the vast majority conducted their undeclared work outside of their formal job (33 % carried out at the respondents own initiative and 8 % at the request of an employer) and only a small proportion conducted their undeclared activities as part of their formal job (15 %).

[7] By their nature, Eurobarometer surveys tend to over-focus on the private supply of undeclared work and under-emphasise business-to-business undeclared work. As such, caution is urged. These data do not reflect the type of supply in terms of total volume (e.g., as a % of Gross Value Added).

Of those participating in undeclared work, **49 % undertook their undeclared work on an own account or self-employed basis**, **17 % as waged employment for an employer, 10 % both own-account and waged undeclared work, 8 % undeclared work for a partner or family business and 4 % stated other types**.

Figure 4. The extent and nature of undeclared work in the EU-27 (%, 2019)

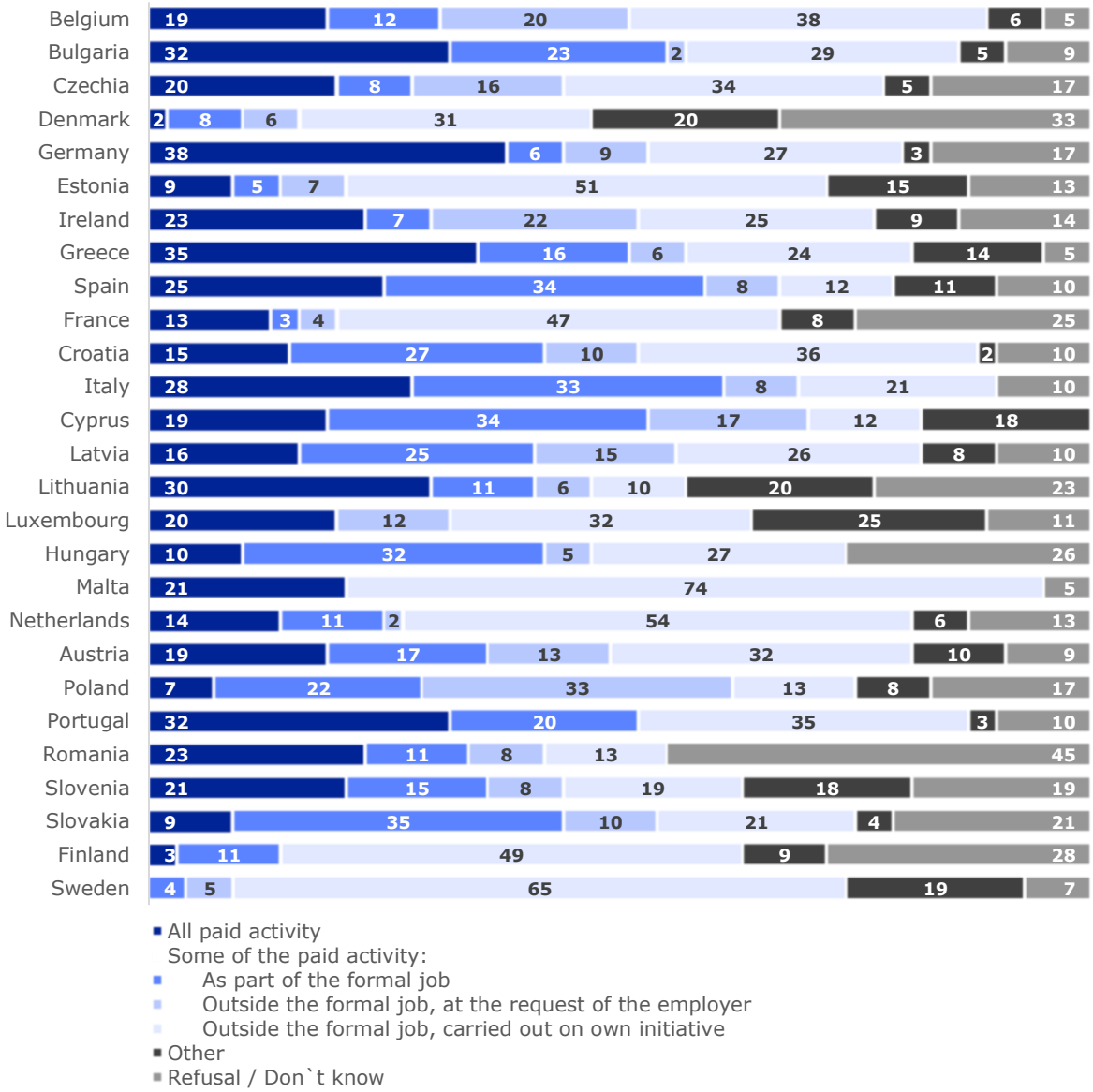


Source: based on data from Special Eurobarometer 498 (Wave EB92.1, 2019)

Figures 5 and 6 report the differences across Member States. However, due to the relatively small number of respondents within each country, these figures needs to be cautiously interpreted.

Figure 5 reports the extent of undeclared activity across the 27 Member States. This displays that a higher percent of those undertaking undeclared activities reported that all their paid activity is undeclared in Germany (38 %), Greece (35 %), Bulgaria and Portugal (32 %) and Lithuania (30 %), whilst only a few respondents declared that all their paid activity is undeclared in Sweden (none of the respondents), Denmark (2 %) and Finland (3 %).

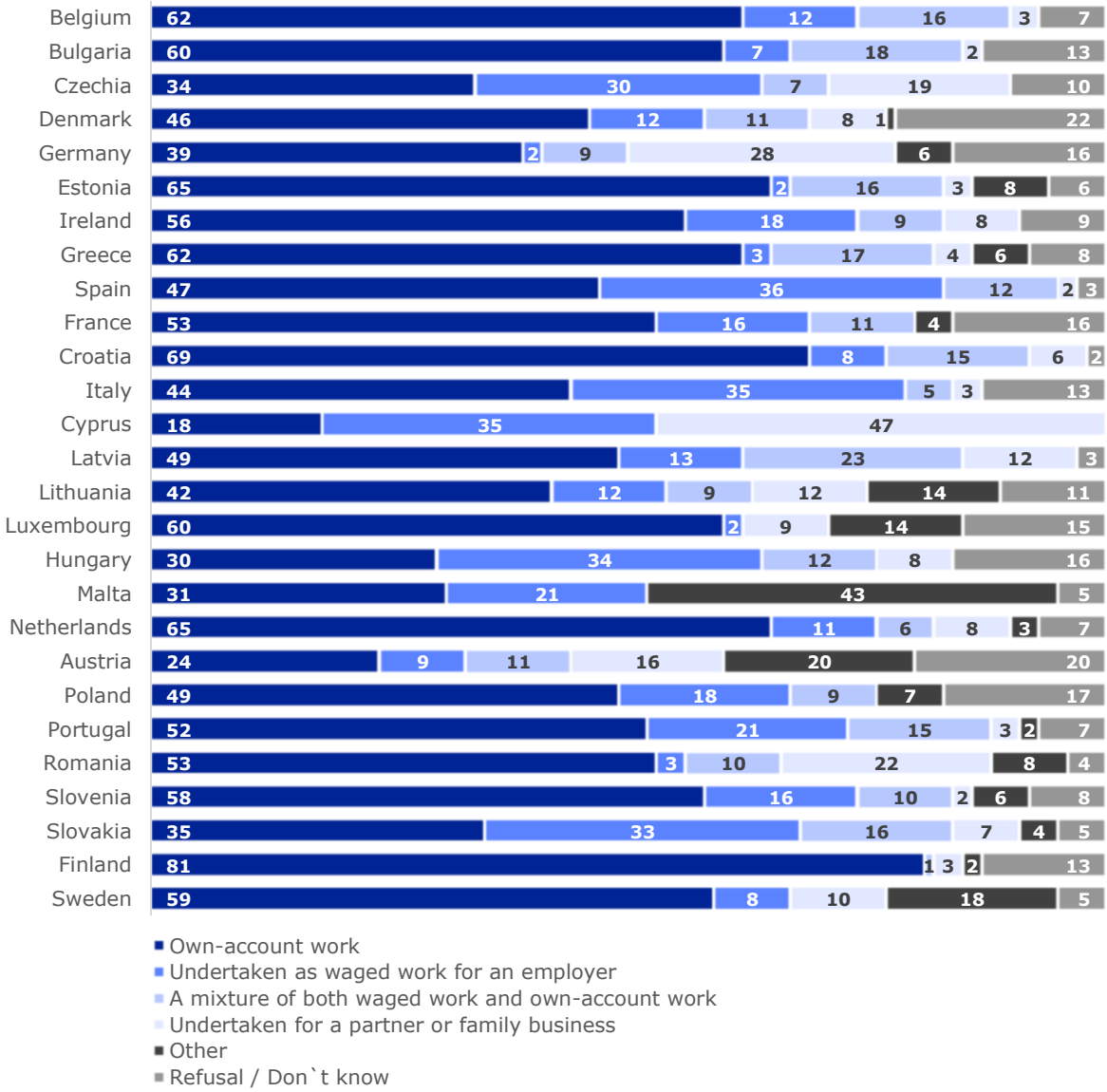
Figure 5. The extent of undeclared activity in participants overall paid activities, by country (%, 2019)



Source: based on data from Special Eurobarometer 498 (Wave EB92.1, 2019)

As Figure 6 reports, there are also some important differences in the nature of the undeclared work undertaken between countries. Undeclared work was conducted as waged work for an employer to a greater extent in Spain (36 % of all undeclared work conducted), Cyprus and Italy (35 %), Hungary (34 %), Slovakia (33 %) and Czechia (34 %). Meanwhile, undeclared work was conducted mostly as own-account work in Finland (81 % of all undeclared work undertaken), Croatia (69 %), Estonia and the Netherlands (65 %), Belgium and Greece (62 %), Bulgaria and Luxembourg (60 %) and Sweden (59 %). This is not surprising considering that, as Figure 4 displayed, in most of these countries, undeclared work is only an occasional activity and not the main paid activity.

Figure 6. Nature of undeclared work, by country (%, 2019)



Source: based on data from Special Eurobarometer 498 (Wave EB92.1, 2019)

2.2 Changes in the prevalence and nature of under-declared employment

Under-declared employment refers to employment relationships where formal employers reduce their tax and social security payments, and therefore labour costs, by paying their formal employees an official declared salary based on a formal contract complemented by an additional undeclared ('envelope') wage which is hidden from the authorities for tax and social security purposes. Alternatively, to evade paying the minimum wage, an employer can under-declare the number of hours worked by an employee (i.e., registering the employers as a part-time worker when they are in lived practice full-time workers; paying the overtime hours in cash etc.).

As Figure 7 displays, in 2019, one in 33 formal employees received an additional undeclared ('envelope') wage from their formal employer in the year prior to the survey.

Exploring the trend over the years[8], it was also 3 % in 2013 but 5 % in 2007. Similar to the case of undeclared work, the number of respondents refusing to answer or stating that they do not know (which can include those who fear being honest about their illegitimate activity) reduced from 5 % in 2013 to 2 % in 2019, offering some grounds for assuming that the share of employees receiving 'envelope wages' has further reduced in 2019 compared with 2013.

Figure 7. Under-declared employment in the European Union (%)

Source: based on data from Special Eurobarometer 284 (Wave EB67.3, 2007), 402 (Wave EB79.2, 2013), 498 (Wave EB92.1, 2019)

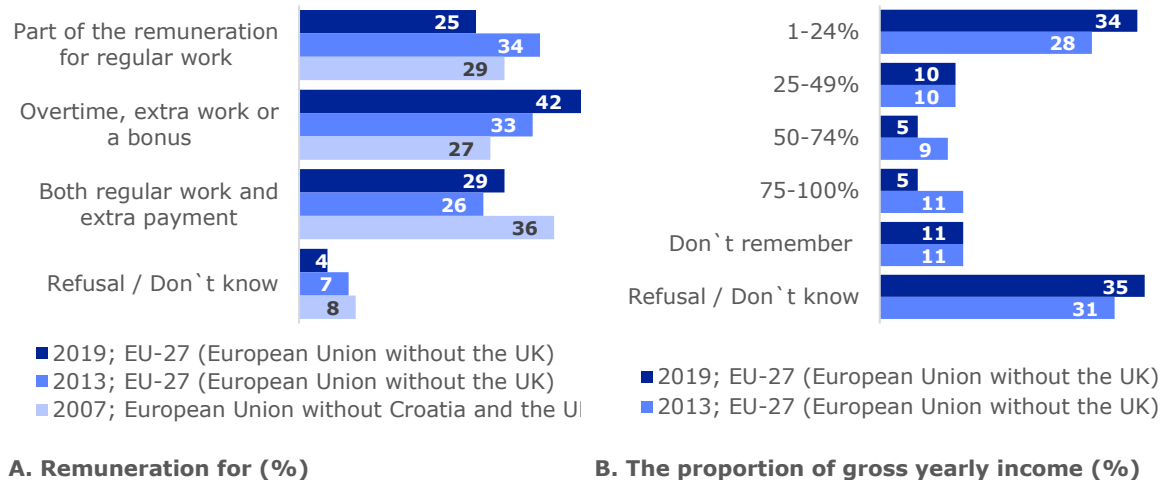
Employees receiving 'envelope wages' were asked whether this was part of the remuneration for their regular work, for overtime/extra work or a bonus, or for both their regular work and overtime/extra work. As Figure 8A reveals, in 2019, some 42 % received their additional undeclared envelope wage for over/extra time work, 29 % for both their regular work and overtime/extra work, and 25 % for their regular employment. The trend over time is that 'envelope wages' are being more often used for overtime, extra work or bonuses and less often paid for their regular work.

Examining the share of their gross salary paid as an undeclared envelope wage, in 2019 34 % of those in under-declared employment received less than a quarter of their gross salary as an envelope wage, 10 % received 25-49 % of their gross salary as an envelope wage and 5 % received 50 % or more of their gross salary as an envelope wage (Figure 8B). The share of gross salary paid as an envelope wage has decreased between 2013 and 2019.

[8] *Question wording:*

- ***2007*** 'Sometimes employers prefer to pay all or part of the regular salary or the remuneration for extra work or overtime hours cash-in-hand and without declaring it to tax or social security authorities. Did your employer pay you all or part of your income in the last 12 months in this way?';
- ***2013*** 'Sometimes employers prefer to pay all or part of the salary or the remuneration (for extra work, overtime hours or the part above a legal minimum) in cash and without declaring it to tax or social security authorities. Has your employer paid you any of your income in the last 12 months in this way?', and
- ***2019*** 'Sometimes employers prefer to pay all or part of the salary or the remuneration (for extra work, overtime hours, the amount above the legal minimum wage or bonuses) in cash and without declaring it to tax or social security authorities. Has your employer paid you any of your income in the last 12 months in this way?'.

Figure 8. Envelope wages: remuneration and proportion of income paid cash in hand



A. Remuneration for (%) **B. The proportion of gross yearly income (%)**

Source: based on data from Special Eurobarometer 284 (Wave EB67.3, 2007), 402 (Wave EB79.2, 2013), 498 (Wave EB92.1, 2019)

2.3 Prevalence and nature of bogus self-employment

A small but growing literature has raised concerns about how employers falsely classify their workers as self-employed to circumvent tax and/or social insurance liabilities, collective agreements, labour law (e.g., minimum wages, maximum working time) and/or employers` responsibilities (Eichhorst et al., 2013; Eurofound, 2016a, 2016b; Gialis et al., 2017; Giraud and Lechevalier, 2018; ILO, 2013; Westerveld, 2012; Williams and Horodnic, 2019).

Bogus self-employment, often referred to as false self-employment or dependent self-employment, is commonly understood as involving workers registered as self-employed despite these workers possessing many of the characteristics of dependent employees. National legislation and/or court decisions determine this status.

The various national definitions display some consensus (Williams and Horodnic, 2019). Firstly, there is a consensus that bogus self-employment represents an employment relationship where the worker is registered as self-employed (without employees) despite having a *de facto* dependent employment relationship. Secondly, both academic literature and legislation identify that two types of dependence are important in determining their employment status, namely: ***economic dependence*** manifested when the self-employed person generates their income only from one client or they have a dominant client providing a high portion of their income and ***personal dependence*** manifested by lack of autonomy and authority in employing additional workers, deciding the working methods, the time or place of work (Böheim and Mühlberger, 2006; Eichhorst et al., 2013; ILO, 2015, 2016).

Therefore, these issues of their economic and personal dependency are here evaluated by defining the bogus self-employed as those reporting themselves as self-employed without employees who meet two or three of the following criteria: (a) they do not have more than one client or have a dominant client which provides at least 75 % of total income[9], (b) they do not have the authority to hire/dismiss employees, (c) they get paid an agreed fee on a weekly or monthly basis. Questions on each of these issues were

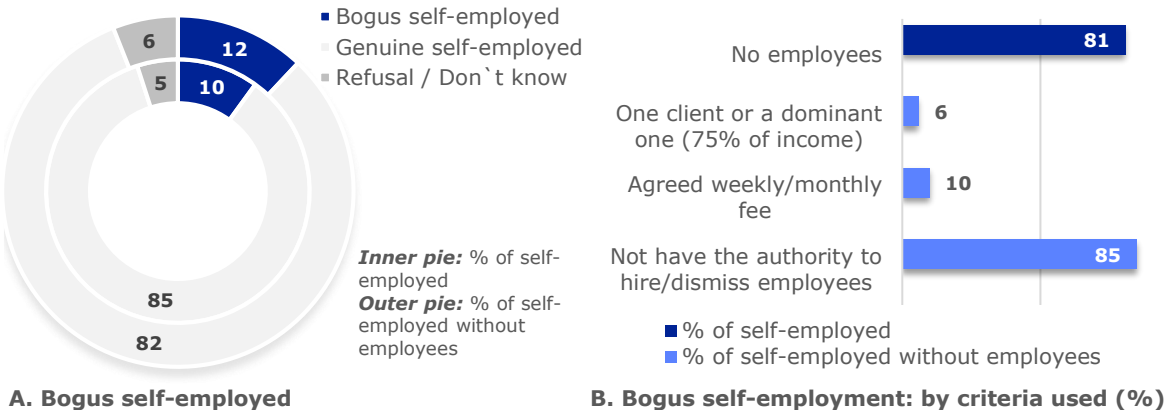
[9] Eurofund (2018) criteria refers only on having more than one client and does not include the context of having a dominant client. However, in many countries the legislation refers to dominant clients (generating more than 70–75 % of the self-employee`s income) and so does the methodology used by Eurostat (2017) when analysing this phenomenon using EU-LFS data.

included in the Eurobarometer survey to determine whether those reporting themselves as self-employed were in fact genuine self-employed or bogus self-employed.

Out of the 26 514 respondents in 2019, 7 % reported themselves as self-employed. As Figure 9A displays, almost 1 in 8 (12 %) of the self-employed without employees surveyed are bogus self-employed (i.e., they fulfil two of the three above criteria). Examining all self-employed, including those with employees, 1 in 10 self-employed are bogus self-employed (see Figure 9A).

Figure 9B reports the proportion of the self-employed who meet each of the three criteria that are used to determine whether they are genuine self-employed or bogus self-employed. The most important finding is that in 2019, 85 % of the self-employed without employees do not have the authority to hire or to dismiss employees, a further 10 % are paid via a weekly or monthly fee and 6 % are economically dependent on one client or a dominant client who provides more than 75 % of their income.

Figure 9. Bogus self-employment in the EU-27 (%, 2019)



A. Bogus self-employed **B. Bogus self-employment: by criteria used (%)**

Source: based on data from Special Eurobarometer 498 (Wave EB92.1, 2019)

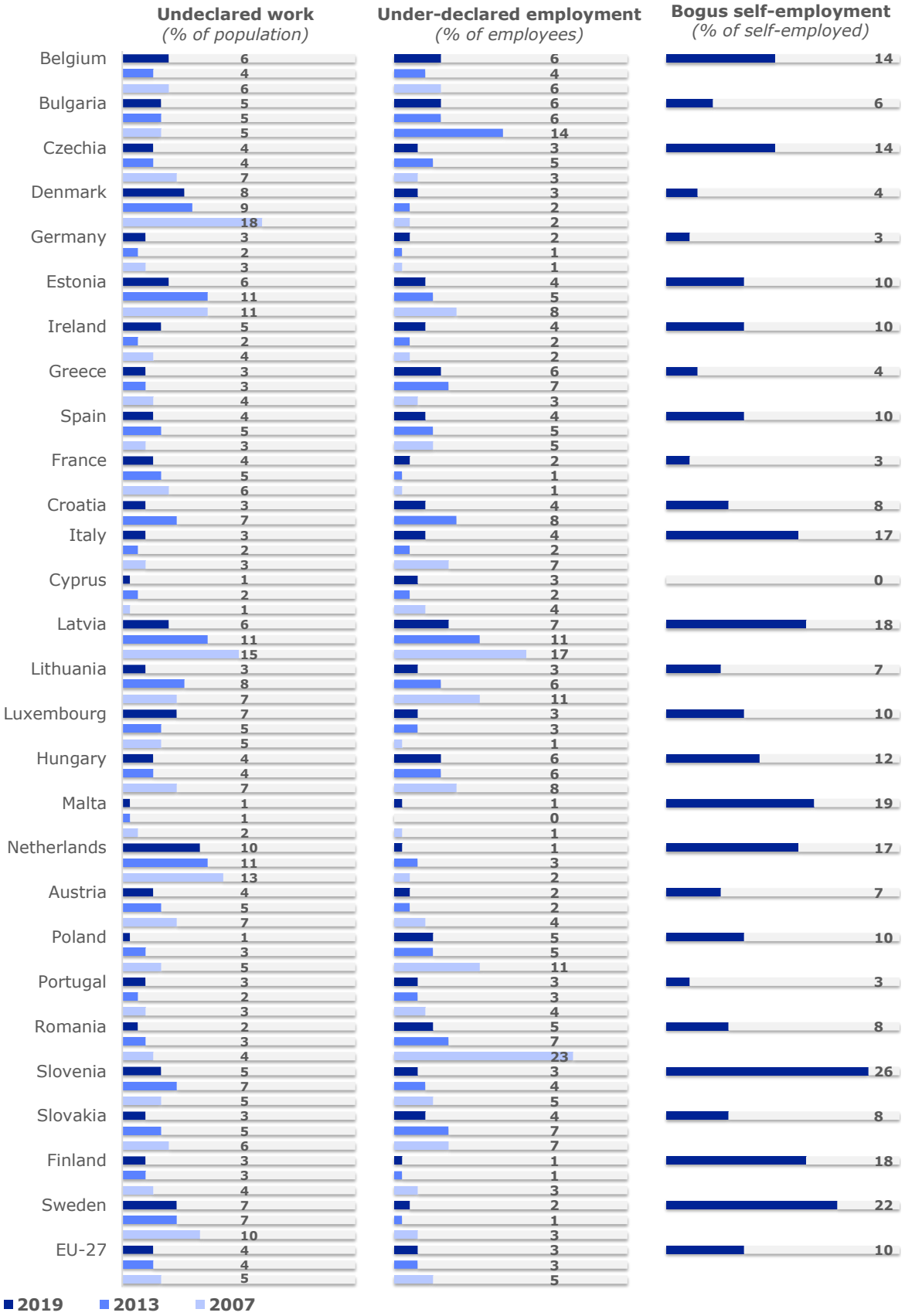
2.4 Variations between Member States

Figure 10 displays the cross-national variations in the prevalence of: (i) undeclared work as percentage of the population; (ii) under-declared employment as percentage of employment and (iii) bogus self-employment as percentage of self-employment. This figure also includes the data on undeclared work and under-declared employment from the 2007 and 2013 Eurobarometer waves. Bogus self-employment has been first measured in the 2019 survey.

Starting with undeclared work, in 2019, the proportion of citizens participating in undeclared work was highest in the Netherlands (10 %), Denmark (8 %), Luxembourg and Sweden (7 %). Analysing changes over time, the largest decreases in the share of the population engaged in undeclared work is in the Baltic Member States (i.e., 6 % in Latvia in 2019 compared with 15 % in 2007; 6 % in Estonia in 2019 compared with 11 % in 2007; 3 % in Lithuania in 2019 compared with 7 % in 2007). Therefore, over time, the conventional perception of a West/East European divide in the level of participation in undeclared work appears to have disappeared.

It should be noted that this is not a measure of the size of the undeclared economy in each Member State. It only measures the proportion of the population who have engaged in undeclared in the past 12 months. In some Member States, this may be more characterised by small-scale one-off acts of baby-sitting or home repairs (e.g., in Denmark, the Netherlands, Sweden) and in others such work may be more regular wage employment relationships (e.g., Spain, Italy).

Figure 10. Composition of undeclared work across the Member States (%)



Source: Special EB 284 (Wave EB67.3, 2007), 402 (Wave EB79.2, 2013), 498 (Wave EB921, 2019)

Variations also exist across Member States in the prevalence of under-declared employment. It is more prevalent in Latvia (7 % of all employees) and Hungary, Greece, Belgium and Bulgaria (6 %). Over the time, under-declared employment has reduced most in Romania (from 23 % of all employees in 2007 to 5 % in 2019), Bulgaria (from 14 % in 2007 to 6 % in 2019) and Latvia (17 % in 2007 to 7 % in 2019).

Turning to the prevalence of bogus self-employment, the finding is that bogus self-employment is more prevalent in Slovenia (26 % of all self-employed without employees), Sweden (22 %), Malta (19 %), Latvia (18 %) and Italy and the Netherlands (17 %), and less prevalent in France, Germany and Portugal (3 %), Denmark and Greece (4 %). Using the three criteria mentioned above for measuring the personal and economic dependence, no case of bogus self-employment has been identified in Cyprus.

2.5 The use of the collaborative economy when engaging in undeclared work

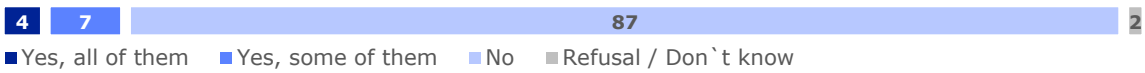
The collaborative economy, as defined by the European Commission (2016, p. 3) is a:

> 'business model where activities are facilitated by collaborative platforms that create an open marketplace for the temporary usage of goods or services often provided by private individuals. The collaborative economy involves three categories of actors: (i) **service providers** who share assets, resources, time and/or skills – these can be private individuals offering services on an occasional basis ("peers") or service providers acting in their professional capacity ("professional services providers"); (ii) **users** of these; and (iii) intermediaries that connect – via an online platform – providers with users and that facilitate transactions between them ("**collaborative platforms**"). Collaborative economy transactions generally do not involve a change of ownership and can be carried out for profit or not-for-profit'.

The 2019 Eurobarometer asks the 4 % of respondents engaging in undeclared work whether they had used a mobile application, an online tool or a specialised website[10] to arrange the provision of their undeclared work (e.g., to find customers).

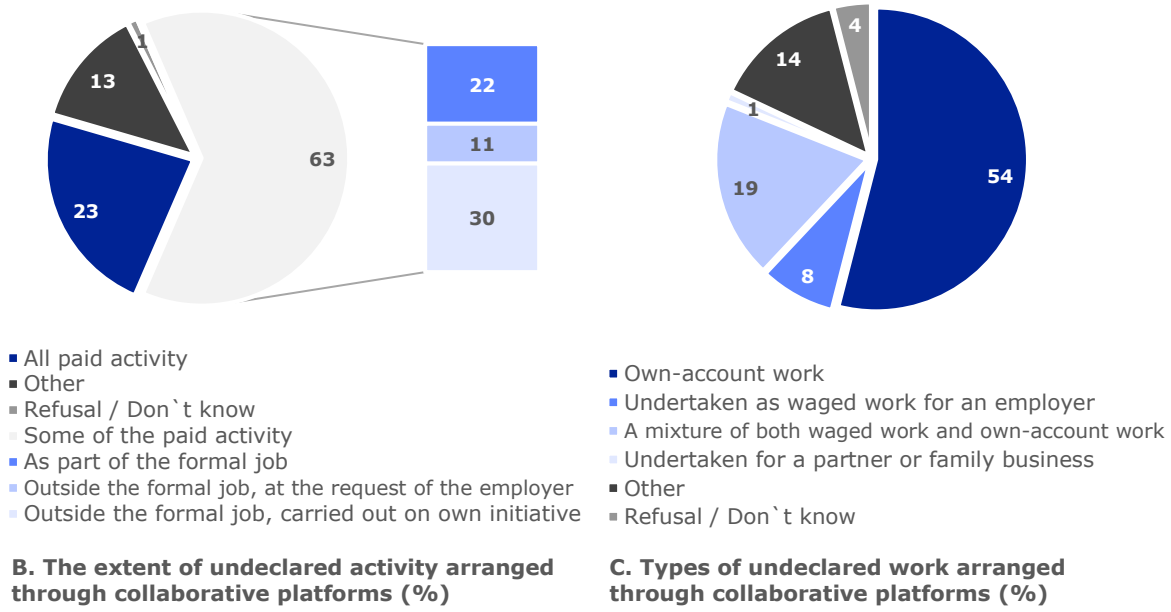
Figure 11 provides an overview of the extent to which the collaborative economy is being used to find opportunities for undeclared work. As Figure 11A displays, more than one in ten (11 %) of those supplying undeclared work used collaborative platforms for selling their goods and services. Breaking this down, 4 % used collaborative platforms for all their undeclared activity and 7 % used collaborative platforms for some of their undeclared activity.

Figure 11. Undeclared work in EU-27, arranged through collaborative platforms (%, 2019)



A. Undeclared work (activities) arranged through a mobile app or a specialised website (%)

[10] *Question:* 'Were any of these activities arranged through a mobile application - app - or an online tool or specialised website?'



B. The extent of undeclared activity arranged through collaborative platforms (%)

C. Types of undeclared work arranged through collaborative platforms (%)

Note: Caution is required when interpreting these results because the number of respondents in EU-27 engaged in undeclared activities arranged through collaborative platforms is small.

Source: based on data from Special Eurobarometer 498 (Wave EB92.1, 2019)

Figures 11B and 11C explore the extent and the nature of the undeclared work arranged through collaborative platforms. Due to the low number of firstly those engaged in undeclared work (4 % of the respondents) and secondly of those using collaborative platforms for arranging their undeclared work (11 % of those engaged in undeclared work), the figures displayed in Figures 11B and 11C are only informative and need to be cautiously interpreted. As Figure 11B displays, the vast majority of those using collaborative platforms for arranging undeclared work are doing so only for some of their paid work (63 %, out of which 30% are doing this work outside their formal job and on their own initiative, 22 % as part of their formal job and 11 % outside their formal job but at the request of the employer) and only 23 % of those using collaborative platforms for arranging undeclared work are doing all their paid activity in this manner. Turning to the nature of the undeclared work arranged via collaborative platforms, and as Figure 11C displays, more than half (54 %) of the undeclared work arranged through collaborative platforms is own-account work and 19 % a mixture of both own-account work and waged work. Collaborative platforms are used to a lesser extent to provide undeclared wage employment for an employer (8 %) or work conducted for a partner or a family business (4 %). A further 14 % of those conducting undeclared work mediated by collaborative platforms reported that other contexts apply to them.

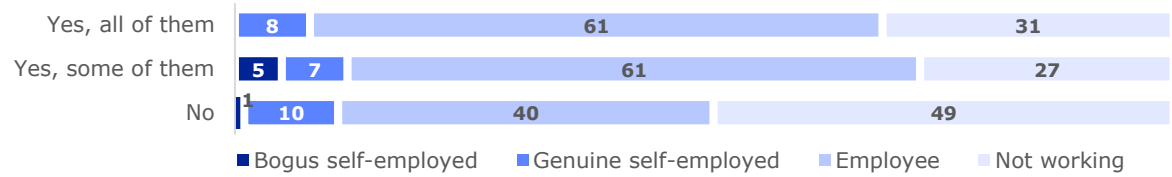
2.6 Relationship between bogus self-employment and the collaborative economy

It is often assumed that there is a close relationship between bogus self-employment and the collaborative economy. The question on online platforms in the 2019 survey was 'Were any of these [undeclared] activities arranged through a mobile application – app – or an online tool or specialised website?'. The result is that one cannot analyse from the Eurobarometer data whether the bogus self-employed arrange their work via collaborative platforms. However, one can investigate the employment status of those engaged in undeclared work via platforms.

As Figure 12 displays, those in bogus self-employment are only a small proportion of those conducting undeclared work via collaborative platforms. The majority are formal employees and those not working. Indeed, formal employees are considerably over-represented among those conducting undeclared work via collaborative platforms. Although employees are some 40 % of all survey respondents, they are 61 % of those providing undeclared work via collaborative platforms, reflecting how they conduct undeclared own-account work on the side via platforms as a supplementary income to the salary of their formal job.

The bogus self-employed are 5 % of those providing some of their undeclared work via platforms, despite less than 1 % of the surveyed population being bogus self-employed. This intimates that the bogus self-employed are over-represented among those providing undeclared work via platforms, constituting 1 in 20 of those who do so. However, caution is urged with the data. The 2019 Eurobarometer survey identifies only 196 bogus self-employed respondents. Solely 15 of these bogus self-employed also engage in undeclared work and only 3 engage in undeclared work via collaborative platforms.

Figure 12. Undeclared activities arranged through collaborative platforms in EU-27, by employment status (%, 2019)



Note: Caution is required when interpreting these results because the number of respondents in EU-27 engaged in undeclared activities arranged through collaborative platforms is small.

Source: based on data from Special Eurobarometer 498 (Wave EB92.1, 2019)

2.7 Cross-border mobile labour and undeclared work

Figure 13 displays whether those who have experience of working in another country to their country of origin are more likely to participate in undeclared work, under-declared employment and bogus self-employment. The finding is that **cross-border labour mobility leads to higher rates of participation in the undeclared economy**.

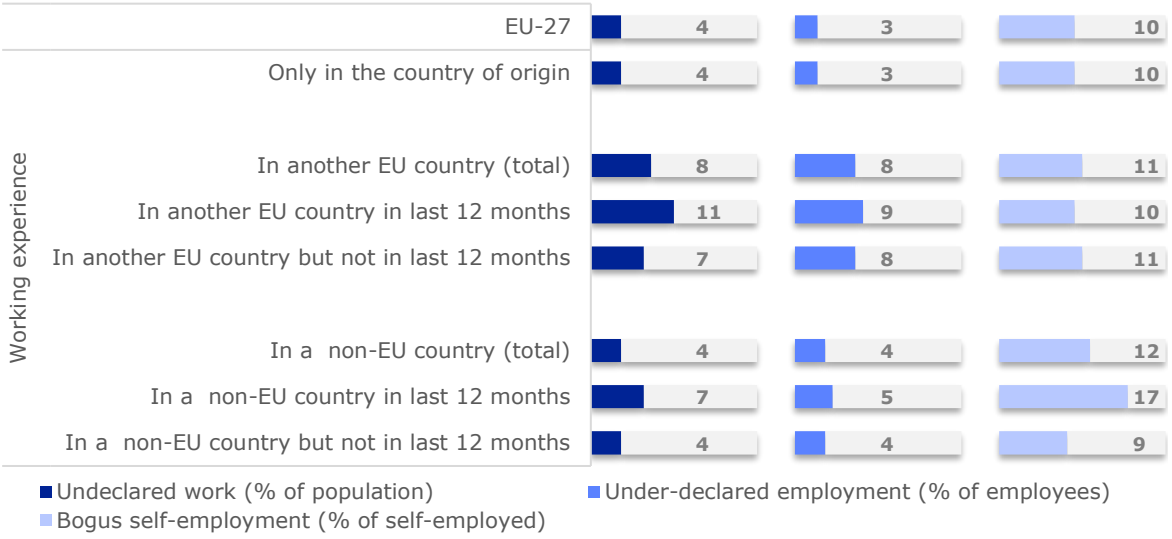
Those who have worked in another EU country have a higher rate of participation in both undeclared work, under-declared employment and bogus self-employment. 8 % of those who have worked in another EU country engaged in undeclared work in the 12 months prior to the survey (compared with 4 % of all citizens surveyed), 8 % of all employees surveyed who have worked in another EU country engaged in under-declared employment (compared with 3 % of all employees surveyed) and 11 % of the self-employed who have worked in another EU country engaged in bogus self-employment (compared with 10 % of all self-employed surveyed).[11]

It is similarly the case for those having worked in a non-EU country. Although 4 % of those who have worked in a non-EU country engaged in undeclared work in the 12 months prior to the interview (which is the same figure as for all citizens surveyed), 4 % of those who are employees who have previously worked in a non-EU country engaged in under-declared employment (compared with 3 % of all employees surveyed) and 12 % of the self-employed who have previously worked in a non-EU country engaged in bogus self-employment (compared with 10 % of all self-employed surveyed). The likelihood of engaging in undeclared work, under-declared employment and bogus self-employment is therefore greater among those who have worked in

[11] Data was not collected on the EU member state in which they have worked.

another country, and this is particularly the case for those who have worked in another EU country (i.e., cross-border mobile labour).

Figure 13. Undeclared work in EU-27, by working experience in another EU or non-EU country (%, 2019)



Note: Multiple answers possible; given the small number of respondents with experience in working abroad, caution is required when interpreting these results.

Source: based on data from Special Eurobarometer 498 (Wave EB92.1, 2019)

It is also important to note that participation rates in undeclared work are higher for those who have in the last 12 months worked in another country (both in the EU and non-EU) than for those who previously worked in another country (both in the EU and non-EU). This is an important finding. It is not known whether the undeclared work that they have engaged in is in their receiving country or in their country of origin. However, this data shows that those who in the past 12 months have worked in another country have higher rates of participation in undeclared work in the past 12 months, which could be in their host country or could be to re-adapt in their home country after having worked abroad.

However, these figures need to be cautiously interpreted due to the low numbers involved. Only 9 % of the respondents have worked abroad and less than 2 % surveyed were migrants and EU mobile workers. The above analysis only considers those who have worked abroad. The undeclared work practices of migrants and EU mobile workers have not been analysed due to the very low number of migrants surveyed.[12] To evaluate whether migrants and EU mobile workers conduct more undeclared work, future Eurobarometer surveys might consider providing a 'booster sample' to analyse undeclared work among this group. In addition, future surveys could also explore whether those working abroad conducted their undeclared activities in the sending or receiving country. For example, such a worker might have worked undeclared in their country of origin due to the lack of formal jobs and precisely due to this, moved to another country to obtain a formal job. However, they might also work undeclared as a temporary strategy when they move abroad until they find a formal job or do so when they return to their home country as they re-adapt. Future surveys need to include

[12] In some countries, no migrants were surveyed (i.e., Hungary, Poland and Romania), only 1 migrant in others (i.e., Bulgaria, Croatia, and Lithuania) and 5 or less in yet others (Estonia, Finland, Italy, Portugal, Slovakia and Slovenia). Therefore, this survey does not provide sufficiently robust data to examine undeclared work among migrants. Overall, only 32 migrants reported they had conducted undeclared work in the 12 months prior to the survey, 17 migrant employees reported engaging in under-declared employment and 4 migrants engaged in bogus self-employment.

questions to collect evidence on where this undeclared work has taken place so that relevant policies can be developed.

3 Who participates in the undeclared economy?

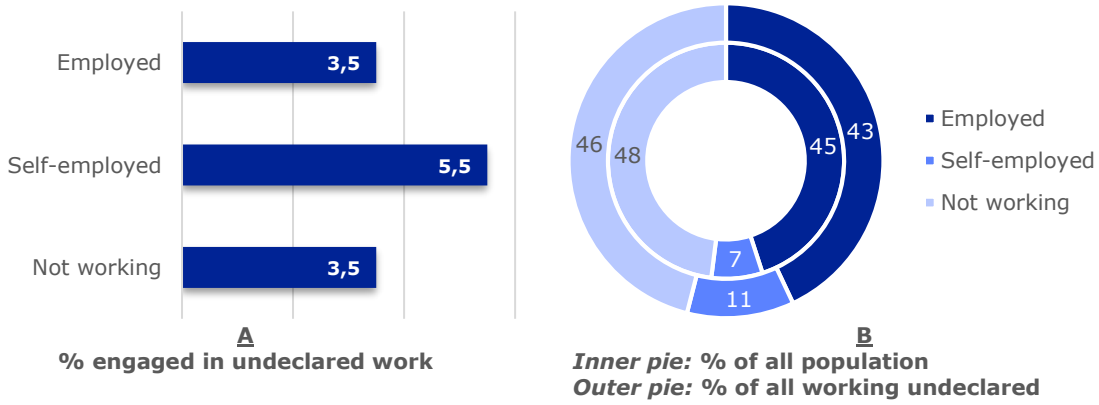
All socio-demographic and social-economic groups are involved in undeclared work, under-declared employment and bogus self-employment, but some are more than others. This section identifies the groups involved, taking undeclared work, under-declared employment and bogus self-employment in turn.

3.1 Employment status and occupations of participants

On the one hand, this section provides an analysis of the relationship between employment status and participation in firstly, undeclared work, secondly, under-declared employment and thirdly, bogus self-employment. On the other hand, it examines the relationship between occupation and participation in firstly, undeclared work, secondly, under-declared employment and thirdly, bogus self-employment

Figure 14 displays variations in the likelihood of engaging in **undeclared work** by employment status. Undeclared work exists across all groups, regardless of whether the respondent does not formally work, is in waged employment or self-employment. However, it is more common among the self-employed (5.5 % of the self-employed engage in undeclared work compared with 3.5 % of those in waged employment or not working). Although only 7 % of the surveyed population, the self-employed represent 11 % of all undeclared workers.

Figure 14. Participation in undeclared work: by employment status

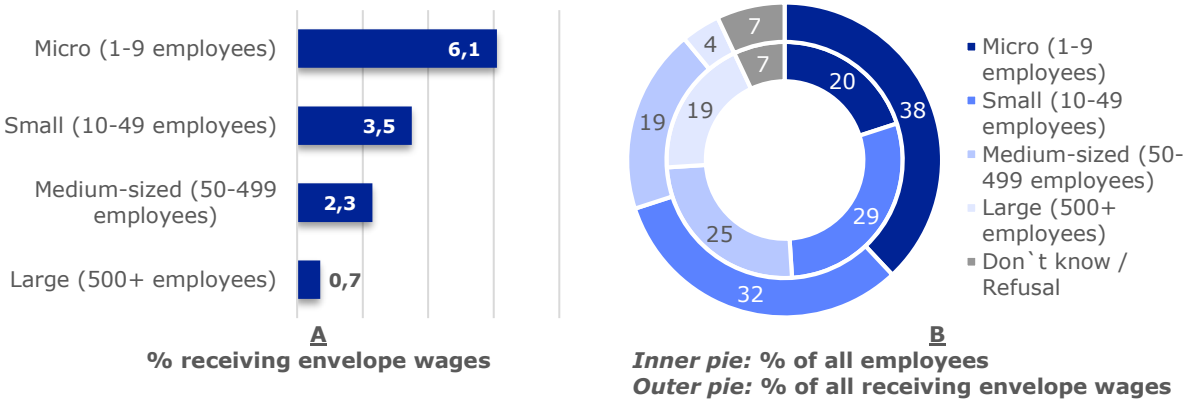


Source: based on data from Special Eurobarometer 498 (Wave EB92.1, 2019)

Meanwhile, Figure 15 reveals that although **under-declared employment** exists across all sizes of firm, it is more common in smaller firms. Indeed, 6.1 % of formal employees in micro-businesses (with less than 9 employees) receive envelope wages compared with less than 1 % of formal employees in large businesses with 500+ employees. Indeed, 49 % of employees surveyed work in businesses employing less than 50 employees, but 70 % of all employees receiving envelope wages. This high concentration of salary under-reporting in small businesses might be a result of the lack of formal human resource management (HRM) in smaller businesses (Barrett and Mayson, 2007). Therefore, in these companies, employers can more easily introduce unwritten verbal contracts that violate the employees` formal contracts. Under-declared employment, therefore, is essentially a small firm problem. However, although mainly a small businesses problem, it needs to be recognised that it is not completely absent

in larger firms. For example, almost a quarter of all formal employees receiving envelope wages (23 %) are in firms with more than 50 employees.

Figure 15. Participation in under-declared employment: by organisation size



Source: based on data from Special Eurobarometer 498 (Wave EB92.1, 2019)

There are also significant variations in the likelihood of engaging in undeclared work, under-declared employment and bogus self-employment across different **occupational groups**.

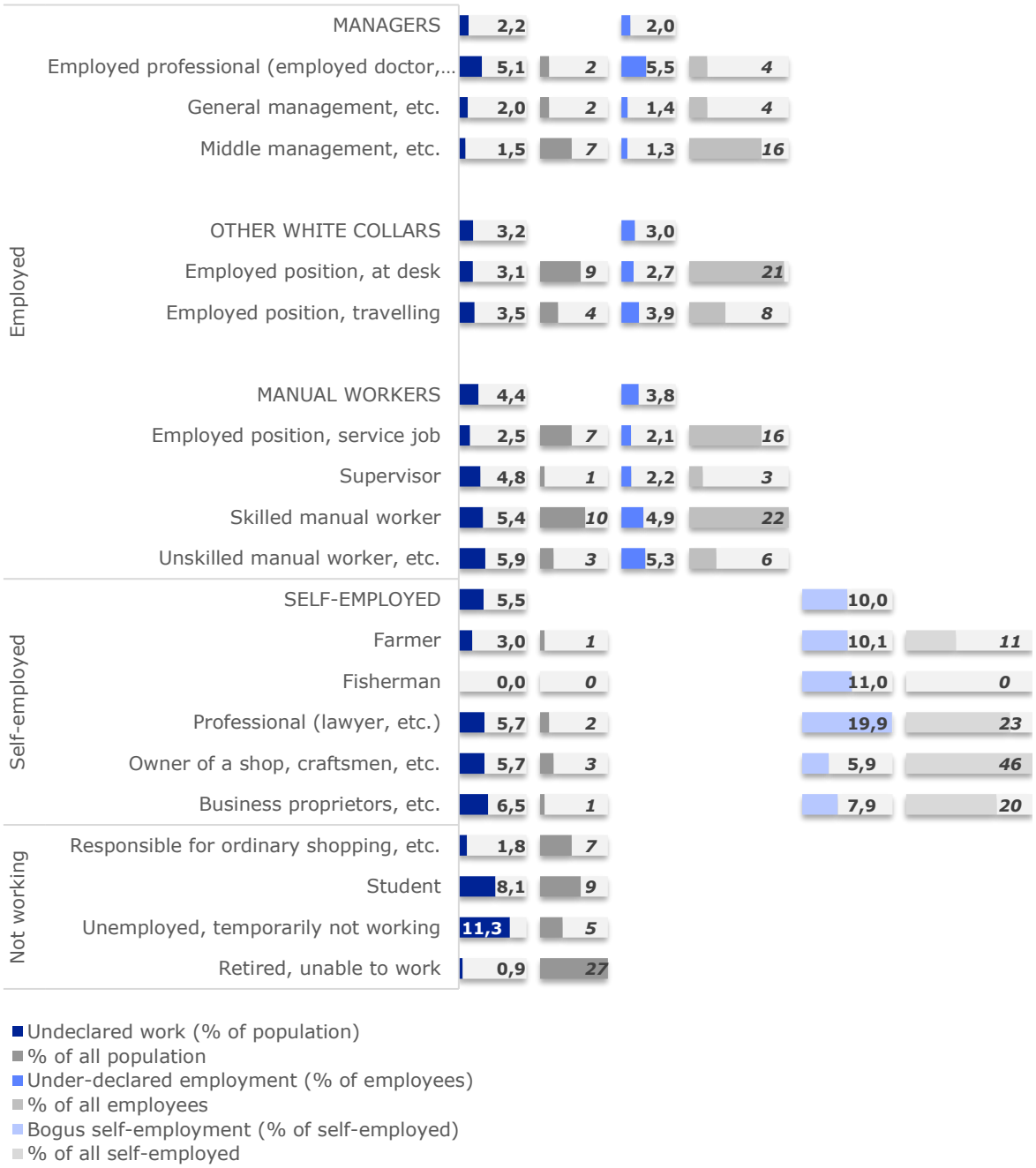
As Figure 16 displays, **undeclared work** exists across all occupations. However, it is more common among those formally employed in some occupations, namely manual workers (4.4 %) compared with white collars (3.2 %) and managers (2.2 %). Exploring this in more depth, both skilled and unskilled manual workers are more likely to conduct undeclared work (5.9 % of unskilled manual workers and 5.4 % of skilled manual workers) than any other occupational category. However, it is important to note that the next highest prevalence of undeclared work is amongst professionals (e.g., doctors, lawyers, accountants, architects), suggesting that undeclared work exists across all occupations. Turning to the self-employed, the higher prevalence of undeclared work is observed amongst business owners (6.5 %) and owners of a shop or craftspeople as well as amongst professionals (5.7 %). Finally, analysing those who are not working, the finding is that undeclared work is more common among those unemployed and temporarily not working (11.3 % of them) and students (8.1 % of all students engage in undeclared work) than any other occupational category discussed above.

Turning to **under-declared employment**, the findings are in line with those on undeclared work. Under-declared employment is more prevalent amongst manual workers (3.8 % of all manual workers receive envelope wages) than among white collar workers (3 %) and managers (2 %). Within the manual worker category, it is most common among unskilled workers (5.3 %) and skilled manual workers (4.9 %), and also among professionals (5.5 % receive envelope wages).

Finally, and analysing **bogus self-employment**, the finding is that the highest prevalence is observed amongst those classified as professionals (e.g., lawyers, doctors, accountants). Indeed nearly 1 in 5 (19.9 %) of self-employed professionals are bogus self-employed. Furthermore, high percentages can be observed in agriculture too, where more than 1 in 10 self-employed farmers and fishermen are bogus self-employed.

In sum, the findings suggest that there are certain occupational groupings who could be usefully targeted when seeking to prevent undeclared work, under-declared waged employment and bogus self-employment.

Figure 16. Undeclared activities by occupation (EU-27, 2019)



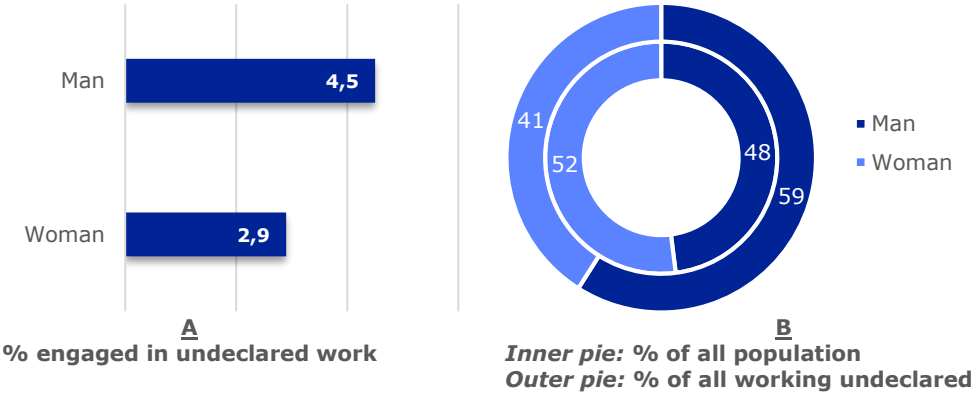
Note: given the small number of respondents, caution is required when interpreting these results.

Source: based on data from Special Eurobarometer 498 (Wave EB92.1, 2019)

3.2 Who participates in undeclared work?

Figure 17 reveals that men are more likely to undertake undeclared work than women (4.5 % compared with 2.9 %). Although men constitute 48 % of the surveyed population, men comprise 59 % of those engaged in undeclared work. Undeclared work, therefore, is more common among men than women.

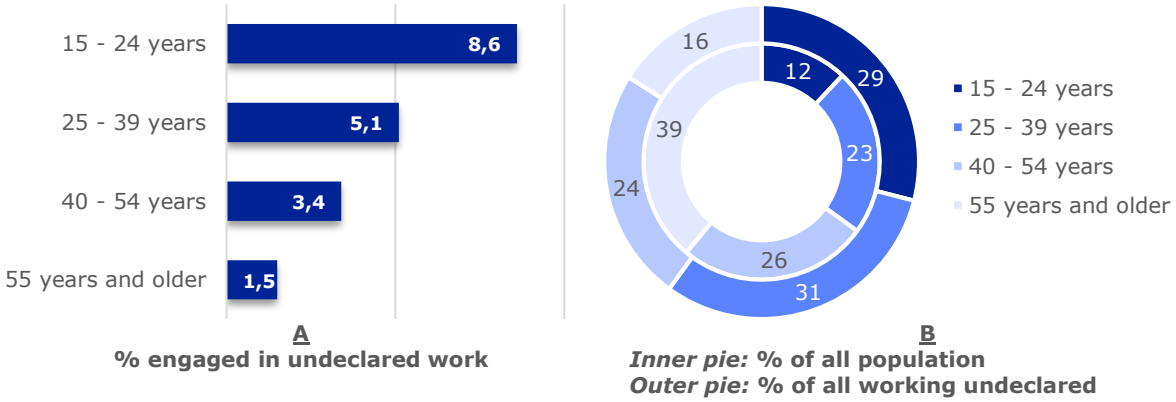
Figure 17. Participation in undeclared work: by gender



Source: based on data from Special Eurobarometer 498 (Wave EB92.1, 2019)

Figure 18 evaluates the prevalence of undeclared work according to the age of the respondents. Undeclared work is more prevalent across younger respondents, with 8.6 % of the respondents aged 15-24 and 5.1 % of those aged 25-39 engaged in undeclared work. Participation rates steadily decline with age, with only 1.5 % of those aged 55 or more engaged in undeclared work. Indeed, although those aged 15-39 years old represent 35 % of respondents, 60 % of those engaged in undeclared work are in this age group. This can be tentatively explained in terms of the relative exclusion of younger age groups from declared jobs.

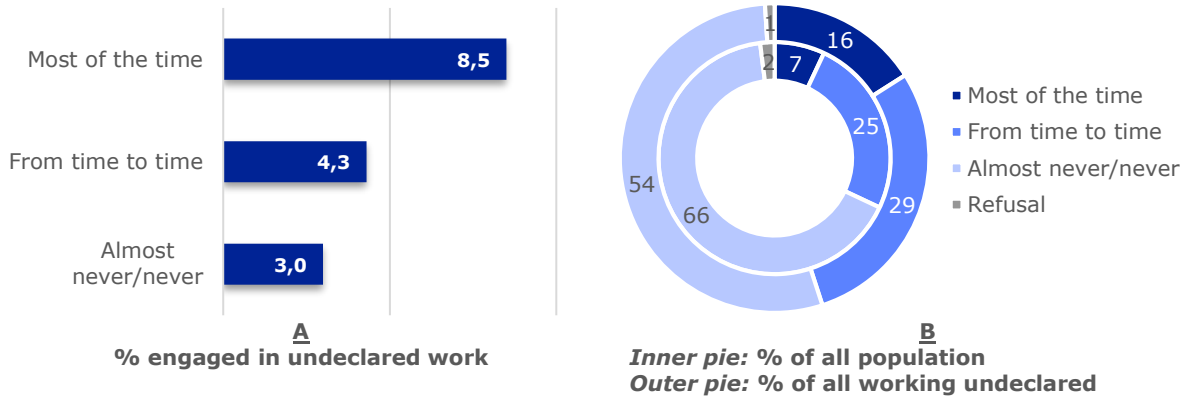
Figure 18. Participation in undeclared work: by age



Source: based on data from Special Eurobarometer 498 (Wave EB92.1, 2019)

There is also a strong association between participation in undeclared work and the ability of respondents to pay their household bills. As Figure 19 displays, those having difficulties most of the time in paying the household bills are almost twice as likely to engage in undeclared work as those facing difficulties from time-to-time in paying bills and almost three times as likely as those who never or almost never face such difficulties. Those having difficulties most of the time in paying the bills constitute 7 % of the surveyed population but 16 % of those engaging in undeclared work. Undeclared work, therefore, appears to be a response to economic difficulties.

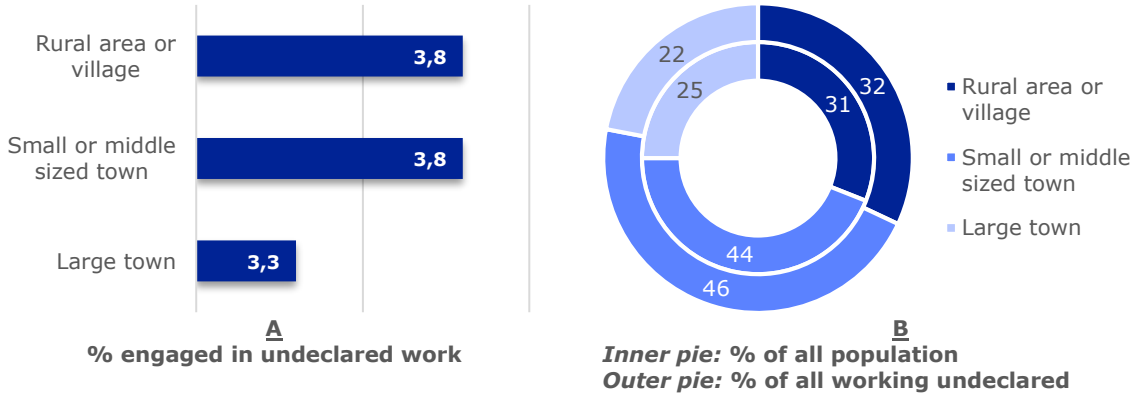
Figure 19. Participation in undeclared work: by difficulties in paying bills



Source: based on data from Special Eurobarometer 498 (Wave EB92.1, 2019)

Finally, and as Figure 20 reveals, no differences exist between rural areas and villages compared with small and middle-sized towns in terms of the commonality of participation in undeclared work. However, those living in small and middle-sized towns are slightly more likely to engage in undeclared work (3.8 %) compared with those in larger urban areas (3.3 %). Indeed, they are 31 % of all respondents but 32 % of those engaging in undeclared work.

Figure 20. Participation in undeclared work: by community type

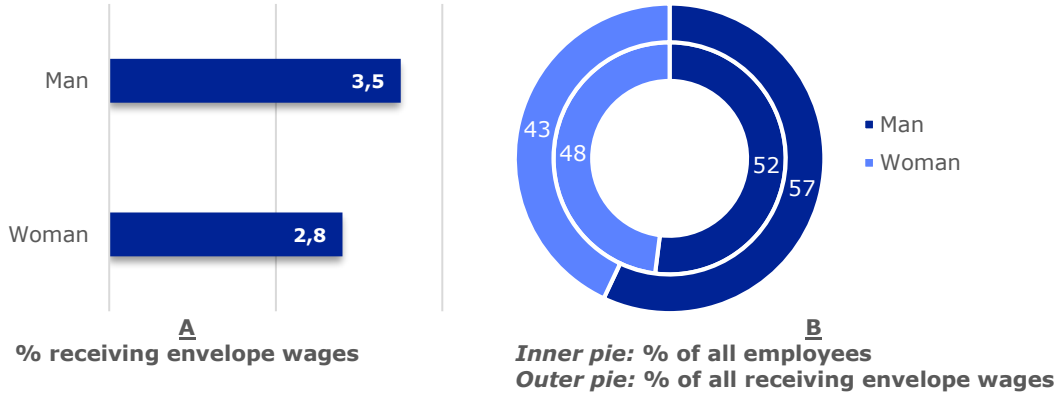


Source: based on data from Special Eurobarometer 498 (Wave EB92.1, 2019)

3.3 Who participates in under-declared employment?

Turning to under-declared employment, Figure 21 reveals that men are slightly more likely to receive envelope wages than women (3.5 % compared with 2.8 %). Although men constitute 52 % of all surveyed employees, they constitute 57 % of those receiving envelope wages. Under-declared employment, therefore, is more common among employees who are men than among women employees.

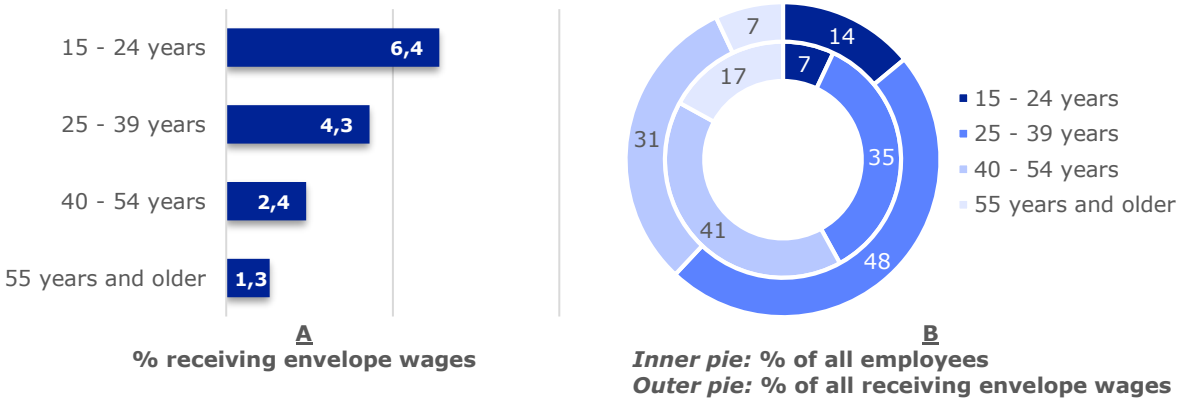
Figure 21. Participation in under-declared employment: by gender



Source: based on data from Special Eurobarometer 498 (Wave EB92.1, 2019)

Exploring whether the likelihood of receiving an envelope wage varies according to the age of the employee, the findings are in line with those for undeclared work. Younger employees are more likely to receive envelope wages (with 6.4 % of employees aged 15-24 and 4.3 % of employees aged 25-39 receiving an envelope wage) and this steadily declines with age. As Figure 22 displays, those aged between 15 and 39 years old represent 42 % of the surveyed employees but 62 % of those receiving an envelope wage from their employer. This again tentatively reflects the problems younger age groups have in gaining access to declared jobs and when they do manage to do so, it appears that employers are more likely to ask them to accept envelope wages.

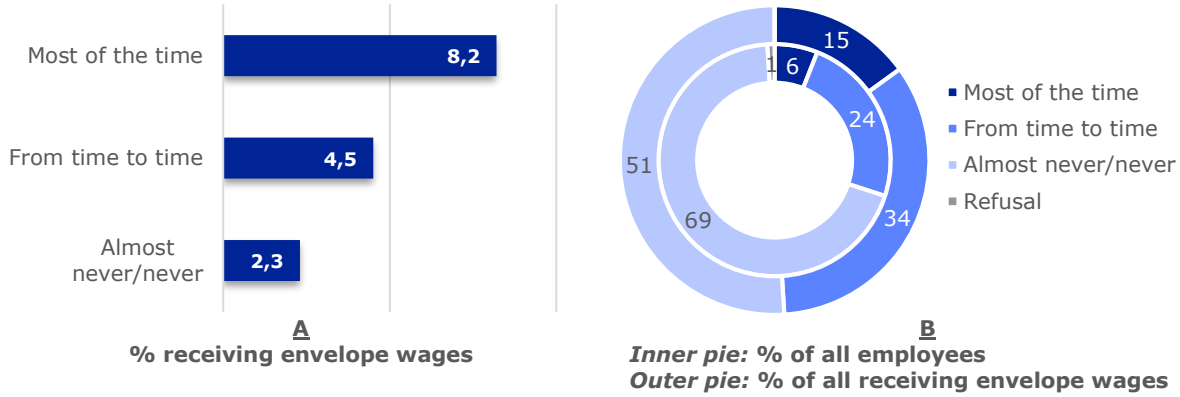
Figure 22. Participation in under-declared employment: by age



Source: based on data from Special Eurobarometer 498 (Wave EB92.1, 2019)

Similar again to the finding on undeclared work, a strong association exists between under-declared employment and the ability of employees to pay their bills. As Figure 23 displays, employees with difficulties paying the household bills 'most of the time' more commonly receive envelope wages than those who almost never or never have such difficulties (8.2 % compared with 2.3 %), or those who have difficulties from time to time (4.5 %). Those who have difficulties most of the time in paying the bills constitute 6 % of the surveyed employees but 15 % of those in under-declared employment. Those with economic difficulties, therefore, appear more willing to accept offers of employment where envelope wages are involved.

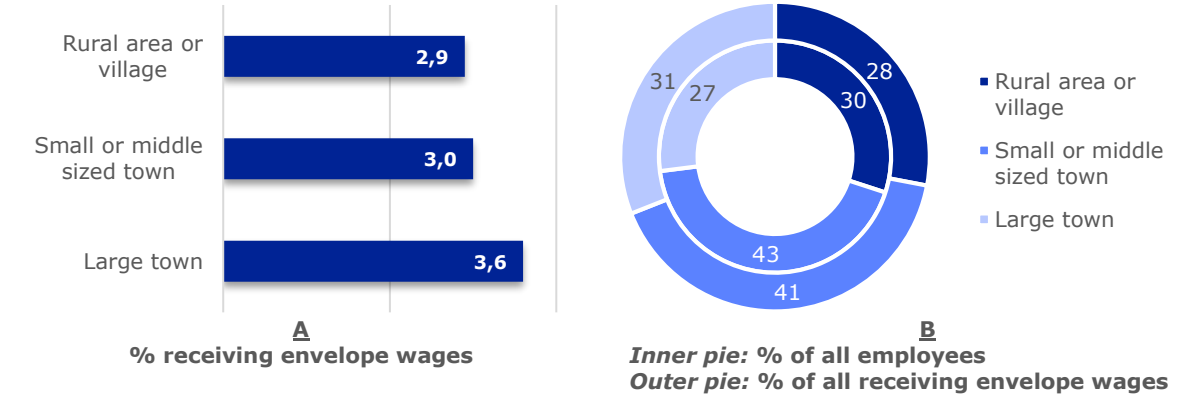
Figure 23. Participation in under-declared employment: by difficulties in paying household bills



Source: based on data from Special Eurobarometer 498 (Wave EB92.1, 2019)

Turning to the differences between rural and urban areas, and as Figure 24 reveals, only some minor differences exist between rural and urban areas in terms of the commonality of under-declared employment. However, in contrast to the findings on undeclared work, those living in small and middle-sized towns are slightly less likely to receive envelope wages (e.g., 2.9 % of those living in a rural area or village, 3 % of those living in small or middle-sized town and 3.6 % of those living in a large town receive a part of their wage as an undeclared envelope wage payment). Those living in large towns are 27 % of surveyed employees but 31 % of those receiving envelope wages. Therefore, under-declared employment is more common among those living in larger towns than among those living in rural areas or villages.

Figure 24. Participation in under-declared employment: by community type

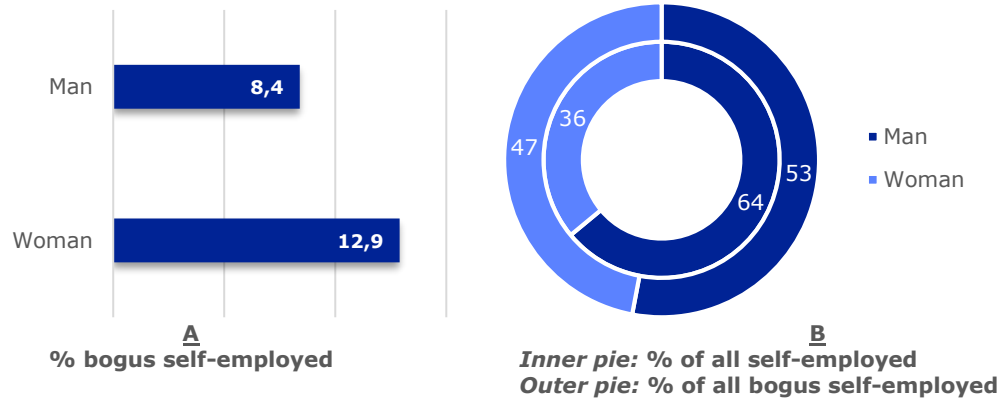


Source: based on data from Special Eurobarometer 498 (Wave EB92.1, 2019)

3.4 Who participates in bogus self-employment?

Finally, turning to how participation in bogus self-employment varies by socio-demographic characteristics, Figure 25 reveals, in contrast to undeclared work and under-declared employment, that bogus self-employment is more prevalent amongst self-employed women. Indeed, although women are 36 % of the surveyed self-employed, they represent 47 % of those engaged in bogus self-employment.

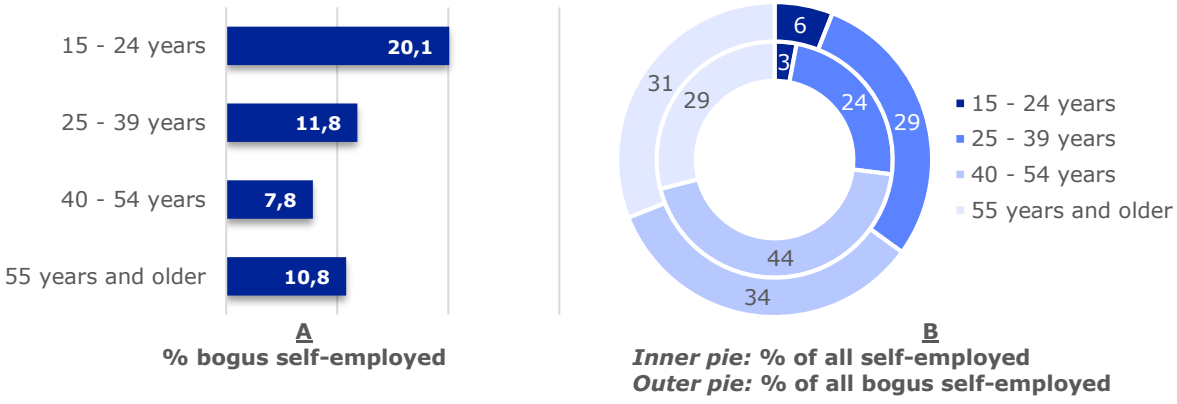
Figure 25. Participation in bogus self-employment: by gender



Source: based on data from Special Eurobarometer 498 (Wave EB92.1, 2019)

Figure 26 explores whether the likelihood of engaging in bogus self-employment varies according to the age group of the self-employed. Younger self-employed people are more likely to be bogus self-employed (with 20.1 % of the self-employed aged 15-24 engaged in bogus self-employment) and this steadily declines with age, until workers reach 55 years old when it again increases, signifying the existence of a U-shaped curve regarding the relationship between age and the likelihood of engaging in bogus self-employment. The self-employed aged 15-34 years old represent 3 % of all surveyed self-employed but 6 % of those in bogus self-employment, whilst those aged 55 or more represent 29 % of the surveyed self-employed but 31 % of those engaged in bogus self-employment. As such, the tentative finding is that bogus self-employment is more prevalent amongst the age groups which are, in general, more vulnerable on the labour market.

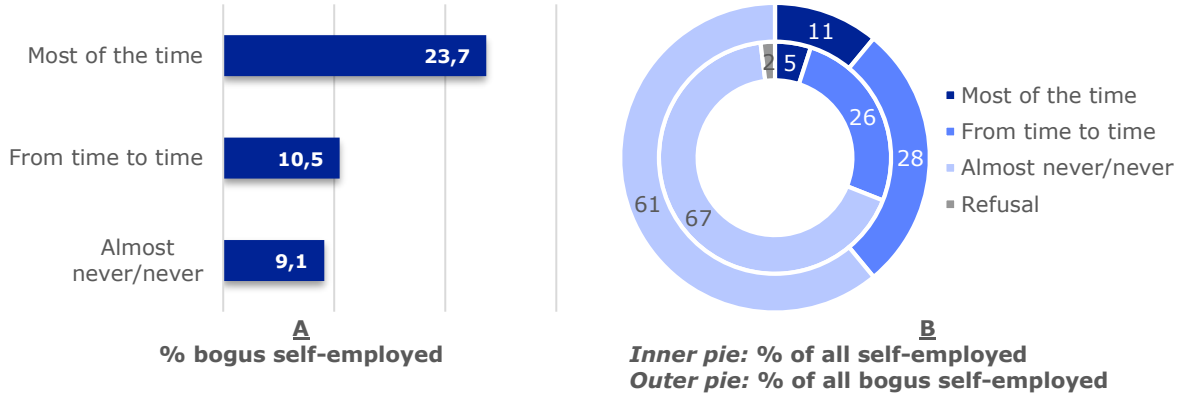
Figure 26. Participation in bogus self-employment: by age



Source: based on data from Special Eurobarometer 498 (Wave EB92.1, 2019)

Evaluating the relationship between household financial difficulties and participation in bogus self-employment, the results are in line with those on undeclared work and under-declared employment. As Figure 27 displays, those having most of the time difficulties in paying the household bills are more than twice as likely to engage in bogus self-employment as those facing from time to time difficulties in paying bills. Those who have difficulties most of the time in paying the bills constitute 5 % of the surveyed self-employed but 11 % of those engaging in bogus self-employment. This again reflects how vulnerable groups are more likely to engage in bogus self-employment.

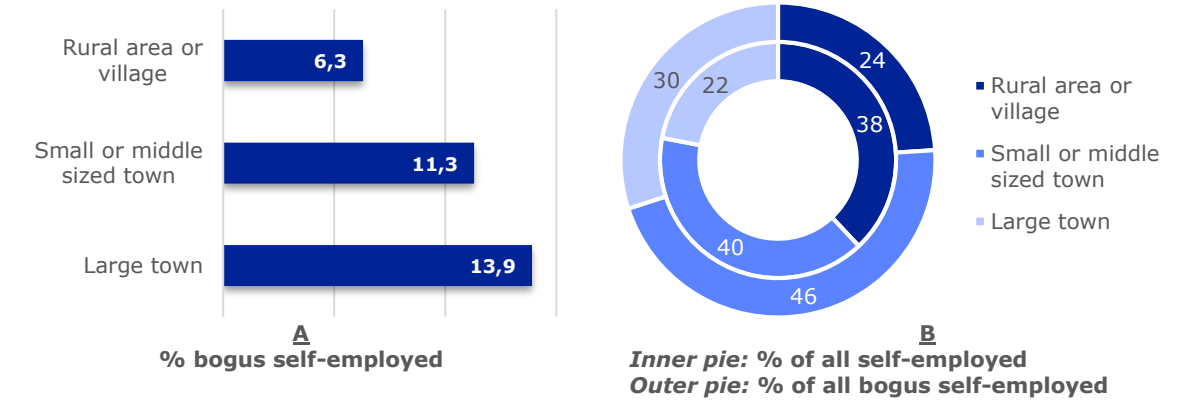
Figure 27. Participation in bogus self-employment: by difficulties in paying household bills



Source: based on data from Special Eurobarometer 498 (Wave EB92.1, 2019)

Turning to differences between rural and urban areas, and as Figure 28 displays, large variations exist when analysing urban-rural divide, with bogus self-employment being more common among those who live in towns (11.3 % of those living in small and middle-sized towns and 13.9 % of those living in large towns) and much less common in rural areas and villages. Indeed, those living in towns constitute 62 % of the surveyed self-employed but 76 % of those engaged in bogus self-employment.

Figure 28. Participation in bogus self-employment: by community type



Source: based on data from Special Eurobarometer 498 (Wave EB92.1, 2019)

3.5 Who uses collaborative platforms when participating in undeclared work?

To analyse which socio-demographic groups are more likely to use collaborative platforms when engaging in undeclared work, Table 1 examines how the use of the collaborative platforms for arranging undeclared work varies by gender, age, financial status, type of community, employment status and working experience (within or beyond the country of origin).

This reveals that men who engage in undeclared work use collaborative platforms more commonly for arranging their undeclared work than do women who participate in undeclared work. Indeed, 12.5 % of men engaging in undeclared work use such platforms for arranging their undeclared work (compared with 8.8 % of women) and

they represent 59 % of those engaged in undeclared work but 67 % of those using collaborative platforms for arranging their undeclared work.

Turning to the age groups who use collaborative platforms to arrange their undeclared work, it is not younger age groups, as might be assumed. Rather, it is those aged 25-54 years old who commonly use collaborative platforms for sourcing their undeclared work than younger or older age groups (15.7 % of those aged 25-39 and 14.4 % of those aged 40-54). These two mid-range age groups constitute 77 % of those using collaborative platforms for their undeclared work.

Table 1. Participation in undeclared work arranged through collaborative platforms: by socio-demographic and economic characteristics

	Undeclared work arranged through collaborative platforms	Percent of all engaged in undeclared work*	Percent of all undeclared work arranged through collaborative platforms
	(%)	(%)	(%)
EU-27	11.0	100	100
Gender			
Man	12.5	59	67
Woman	8.8	41	33
Age			
15 - 24 years	5.4	29	14
25 - 39 years	15.7	31	45
40 - 54 years	14.4	24	32
55 years and older	6.4	16	9
Difficulties paying bills			
Most of the time	9.6	16	14
From time to time	8.5	29	23
Almost never/never	12.8	54	63
Type of community			
Rural area or village	8.5	32	25
Small or middle-sized town	12.9	46	54
Large town	10.5	22	21
Working experience			
Only in country of origin	9.8	81	73
Another EU country	11.8	11	12
Non-EU country	29.6	3	8
Both EU and non-EU country	36.0	2	6
Employment status			
Self-employed	10.1	11	10
Employed	15.6	43	61
Not working	6.8	46	29

Note: The remaining up to 100 % is represented by 'don't know' or 'refusal'.*

Source: based on data from Special Eurobarometer 498 (Wave EB92.1, 2019)

Turning to household financial difficulties, Table 1 displays that collaborative platforms are used more often by those who never or almost never face difficulties in paying the

household bills (12.8 % of them engaged in undeclared work use these platforms). Indeed, they represent 63 % of those using the collaborative platform for arranging their undeclared work.

Those living in urban areas who engage in undeclared work use collaborative platforms more commonly to do so compared with those living in a rural area or village (12.9 % of those from small and middle-sized towns, 10.5 % of those from large towns and 8.5 % of those from rural areas or villages). Indeed, those living in urban areas represent 68 % of those conducting undeclared work but 75 % of those using collaborative platforms for arranging their undeclared work.

To examine the relationship between using collaborative platforms and whether respondents have worked abroad, the respondents were asked about their working experience within or beyond their country of origin.[13] In order to assess the prevalence of undeclared work via collaborative platforms by their experience in working abroad, the respondents have been grouped in the following categories: (i) respondents who only worked in the country of origin; (ii) respondents who have working experience in another EU country; (iii) respondents who have working experience in a non-EU country, and (iv) respondents who have working experience in both, another EU country and non-EU country. As Table 1 displays, those who have working experience in other countries use collaborative platforms more than those who have only worked in their country of origin. However, as previously mentioned, the share of the respondents having experience in working beyond their country of origin is rather small in this survey and therefore, the results should be cautiously interpreted. Indeed, 73 % of the undeclared work arranged via collaborative platforms is conducted by those who only have worked in their country of origin.

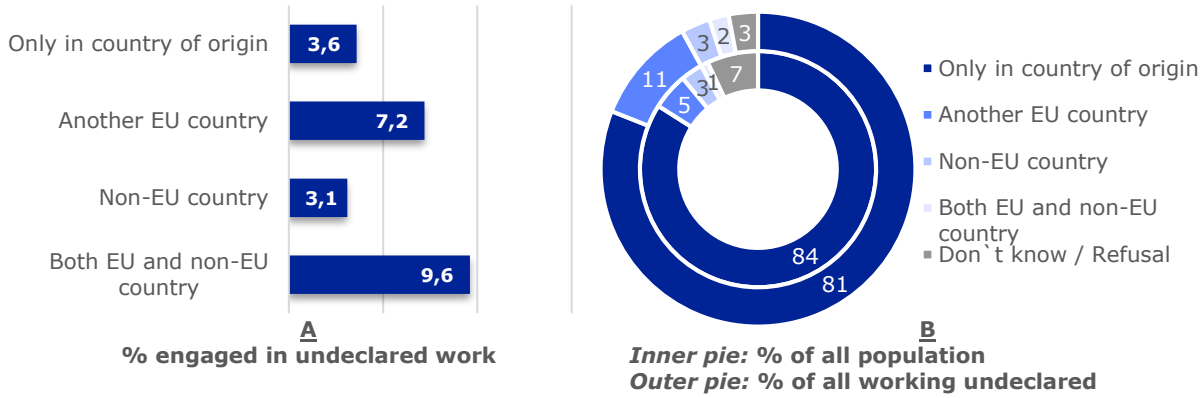
Examining the variation by employment status, the finding is that 15.6 % of those engaged in undeclared work who are employees, 10.1 % of those self-employed, and 6.8 % of those not working use collaborative platforms for arranging their undeclared work. Therefore, those engaged in undeclared work who are employees use these platforms to a greater extent. Although they constitute 43 % of all undeclared workers, they represent 61 % of the undeclared workers using collaborative platforms for arranging their undeclared work. Due to the low number of respondents who firstly are engaged in undeclared work and secondly use collaborative platforms for arranging their undeclared work, a more in-depth analysis by country, industry and/or occupation is not feasible.

3.6 Cross-border mobile labour

Turning to the different groups of cross-border mobile labour who engage in undeclared work, Figure 29 displays that the higher prevalence of undeclared work is amongst those who have work experience beyond their origin country in both an EU and non-EU country (9.6 %) followed by experience in solely another EU country (7.2 %). Indeed, **although only 9 % of the respondents have experienced working abroad, they represent 16 % of those reporting working undeclared**. However, as mentioned in previous sections, these results need to be cautiously interpreted considering the small numbers involved. In addition, it is not possible to assess whether the undeclared work took place in the sending or receiving country.

[13] *Question wording:* 'Which of the following statements apply(ies) to you? (multiple answers possible): (i) (OUR COUNTRY) is the only country you have worked in; (ii) You have worked in another EU Member State in the last 12 months; (iii) You have worked in another EU Member State but not in the last 12 months; (iv) You have worked in a non-EU country in the last 12 months; (v) You have worked in a non-EU country but not in the last 12 months.'

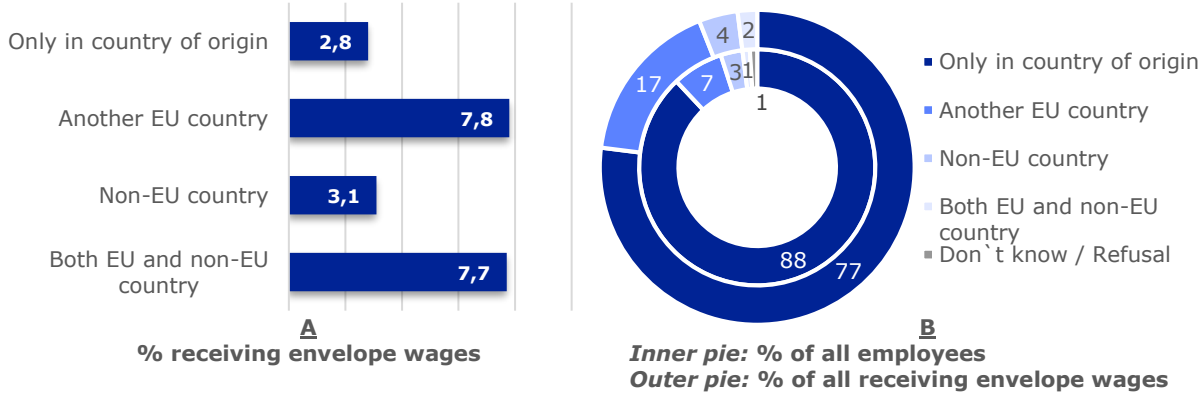
Figure 29. Participation in undeclared work: by working experience abroad



Source: based on data from Special Eurobarometer 498 (Wave EB92.1, 2019)

The finding that cross-border mobile labour is more likely to engage in undeclared activities is repeated when analysing under-declared employment. Those who have work experience in another EU country, or both in EU and non-EU countries, are more likely to engage in under-declared employment than those who have worked only in their country of origin (7.8 % and 7.7 % compared with 2.8 %). Indeed, **although those having cross-national work experience represent only 11 % of the surveyed employees, they represent 23 % of the employees receiving envelope wages**.

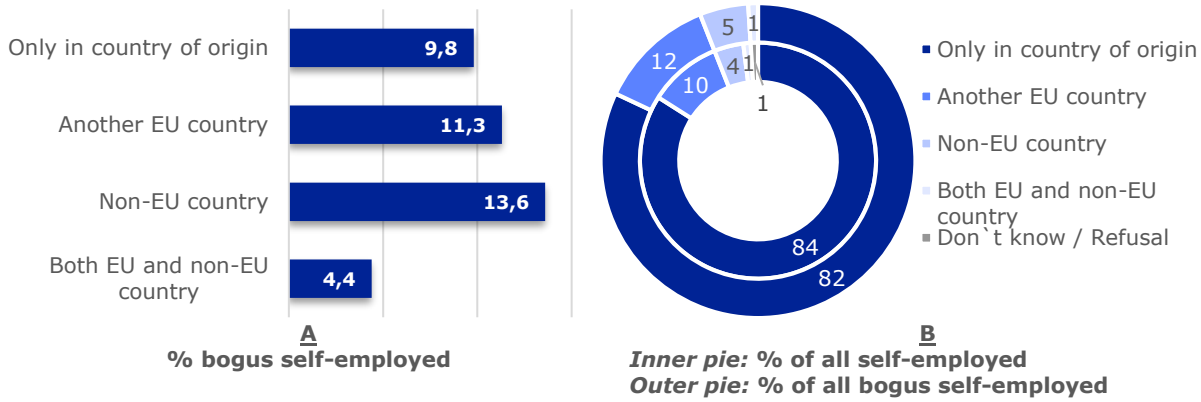
Figure 30. Participation in under-declared employment: by working experience abroad



Source: based on data from Special Eurobarometer 498 (Wave EB92.1, 2019)

Finally, and examining bogus self-employment, the findings are slightly different, with those having work experience in a non-EU country being more often involved in bogus self-employment (13.6 %). However, and similar to the results on undeclared work and under-reported employment, **those having cross-country work experience engage more in bogus self-employment**. They represent 15 % of the surveyed self-employed but constitute 18 % of the bogus self-employed.

Figure 31. Participation in bogus self-employment: by working experience abroad



Source: based on data from Special Eurobarometer 498 (Wave EB92.1, 2019)

3.7 Likelihood of participation: a multi-level logistic regression analysis

The descriptive statistics presented in sections 2 and 3 on the prevalence and distribution of undeclared work, under-declared employment and bogus self-employment do not control for other variables. The greater participation in undeclared economy of younger age groups, for example, may not be relevant when one takes account of the gender, employment status or the financial difficulties being faced by these younger age groups. Similarly, the greater participation of younger employees in under-declared employment may not be relevant if one controls for the organisation size (small vs. large firm) in which these younger employees work.

Table 2 therefore, provides a multilevel logistic regression analysis[14] of whether the significance of each variable (e.g., gender, age, urban-rural community) remains relevant after controlling for the other variables.

Starting with undeclared work, this reveals that **the likelihood of engaging in undeclared work is significantly greater among men, younger age groups, those who have difficulties most of the time in paying their bills, and those who have worked in another EU country, and both an EU and non-EU country**, than it is among those who have only worked in their country of origin.

Similar to undeclared work, the **likelihood of engaging in under-declared employment is again significantly greater among men, younger age groups, those have difficulties most of the time in paying their bills and those who have worked in another EU country, and both an EU and non-EU country**, than it is among those who have only worked in their country of origin. However, employees are also significantly more likely to receive envelope wages in **small or medium size towns and larger urban areas** than in rural areas and villages, and if they work in **micro-businesses** employing between one and nine employees.

[14] This report uses multivariate analysis to evaluate whether the findings of the descriptive statistics presented in sections 2 and 3 are statistically significant when controlling for other variables. Given the hierarchical nature of the data (individuals nested within countries), for the multivariate analysis, a multilevel model is employed. As the dependent variable is dichotomous (with recorded value 1 for those engaged in undeclared work / under-declared employment / bogus self-employment and with recorded value 0 otherwise), a multilevel mixed-effects logistic regression is applied. This technique allows one to test whether: 1) the significance of each socio-demographic or firm-size related variable remains relevant after controlling for the other variables (other socio-demographic characteristics, variables on policy approaches towards undeclared work); and 2) there is a statistically significant association between participation in undeclared work / under-declared employment / bogus self-employment and various policy approaches towards undeclared work (e.g., the risk of detection), when all other characteristics of participants are taken into account and held constant.

Examining who is more likely to engage in bogus self-employment, it is the case that **bogus self-employment is significantly greater among the younger self-employed, and those who most of the time have difficulties in paying the bills**.

Table 2. Multilevel logistic regressions of the likelihood of engaging in undeclared work, under-declared employment, bogus self-employment (EU-27), 2019

	Undeclared work			Under-declared employment			Bogus self-employment		
	β	se(β)	Exp(β)	β	se(β)	Exp(β)	β	se(β)	Exp(β)
Gender (CG: Men)									
Women	-0.558 ***	0.098	0.572	-0.343 ***	0.110	0.709	0.207	0.141	1.230
Age	-0.039 ***	0.003	0.962	-0.030 ***	0.006	0.970	-0.014 **	0.006	0.986
Difficulties paying bills last year (CG: Most of the time)									
From time to time	-0.900 ***	0.180	0.406	-0.627 ***	0.170	0.534	-0.751 **	0.374	0.472
Almost never / Never	-1.419 ***	0.155	0.242	-0.996 ***	0.194	0.369	-0.847 **	0.358	0.428
Type of community (CG: Rural area or village)									
Small or middle-sized town	-0.016	0.091	0.984	0.301 **	0.131	1.351	0.355	0.233	1.426
Large town	-0.166	0.167	0.847	0.374 **	0.185	1.453	0.362	0.229	1.436
Working experience (CG: Only in country of origin)									
Another EU country	0.549 ***	0.163	1.731	0.870 ***	0.136	2.387	0.373	0.274	1.451
Non-EU country	0.153	0.223	1.166	0.561 *	0.288	1.753	0.157	0.345	1.170
Both EU and non-EU country	1.045 ***	0.268	2.843	1.404 ***	0.417	4.070	-0.372	0.677	0.689
Employment status / Occupation (CG: Self-employed)									
Employed	-0.649 ***	0.163	0.522						
Not working	-0.395 **	0.175	0.673						
Organisation size (CG: Micro (1-9 employees))									
Small (10-49 employees)				-0.594 ***	0.173	0.552			
Medium-sized (50-499 employees)				-0.965 ***	0.261	0.381			
Large (500+ employees)				-1.886 ***	0.282	0.152			
Constant	0.306	0.296	1.358	-0.926 **	0.384	0.396	-1.162 **	0.517	0.313
Observations			24 779			10 655			1 822
F			48.44			54.84			3.47
Prob. > F			0.000			0.000			0.000

*Note: *** p<0.01, ** p<0.05, * p<0.1; benchmark category shown in brackets;*
Source: based on data from Special Eurobarometer 498 (Wave EB92.1, 2019)

As a robustness check, and to avoid the exclusion of those respondents who did not provide answers to every question in the survey, we used multiple imputations (Bartlett and Carpenter, 2013). Ten imputations were simulated through a system of chained equations for every missing value. We provide in Table A2 in the Appendix the results of the robustness check using imputed data. The finding is that the results are broadly the same for both the crude and imputed data, showing the robustness of the above findings.

In sum, sections 2 and 3 have revealed the EU-wide evidence on the prevalence and distribution of undeclared work, under-declared employment and bogus self-employment, the trends between 2007 and 2019 as well as some evidence on the level of participation of cross-border mobile labour in each of these forms of work. Having provided this EU-wide evidence-base, attention now turns towards how firstly, undeclared work, secondly under-declared employment and thirdly, bogus self-employment, can be tackled.

4 Changing effectiveness of different policy approaches

To evaluate the effectiveness of policy approaches in tackling different facets of the undeclared economy, an evidence-based empirical evaluation is here undertaken of whether direct and indirect policy measures are effective at reducing the participation in (i) undeclared work, (ii) under-declared employment, and (iii) bogus self-employment, and how their effectiveness has changed over time.

Participation in the undeclared economy can be prevented firstly, using a direct approach and/or secondly an indirect approach. The direct approach aims at changing the cost/benefit ratio of engaging in undeclared work, usually by increasing the actual and/or perceived penalties and the probability of being caught. Meanwhile, the indirect approach aims at fostering citizens` trust in the state and in their fellow citizens. This section empirically evaluates both categories of policy measure and whether they are becoming more effective over time at preventing undeclared work.

4.1 What policy approaches are becoming more effective in tackling undeclared work?

Starting with undeclared work, Figure 32 reveals the perception of respondents regarding the risk of detection, the penalties for operating on an undeclared basis, whether respondent attitudes towards the acceptability of engaging in undeclared work (here termed their 'tax morale') and the 'vertical trust' or the trust they display towards the institutions directly involved in tackling undeclared work (i.e., tax and social security authorities and labour inspectorates) as well as their 'horizontal trust' or the trust towards their fellow citizens on behaving in a compliant manner (measured here by the perceived percentage of the population working undeclared in their society and whether they personally know people engaged in undeclared work).

Exploring whether those who view sanctions as tougher are less likely to engage in undeclared work, the finding is that those viewing the penalty as weaker are more likely to engage in undeclared work. In 2019, 58 % of those engaged in undeclared work but 66 % of those not engaged in undeclared work perceive that if caught doing undeclared work the normal contribution due plus a fine or prison would be applied.

There are also differences between the perceived risk of detection of those not engaged in undeclared work compared with those engaged in undeclared work. In 2019, 68 % of those engaged in undeclared work perceive the risk of detection as fairly small or very small compared with 51 % of those not engaged in undeclared work. **Although undeclared work is more prevalent among those who view the sanctions as weak and the risk of detection as being low, the association does not appear to be very strong**.

In sharp contrast, the differences between the level of tax morale and the level of horizontal and vertical trust of those not engaged in undeclared work and those engaged in undeclared work are larger.

Starting with whether respondents` attitudes align with the laws and regulations, Figure 32 also examines tax morale. Respondents were asked to rank five different types of undeclared work[15] on a scale of 1 to 10 (recoded here as 1 representing 'totally acceptable' behaviour and 10 representing 'totally unacceptable' behaviour)[16].

[15] Five types of undeclared work: 1) a firm hired by another firm not reporting earnings, 2) a private person not declaring all or part of their salary, 3) a firm hired by a household not reporting earnings, 4) evading taxes by not or only partially declaring income and 5) a person hired by a household not declaring earnings.
[16] The question in the survey used a ranking scale from 1 to 10, where 1 represented totally unacceptable and 10 represented totally acceptable. For enabling easier interpreting of the results, in this report we recoded the responses on a reverse scale in order to obtain high values for greater tax morale.

The higher the tax morale value, the lower is the non-alignment of their attitudes with the laws and regulations (i.e., the higher is their tax morale).

The finding is that **the more unacceptable is undeclared work in the eyes of citizens (i.e., the higher their tax morale), the less likely are they to engage in undeclared work**. Those not engaging in undeclared work have higher tax morale than those who engage in undeclared work (8.61 compared with 7.19). This reveals the need to educate citizens about the unacceptability of undeclared work.

Besides tax morale, which is a measure of whether respondents` attitudes align with the laws and regulations, the influence of vertical trust (i.e., the trust of citizens in the state) and horizontal trust (i.e., the degree to which citizens trust each other not to engage in undeclared work) is here evaluated. The finding in Figure 32 is that those who believe others engage in undeclared work are more likely to do so themselves. Indeed, in 2019, 81 % of those engaged in undeclared work said they know others who engage in undeclared work, whilst only 32 % of those not engaged in undeclared work said they know people engaged in undeclared work. Therefore, **if you believe others engage in undeclared work, you are likely to do so yourself**. This finding is reinforced when respondents were asked about the percentage of the population engaged in undeclared work. Those engaged in undeclared work perceive the percentage of the population participating in undeclared work as much higher than those who do not engage in undeclared work. For example, only 1 in 5 of those engaging in undeclared work consider that less than 10 % of the population engaged in undeclared work, but 1 in 3 of those not engaging in undeclared work. Similarly, 1 in 5 of those engaged in undeclared work believe that over 40 % of the population engage in undeclared work but only 1 in 12 of those not engaged in undeclared work.

Finally, **those with low vertical trust (i.e., trust in state institutions) are significantly more likely to engage in undeclared work.** Of those engaging in undeclared work, 53 % tend not to trust the labour inspectorates and 50 % tend not to trust the tax and social security authorities. In contrast, of those not engaged in undeclared work, just 39 % and 40 % respectively tend not to trust the labour inspectorate or the tax and social security authorities.

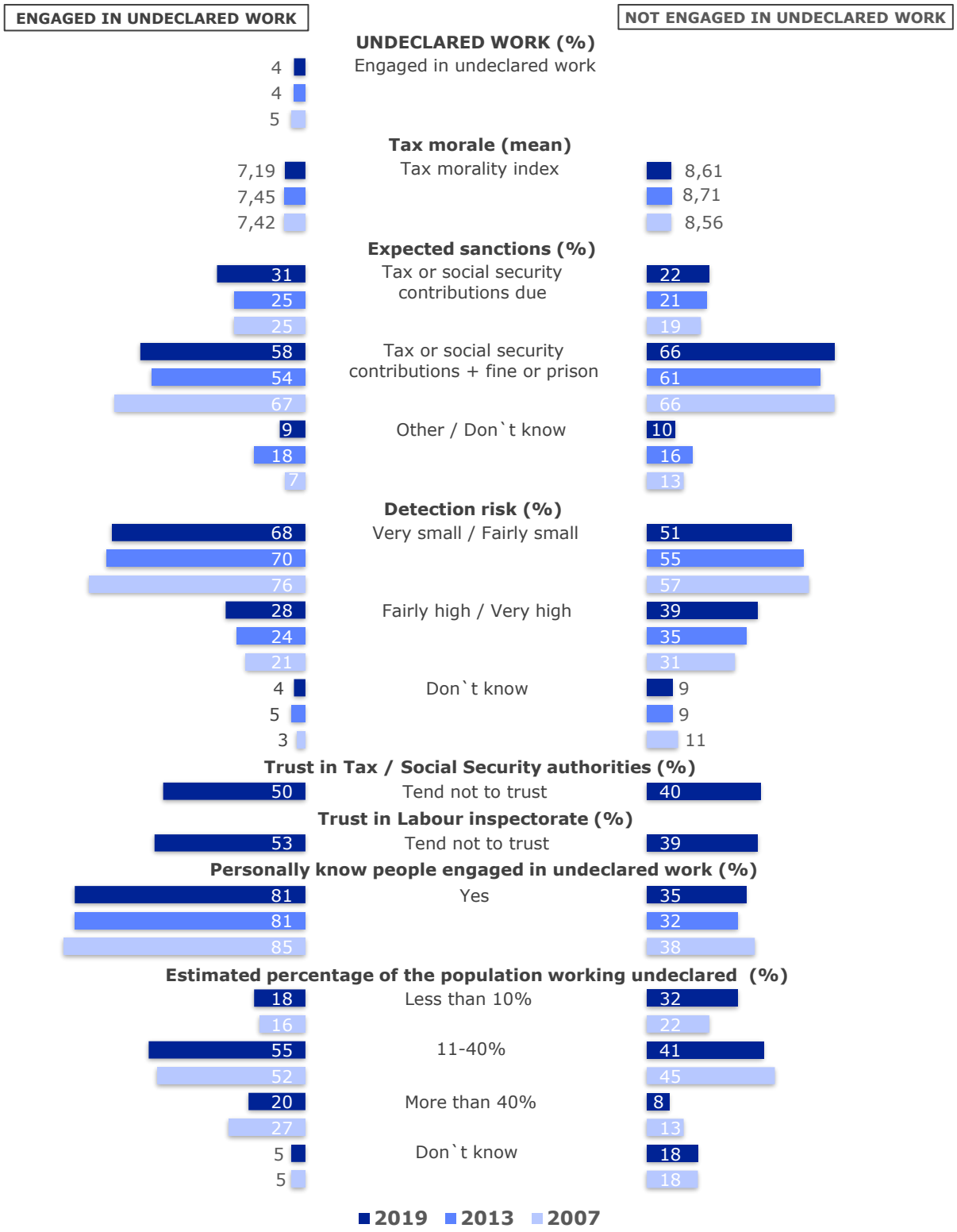
In sum, those engaged in undeclared work have:

- Lower tax morale (higher asymmetry between their norms and beliefs and the legal environment)
- Lower horizontal trust (they think other people are engaged in undeclared work in their society) and
- Lower vertical trust (they have less trust in the authorities engaged in tackling undeclared work).

Analysing the trends over time in these determinants of undeclared work, the finding is that the perceived penalties and the risk of being caught are higher in 2019 than in 2013 but lower or similar to 2007. Both those engaged in undeclared work and those not engaged in undeclared work perceive there to be higher penalties for being caught in 2019 than in 2013. Similarly, both groups perceive there to be a greater risk of being caught in 2019 compared with 2013 and 2007.

However, tax morale has decreased in 2019 compared with 2013 for both those engaged and not engaged in undeclared work. In other words, **undeclared work was more acceptable in 2019 than in 2013**. **Horizontal trust has also partially worsened**. The percentage of those working undeclared who believe others do so remained unchanged between 2013 and 2019 but the percentage of those not engaged in undeclared work who know somebody doing so increased to 35 % in 2019 from 32 % in 2013. This suggesting that overall, more people believed others work undeclared in 2019 than in 2013 and therefore, horizontal trust has worsened.

Figure 32. Tackling undeclared work: by policy approach (2007, 2013, 2019)



Note: 2007 – European Union without Croatia and the UK, 2013 – EU-27 (European Union without the UK), 2019 – EU-27 (European Union without the UK); where not relevant, Don`t know and/or Refusal not displayed in the chart

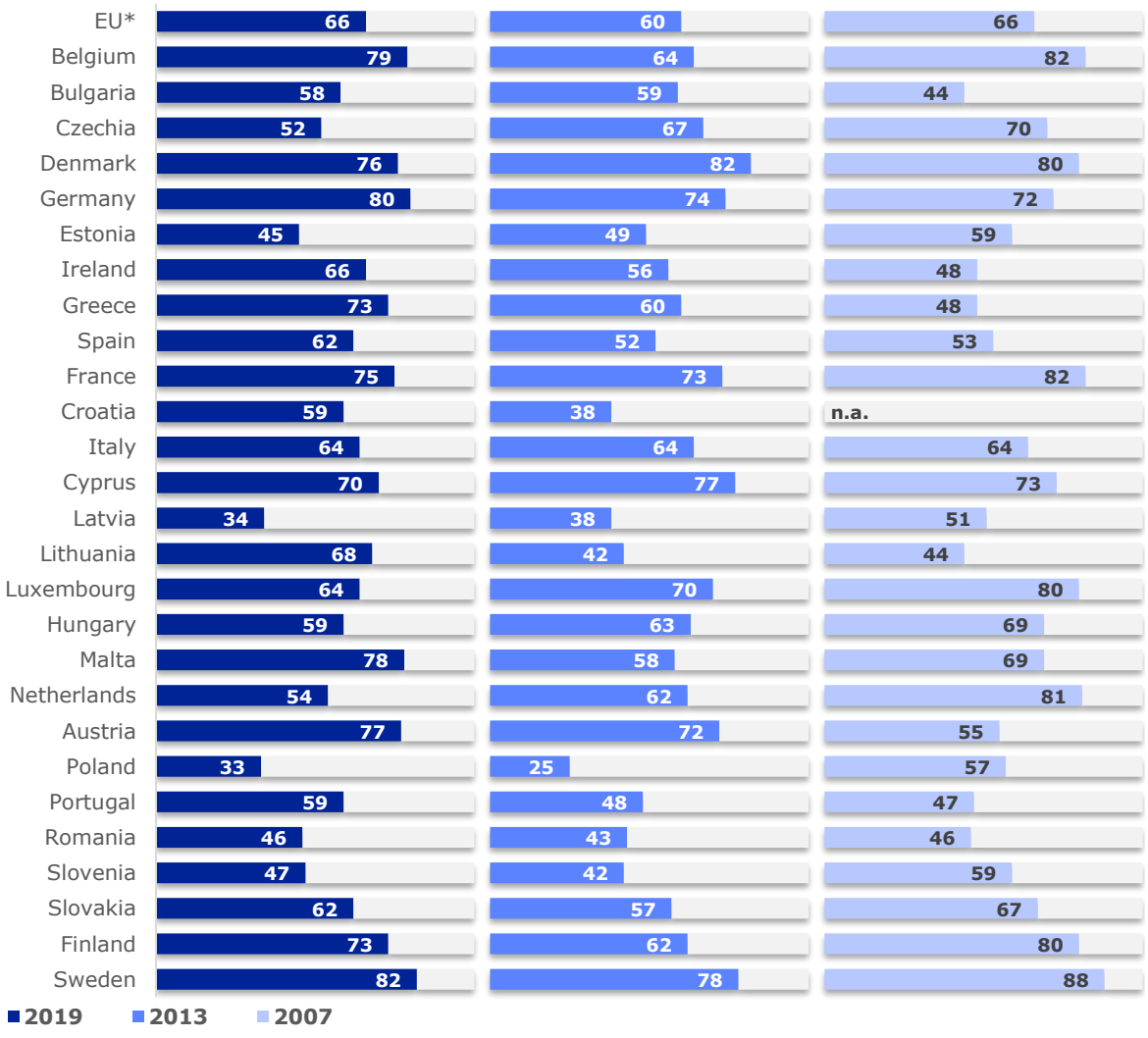
Source: based on data from Special Eurobarometer 284 (Wave EB67.3, 2007), 402 (Wave EB79.2, 2013), 498 (Wave EB92.1, 2019)

Figures 33-37 report the differences across Member States.

Figure 33 reports the perceived level of sanctions for engaging in undeclared work across the 27 Member States in 2007, 2013 and 2019. This displays that in 2019, the penalties for engaging in undeclared work were perceived as greater by citizens in some Member States. Penalties in 2019 were perceived as highest (i.e., respondents expecting that the sanction for undeclared work is to pay tax or social security contributions due, plus a fine or prison) in Sweden (82 %), followed by Germany (80 %) and Belgium (79 %), whilst penalties were perceived as lowest in Poland (33 %), Latvia (34 %) and Estonia (45 %).

There are also some important differences in the trends over time in the perceived levels of penalties for engaging in undeclared work. Penalties are perceived as higher in 2019 than in 2007 in Bulgaria, Germany, Ireland, Greece, Spain, Lithuania, Malta, Austria and Portugal. Meanwhile, penalties are perceived as lower in 2019 than in 2007 in Belgium, Czechia, Denmark, Estonia, France, Cyprus, Latvia, Luxembourg, Hungary, the Netherlands, Poland, Slovenia, Slovakia, Finland and Sweden. Meanwhile, the perception in 2019 compared with 2007 remained unchanged in Italy and Romania.

Figure 33. Expected sanctions for engaging in undeclared work across Member States (% tax or social security contributions due, plus a fine or prison, 2007, 2013, 2019)

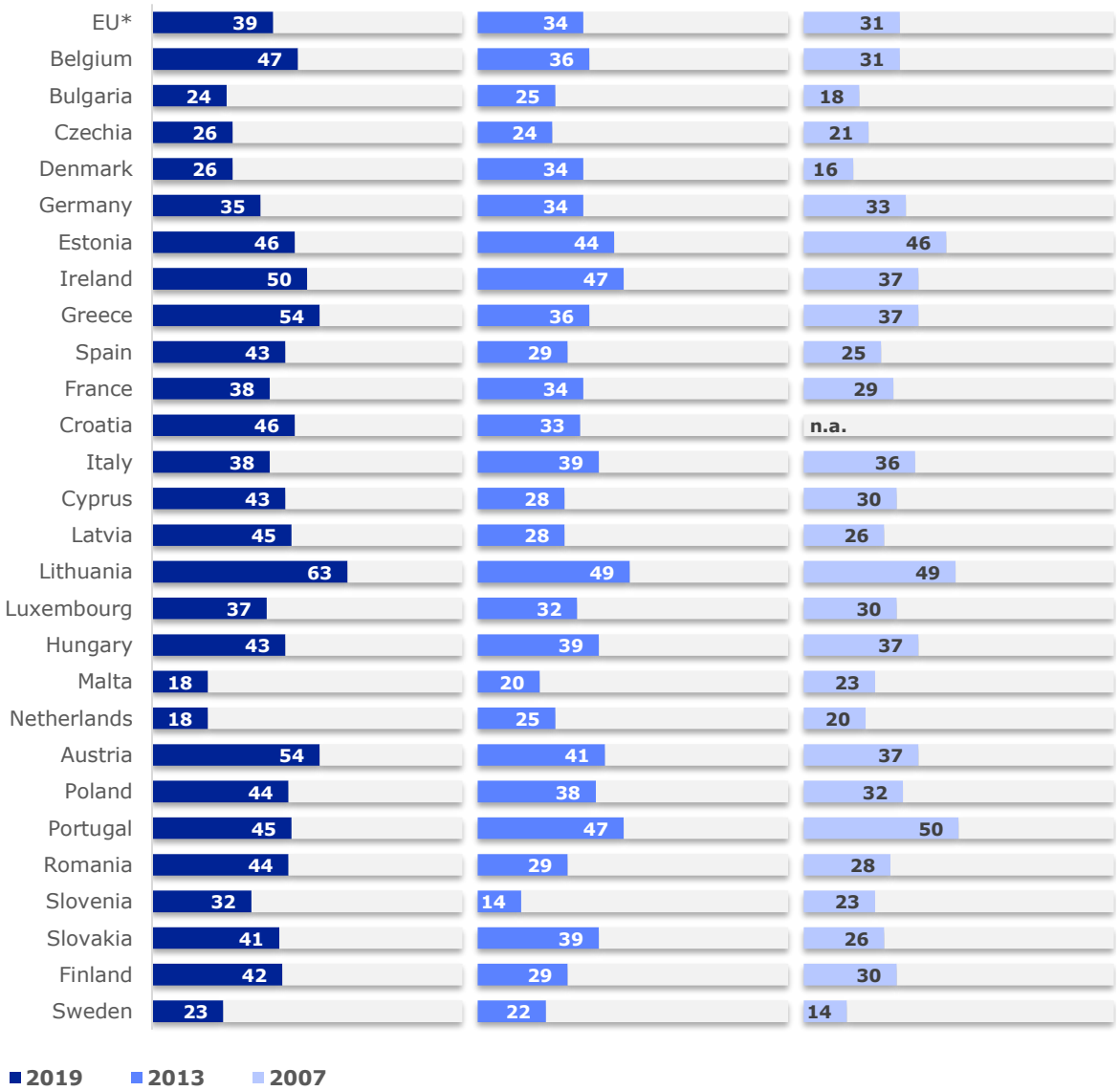


*Note: * 2007 – EU without Croatia and the UK, 2013 – EU-27 (EU without the UK), 2019 – EU-27 (EU without the UK); Source: based on data from Special Eurobarometer 284 (Wave EB67.3, 2007), 402 (Wave EB79.2, 2013), 498 (Wave EB92.1, 2019)*

Figure 34 reports the perceived risk of being caught when engaging in undeclared work across the 27 Member States in 2007, 2013 and 2019. This displays that in 2019, the perceived risk of being caught was highest in Lithuania (63 % perceive the risk of detection as fairly high or very high), followed by Greece and Austria (54 %), whilst the perceived risk of being caught was lowest in Malta and the Netherlands where only 18 % of the surveyed population find the risk of detection fairly high or very high.

There are also some important differences in the trends over time in the perceived risk of being caught when engaging in undeclared work. The perceived risk of detection was higher in 2019 than in 2007 in all countries except Malta, the Netherlands and Portugal where the perceived risk of detection was lower in 2019 than in 2007. Meanwhile, the perceived risk of detection remain unchanged in 2019 as compared to 20017 in Estonia.

Figure 34. Detection risk for engaging in undeclared work across Member States (% fairly high / very high, 2007, 2013, 2019)



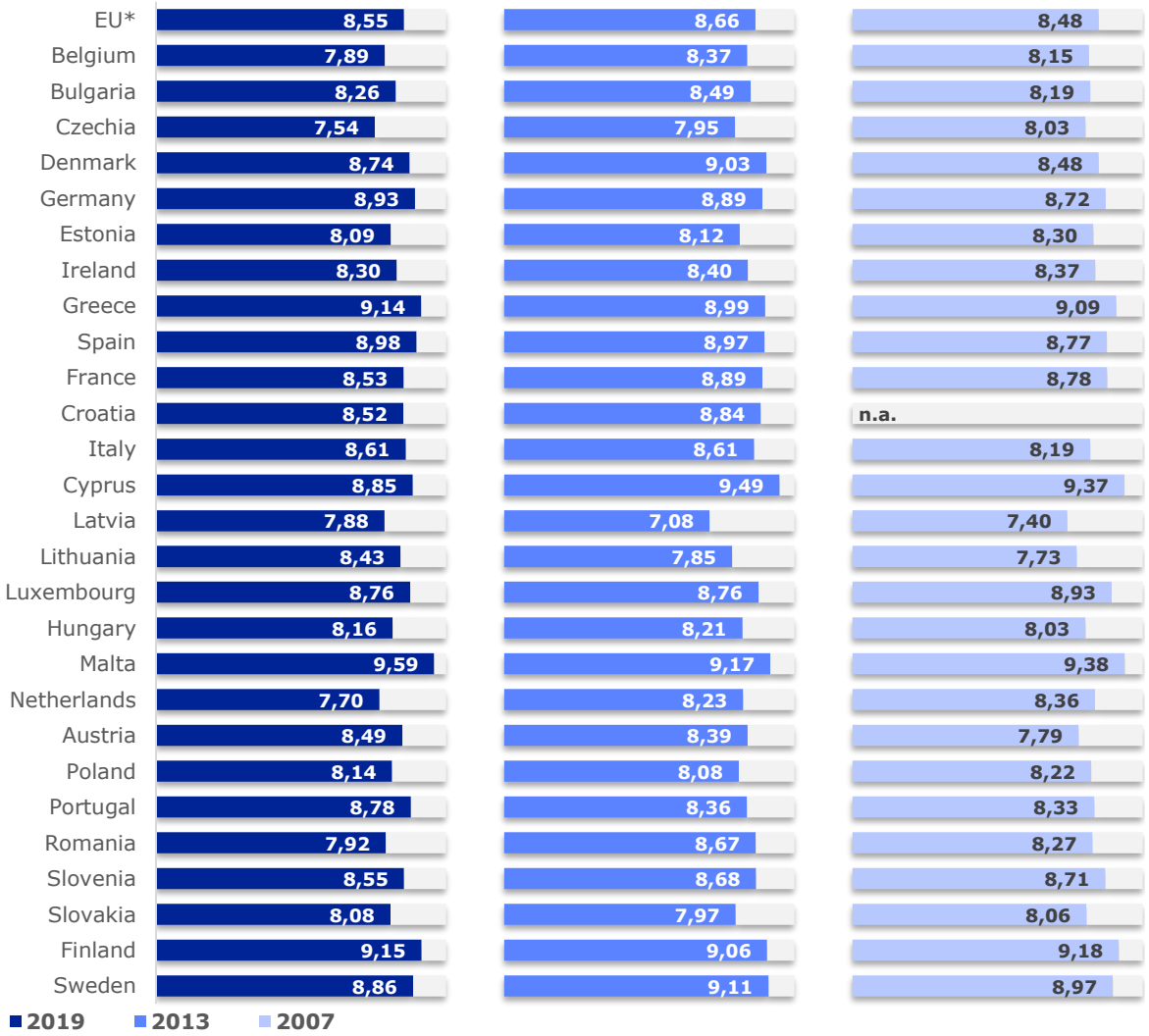
*Note: * 2007 – European Union without Croatia and the UK, 2013 – EU-27 (European Union without the UK), 2019 – EU-27 (European Union without the UK)*

Source: based on data from Special Eurobarometer 284 (Wave EB67.3, 2007), 402 (Wave EB79.2, 2013), 498 (Wave EB92.1, 2019)

Figure 35 reports the level of tax morale (i.e., the acceptability of engaging in undeclared work) across the 27 Member States in 2007, 2013 and 2019. Tax morale in 2019 was worst (i.e., undeclared work was viewed as most acceptable) in Czechia (7.54), the Netherlands (7.70) and Latvia (7.88), whilst tax morale was highest (i.e., undeclared work most unacceptable) in Malta (9.59), Finland (9.15) and Greece (9.14).

There are also some important differences in the trends over time in the acceptability of engaging in undeclared work (i.e., tax morale). Undeclared work has become more acceptable in some Member States between 2007 and 2019 (i.e. Belgium, Czechia, Estonia, Ireland, France, Cyprus, Luxembourg, the Netherlands, Poland, Romania, Slovenia, Finland and Sweden), whilst in other Member States it has become more unacceptable to engage in undeclared work (i.e., Bulgaria, Denmark, Germany, Greece, Spain, Italy, Latvia, Lithuania, Hungary, Malta, Austria, Portugal and Slovakia). Therefore, and as will be returned to below, education and awareness raising campaigns are more required in some Member States than others, namely those where undeclared work is deemed more acceptable (i.e., Czechia, the Netherlands and Latvia) and those listed above where undeclared work has become viewed as more acceptable over time.

Figure 35. Level of tax morale across Member States (2007, 2013, 2019)



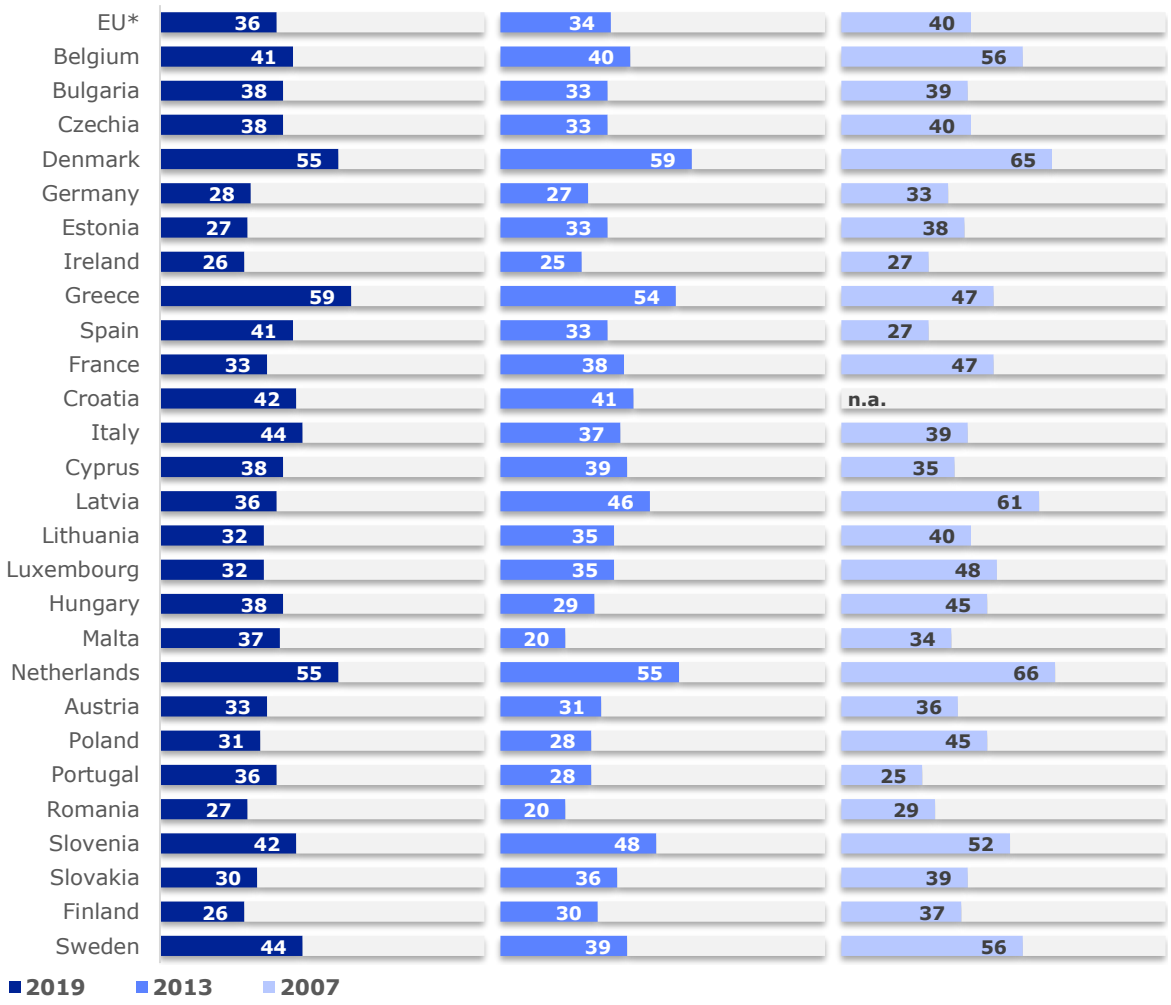
*Note: * 2007 – European Union without Croatia and the UK, 2013 – EU-27 (European Union without the UK), 2019 – EU-27 (European Union without the UK). Respondents were asked to rank five different types of undeclared work on a scale of 1 to 10 (recoded here as 1 representing 'totally acceptable' behaviour and 10 representing 'totally unacceptable' behaviour)*

Source: based on data from Special Eurobarometer 284 (Wave EB67.3, 2007), 402 (Wave EB79.2, 2013), 498 (Wave EB92.1, 2019)

Figure 36 reports the level of horizontal trust (trust in others not to engage in undeclared work) across the 27 Member States in 2007, 2013 and 2019. The trust in others to be compliant is higher when the respondent does not have acquaintances who undertake undeclared work. As Figure 36 displays, in 2019, the level of horizontal trust was highest in Finland and Ireland (i.e., only 26 % of respondents personally know people engaged in undeclared work), followed by Romania and Estonia (27 % have acquaintances undertaking undeclared work), whilst the level of horizontal trust was lowest in Greece, Denmark and the Netherlands, where 59 % respectively 55 % of respondents reported that they personally know people undertaking undeclared work.

There are also some important differences in the trends over time in the level of horizontal trust. The level of horizontal trust was higher in 2019 than in 2007 in all countries except Greece, Spain, Italy, Cyprus, Malta and Portugal (i.e., where the percent of people having acquaintances undertaking undeclared work is higher in 2019 than 2007). Therefore, and as will be returned to below, actions to improve the level of horizontal trust are more required in some Member States than others, namely those where horizontal trust if lowest (i.e., Greece, Denmark and the Netherland) and those where the level of horizontal trust has worsened over time (i.e., Spain, Italy, Cyprus, Malta and Portugal).

Figure 36. Level of horizontal trust across Member States (% personally know people engaged in undeclared work, 2007, 2013, 2019)



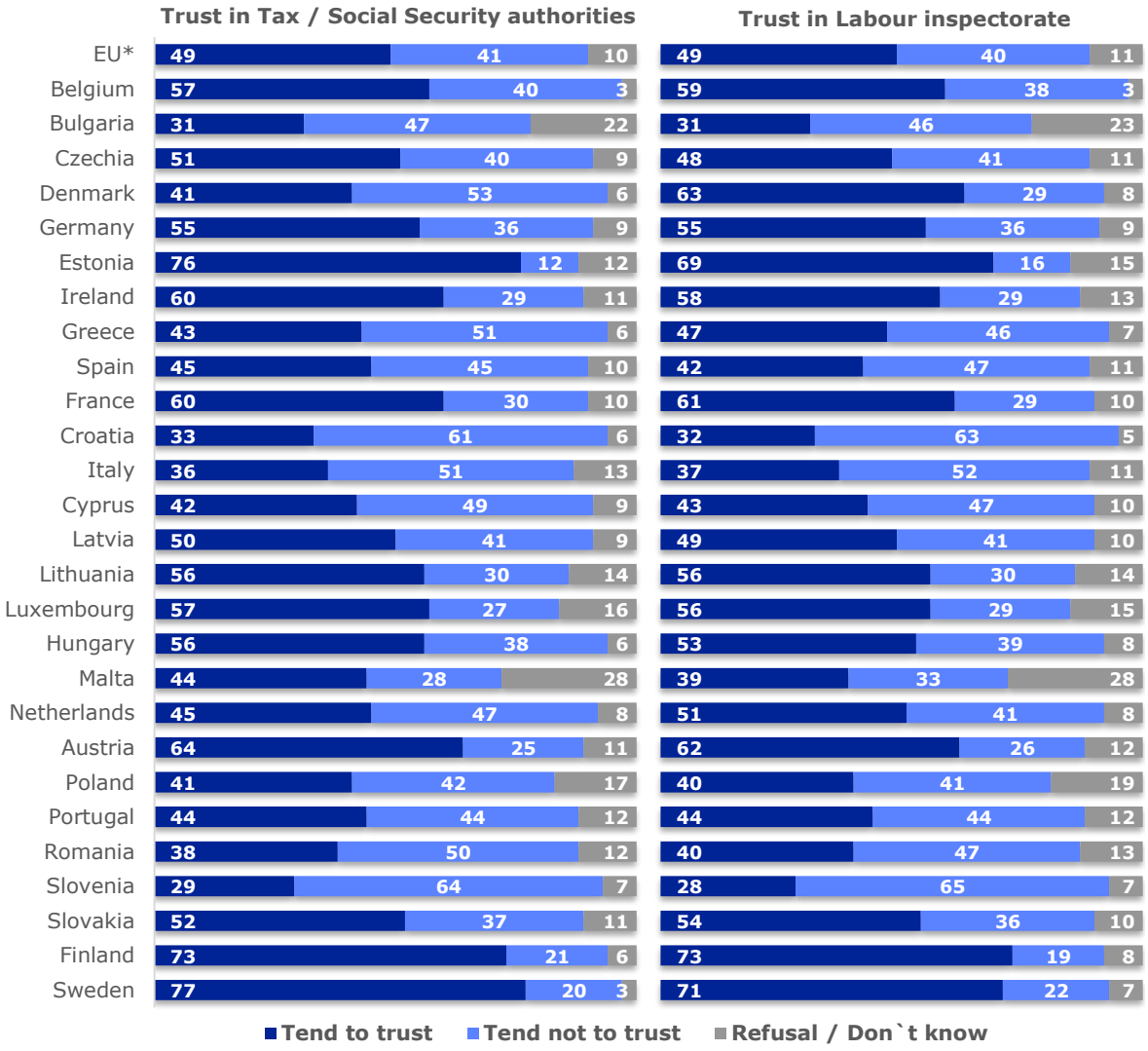
*Note: * 2007 – European Union without Croatia and the UK, 2013 – EU-27 (European Union without the UK), 2019 – EU-27 (European Union without the UK)*

Source: based on data from Special Eurobarometer 284 (Wave EB67.3, 2007), 402 (Wave EB79.2, 2013), 498 (Wave EB92.1, 2019)

Finally, Figure 37 reports the level of trust in state institutions involved in tackling undeclared work, namely labour inspectorates and tax authorities. Where there is greater trust in these institutions, participation in undeclared work is lower. Data was not collected in 2007 or 2013 about trust in these institutions. Therefore, trends over time cannot be analysed. However, there are significant differences across Member States in 2019. In 2019, the level of trust in the labour inspectorate was highest in Finland (73 % tend to trust), followed by Sweden (71 % tend to trust) and Estonia (69 % tend to trust), whilst the level of trust in the labour inspectorate was lowest in Slovenia, Bulgaria and Croatia where only 28 %, 31 % and 32 % of the respondents tend to trust the labour inspectorate.

Meanwhile, the level of trust in the tax and social security authorities was highest in Sweden (77 % tend to trust), followed by Estonia (76 % tend to trust) and Finland (73 % tend to trust), whilst the level of trust in the tax and social security authorities was lowest in Slovenia, Bulgaria and Croatia where only 29 %, 31 % and 33 % of respondents tend to trust this institution. Therefore, and as will be returned to below, actions are more required in some Member States than others to improve the level of trust in labour inspectorates and tax and social security authorities.

Figure 37. Level of vertical trust in state institutions involved in tackling undeclared work across Member States (%, 2007, 2013, 2019)



*Note: * EU-27 (European Union without the UK)*

Source: based on data from Special Eurobarometer 498 (Wave EB92.1, 2019)

Table 3 reports a multilevel logistic regression analysis of the policy measures that significantly reduce participation in undeclared work. The problem with the above descriptive statistics that evaluate whether the participation in undeclared work is associated with the risk of detection, penalties, tax morale, trust in public institutions (vertical trust) and trust in other citizens (horizontal trust), is as follows. The risk of detection might be strongly associated with the prevalence of undeclared work, but this might be more because of the socio-demographic characteristics of those perceiving the risk of detection as high (e.g., young people, those with financial difficulties). A multivariate logistic regression analysis enables one to take into account the socio-demographic characteristics of those perceiving the risk of detection as high and low. By holding these characteristics constant in the statistical analysis, one can determine whether there remains a statistically significant correlation between for example, participation in undeclared work and the risk of detection, when all other characteristics of participants are taken into account and held constant.

Table 3 reveals that the socio-demographic characteristics of undeclared workers remain the same when adding variables on policy approaches towards undeclared work. Men, younger age groups, those facing difficulties in paying the household bills, those in self-employment, and those having worked outside their country of origin are all statistically significantly more likely to engage in undeclared work.

On the policy approaches, an important finding is that there is no significant association between participation in undeclared work and the perceived level of penalties but there is a significant association with the risk of detection. There is also a strong association between individuals engaging in undeclared work and their views on the acceptability of undeclared work (i.e., tax morale) and their level of vertical trust and horizontal trust.

Participation in undeclared work is significantly higher when:

- The risk of being detected is perceived as low;
- Undeclared work is viewed as acceptable (i.e., there is low tax morale);
- There is low trust in tax and social security authorities or labour inspectorates, and
- There is low horizontal trust in others.

The results are broadly the same for both the crude and imputed data (Table A3 in the Appendix).

This clearly displays the need to move beyond using solely direct policy measures (i.e., the deterrents of greater penalties and increasing the risk of being caught) when tackling undeclared work. Instead, there is also a need to focus upon the use of indirect policy measures to improve tax morale, vertical trust (in public institutions) and horizontal trust (between citizens) to encourage greater voluntary compliance. Indeed, the indirect policy measures are more significantly associated with reducing participation in undeclared work compared with the direct deterrence measures, where only the perception of the risk of detection is significantly associated with a reduced likelihood of engaging in undeclared work.

Table 3. Multilevel logistic regressions of the propensity to engage in undeclared work in EU-27: policy approaches

	Model 1			Model 2			Model 3			Model 4		
	β	se(β)	Exp(β)	β	se(β)	Exp(β)	β	se(β)	Exp(β)	β	se(β)	Exp(β)
Gender (CG: Men)												
Women	-0.483 ***	0.103	0.617	-0.477 ***	0.098	0.621	-0.440 ***	0.099	0.644	-0.523 ***	0.104	0.593
Age	-0.036 ***	0.004	0.964	-0.036 ***	0.003	0.965	-0.034 ***	0.004	0.967	-0.035 ***	0.003	0.965
Difficulties paying bills last year (CG: Most of the time)												
From time to time	-0.737 ***	0.187	0.479	-0.765 ***	0.188	0.465	-0.768 ***	0.178	0.464	-0.776 ***	0.178	0.460
Almost never / Never	-1.220 ***	0.168	0.295	-1.236 ***	0.172	0.291	-1.166 ***	0.165	0.312	-1.235 ***	0.173	0.291
Type of community (CG: Rural area or village)												
Small or middle sized town	0.002	0.104	1.002	-0.001	0.106	0.999	-0.015	0.099	0.986	-0.033	0.092	0.967
Large town	-0.145	0.175	0.865	-0.124	0.177	0.883	-0.145	0.164	0.865	-0.127	0.166	0.881
Working experience (CG: Only in country of origin)												
Another EU country	0.455 ***	0.159	1.577	0.454 ***	0.156	1.574	0.320 **	0.144	1.377	0.456 ***	0.147	1.578
Non-EU country	-0.017	0.230	0.983	0.046	0.234	1.047	0.149	0.227	1.160	0.167	0.227	1.181
Both EU and non-EU country	0.921 ***	0.289	2.513	0.906 ***	0.285	2.473	0.786 ***	0.256	2.196	0.955 ***	0.272	2.598
Employment status / Occupation (CG: Self-employed)												
Employed	-0.631 ***	0.174	0.532	-0.637 ***	0.177	0.529	-0.609 ***	0.186	0.544	-0.607 ***	0.168	0.545
Not working	-0.436 **	0.177	0.647	-0.453 **	0.190	0.636	-0.341 *	0.184	0.711	-0.408 **	0.175	0.665
Tax morale	-0.264 ***	0.017	0.768	-0.272 ***	0.018	0.762	-0.242 ***	0.019	0.785	-0.259 ***	0.019	0.771
Expected sanctions (CG: Tax or social security contributions due)												
Tax / social security contributions + fine / prison	-0.113	0.095	0.893	-0.099	0.096	0.906	-0.088	0.101	0.916	-0.174 *	0.098	0.841
Other / Don`t know	0.054	0.153	1.055	0.093	0.158	1.098	0.145	0.148	1.156	0.174	0.165	1.190
Detection risk (CG: Very small / Fairly small)												
Fairly high / Very high	-0.688 ***	0.093	0.503	-0.664 ***	0.096	0.515	-0.507 ***	0.090	0.602	-0.594 ***	0.087	0.552
Don`t know	-1.013 ***	0.228	0.363	-0.929 ***	0.237	0.395	-0.758 ***	0.220	0.469	-0.827 ***	0.212	0.437
Trust in Tax / Social Security authorities (CG: Tend not to trust)												
Tend to trust	-0.272 ***	0.091	0.762									
Trust in Labour inspectorate (CG: Tend not to trust)												
Tend to trust				-0.278 ***	0.079	0.757						
Knowing people working undeclared (CG: Yes)												
No							-1.694 ***	0.085	0.184			
Estimated percentage of the population working undeclared (CG: Less than 10 %)												
11-40%										0.852 ***	0.133	2.345
More than 40%										1.588 ***	0.118	4.893
Don`t know										-0.081	0.202	0.922
Constant	2.596 ***	0.408	13.41	2.639 ***	0.417	13.99	2.639 ***	0.381	14.01	1.752 ***	0.388	5.768
Observations			21 835			21 603			23 013			23 449
F			54.57			52.29			77.96			114.56
Prob. > F			0.000			0.000			0.000			0.000

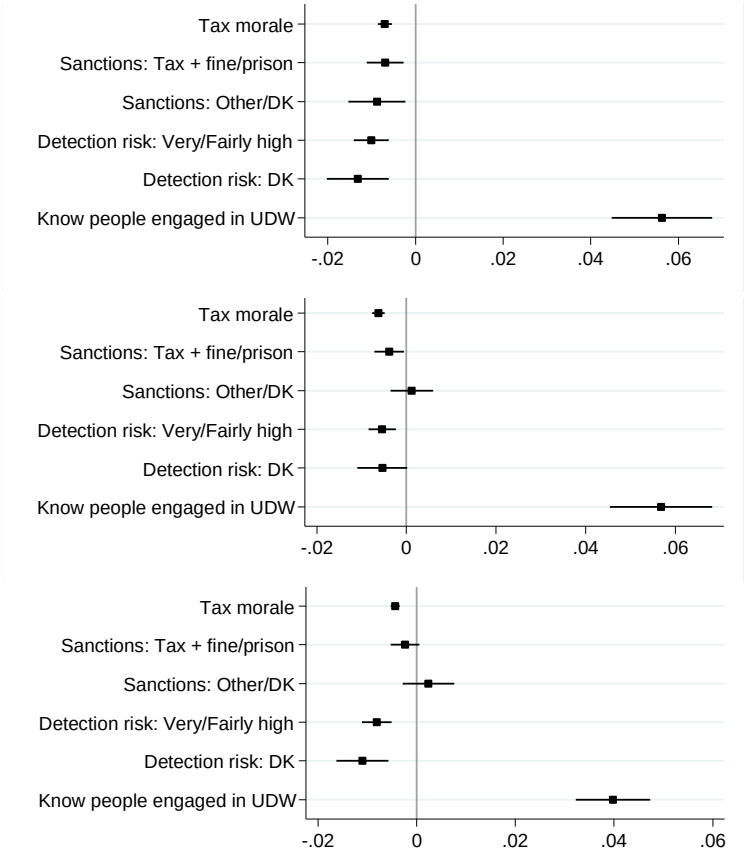
*Note: *** p<0.01, ** p<0.05, * p<0.1; benchmark category in brackets | Source: based on data from Special Eurobarometer 498 (Wave EB92.1, 2019)*

To graphically display the magnitude of the impact of each of these policies on preventing undeclared work and how the magnitude of their impact on preventing undeclared work has changed over the time, Figure 38 displays the marginal effects.

The level of horizontal trust has the largest effect on preventing undeclared work in all survey years, and in 2019, the next largest effect on preventing undeclared work was produced by increasing the perceived risk of detection, then improving tax morale and increasing the severity of the sanction had lowest impact on preventing undeclared work. Looking at the two most effective measures in 2019, knowing other people engaged in undeclared work increases the probability of working undeclared by 4 percentage points while perceiving the risk of being detected as fairly high or very high rather than small or fairly small reduces the likelihood of engaging in undeclared work only by 1 percentage point. Indeed, over time, the impact of increasing the severity of the sanction on preventing undeclared work has significantly declined. In 2007, it had about the same impact as improving tax morale. However, in 2013 and 2019, the effect of increasing the penalty had relatively reduced in importance.

This displays the need for policy makers to change over time the toolkit they use to tackle undeclared work. Over time, it has become more important to complement the conventional direct deterrence measures of increasing penalties and improving the risk of detection, with initiatives to improve the unacceptability of undeclared work, horizontal trust (in others) and vertical trust (in the state) if undeclared work is to be tackled in an effective manner.

Figure 38. Undeclared work: effectiveness of different policy approaches



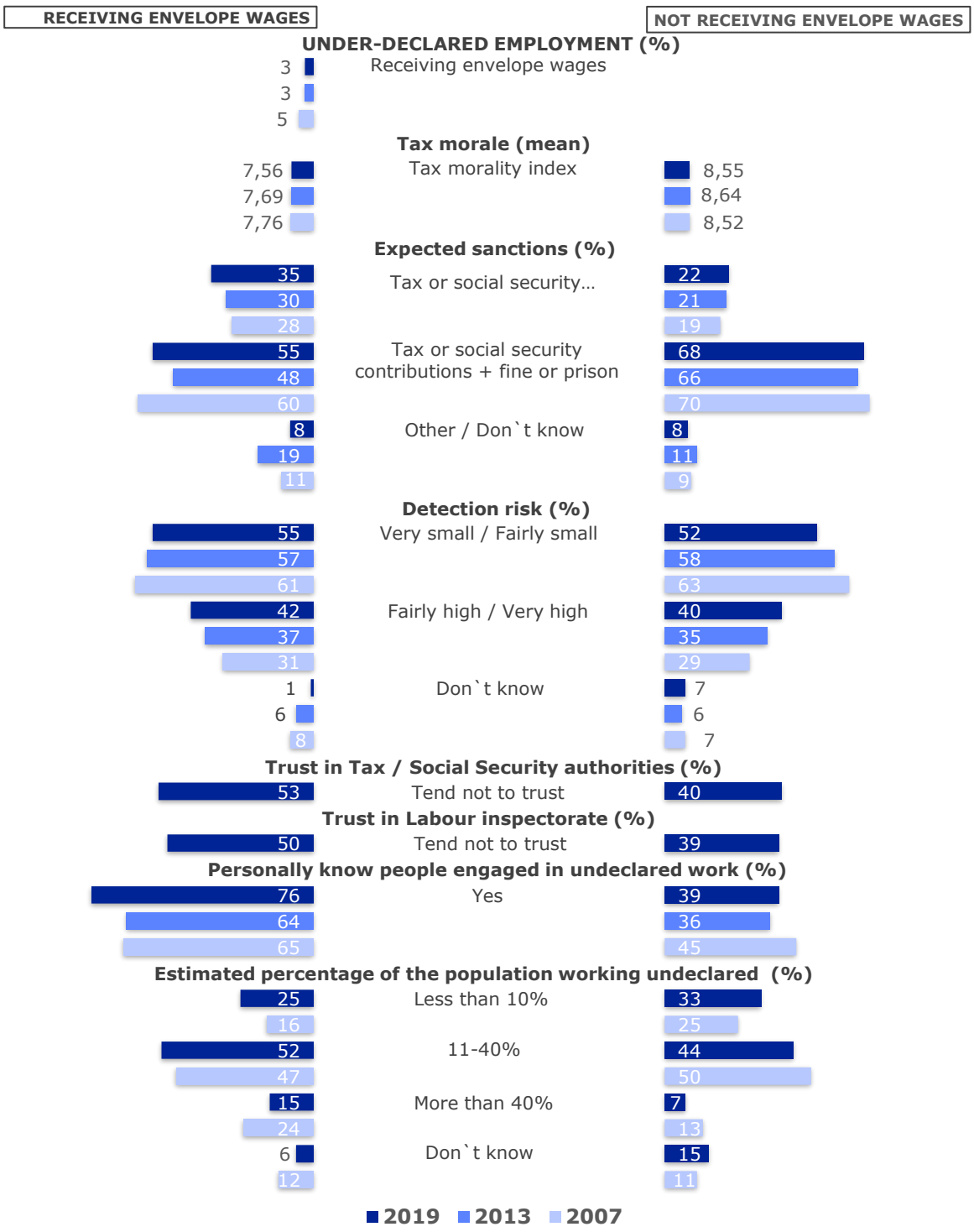
Note: after multilevel logistic regressions; European Union without Croatia and the UK; DK: Don`t know; UDW: undeclared work

Source: based on data from Special Eurobarometer 284 (Wave EB67.3, 2007), 402 (Wave EB79.2, 2013), 498 (Wave EB92.1, 2019)

4.2 What policy approaches are becoming more effective in tackling under-declared employment?

Figure 39 reveals the policy initiatives that are effective at preventing participation in under-declared employment.

Figure 39. Tackling under-declared employment: by policy approach (2007, 2013, 2019)



Note: 2007 – European Union without Croatia and the UK, 2013 – EU-27 (European Union without the UK), 2019 – EU-27 (European Union without the UK); where not relevant, Don`t know and/or Refusal not displayed in the chart

Source: based on data from Special Eurobarometer 284 (Wave EB67.3, 2007), 402 (Wave EB79.2, 2013), 498 (Wave EB92.1, 2019)

Firstly, and similar to the findings on undeclared work, those who view sanctions as tougher and perceive a high risk of detection are less likely to engage in under-declared employment but the association is not strong.

Secondly, there are large differences between the level of tax morale and the level of horizontal and vertical trust of those engaged in under-declared employment and those not engaged in under-declared employment. In 2019, those engaged in under-declared employment have lower tax morale (7.56 compared with 8.55), lower horizontal trust (e.g., 76 % of those engaged in under-declared employment know other people who engage in non-compliant behaviour compared with only 39 % of those not engaged in under-declared employment; 15 % of those engaged in under-declared employment consider that more than 40 % of the population in their society is working undeclared compared with 7 % of those not engaged in under-declared employment).

The findings on undeclared work remain also valid for under-declared employment when analysing the changes over time in the effectiveness of the policy measures.

To evaluate whether the propensity to engage in under-declared employment is associated with employees` perceptions regarding the risk of detection, the penalties for operating undeclared, their 'tax morale', their vertical and horizontal trust when socio-demographic characteristics are included and held constant, Table 4 reports a multilevel logistic regression analysis.

This reveals no association between the participation of employees in under-declared employment and the perceived level of penalties. However, **there is a strong association between employees` receiving envelope wages and their perceived risk of being caught**.

Similarly, on indirect approaches, **a significant association is identified between participation in under-declared employment and tax morale, as well as the employees` level of vertical and horizontal trust**. As such, policy approaches found to be effective in tackling undeclared work are also effective in tackling under-declared employment. These are improving the risk of detection and tax morale, along with horizontal and vertical trust.

However, the level of significance of the risk of detection is lower and its significance vanishes once one controls for whether the employees know or do not know people working undeclared.

Figure 40 graphically displays the marginal effects of each policy measure to provide a visual view over the time of the magnitude of the impact of these policies in preventing under-declared employment. This reveals that improving horizontal trust has far the largest effect on preventing undeclared work in both 2007, 2013 and 2019. In 2019, the next most important policy measure in terms of the size of its effect on preventing undeclared work is improving the perceived risk of detection, then tax morale and then improving the perceived severity of the sanction has the smallest effect on preventing participation in undeclared work. This reflects the decline over time in the effectiveness of increasing penalty severity.

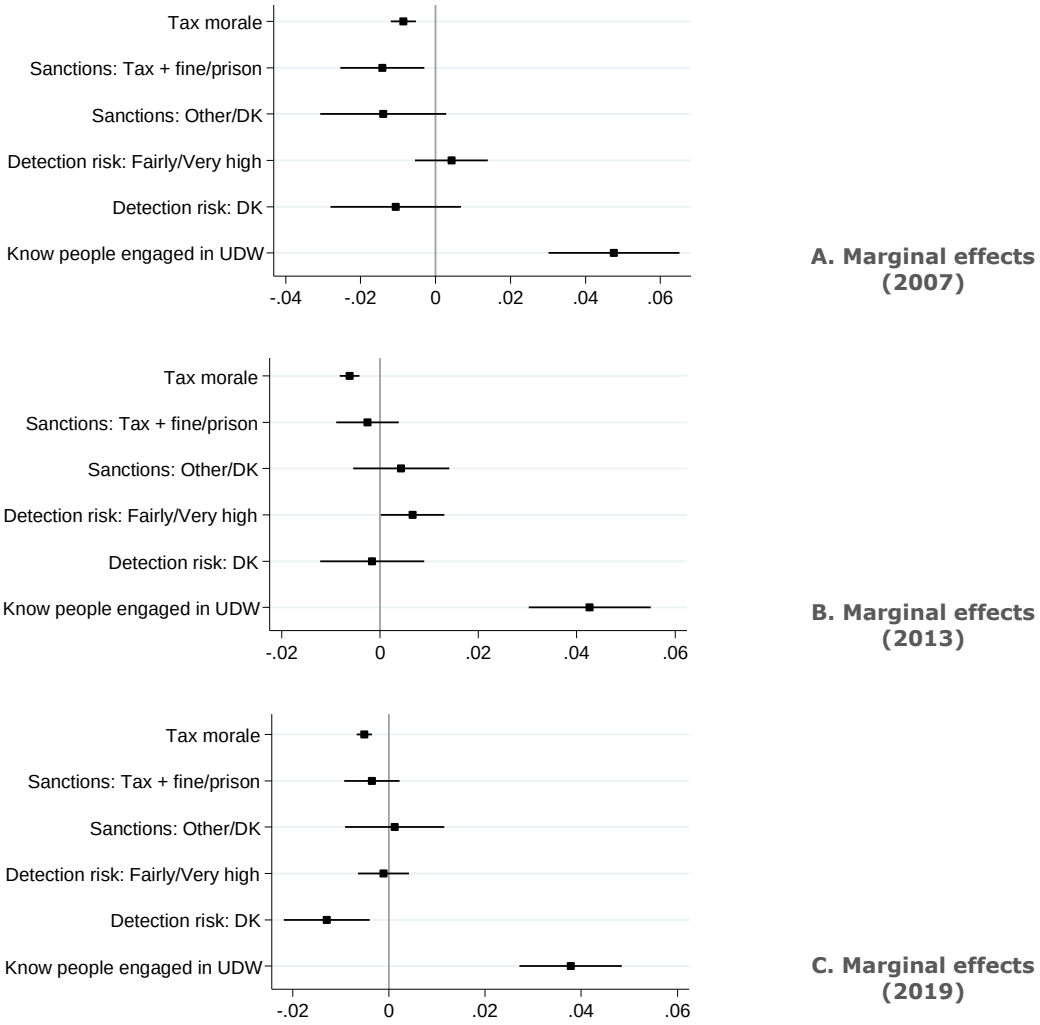
This displays the need for enforcement authorities to change over time the toolkit they use to tackle under-declared employment. If participation in under-declared employment is to be tackled in a more effective manner, direct policy measures (i.e., deterrents) need at the very least to be complemented by indirect policy measures aiming to improve the tax morale and to foster vertical and horizontal trust so as to encourage greater voluntary compliance.

Table 4. Multilevel logistic regressions: propensity to engage in under-declared employment (in EU-27) - policy approaches

	Model 1			Model 2			Model 3			Model 4		
	β	se(β)	Exp(β)	β	se(β)	Exp(β)	β	se(β)	Exp(β)	β	se(β)	Exp(β)
Gender (CG: Men)												
Women	-0.387 ***	0.109	0.679	-0.373 ***	0.100	0.688	-0.257 **	0.107	0.773	-0.303 ***	0.117	0.739
Age	-0.027 ***	0.006	0.973	-0.027 ***	0.007	0.973	-0.026 ***	0.007	0.974	-0.026 ***	0.007	0.974
Difficulties paying bills last year (CG: Most of the time)												
From time to time	-0.470 **	0.193	0.625	-0.466 **	0.193	0.627	-0.490 ***	0.167	0.613	-0.520 ***	0.190	0.595
Almost never / Never	-0.755 ***	0.211	0.470	-0.745 ***	0.236	0.475	-0.696 ***	0.214	0.499	-0.795 ***	0.221	0.451
Type of community (CG: Rural area or village)												
Small or middle sized town	0.320 **	0.134	1.378	0.350 ***	0.124	1.419	0.242	0.151	1.274	0.323 **	0.128	1.381
Large town	0.447 ***	0.164	1.564	0.417 ***	0.159	1.517	0.357 **	0.170	1.429	0.447 ***	0.167	1.563
Working experience (CG: Only in country of origin)												
Another EU country	0.785 ***	0.146	2.192	0.808 ***	0.153	2.242	0.687 ***	0.135	1.989	0.801 ***	0.146	2.229
Non-EU country	0.443	0.344	1.558	0.454	0.330	1.574	0.531 *	0.300	1.701	0.523 *	0.287	1.687
Both EU and non-EU country	1.423 ***	0.456	4.151	1.364 ***	0.436	3.913	1.010 **	0.482	2.745	1.272 ***	0.440	3.570
Organisation size (CG: Micro (1-9 employees))												
Small (10-49 employees)	-0.558 ***	0.181	0.572	-0.592 ***	0.177	0.553	-0.663 ***	0.182	0.515	-0.622 ***	0.174	0.537
Medium-sized (50-499 employees)	-0.922 ***	0.265	0.398	-0.929 ***	0.263	0.395	-1.034 ***	0.268	0.356	-1.035 ***	0.273	0.355
Large (500+ employees)	-1.911 ***	0.322	0.148	-1.854 ***	0.308	0.157	-1.999 ***	0.292	0.135	-1.966 ***	0.291	0.140
Tax morale	-0.238 ***	0.034	0.788	-0.250 ***	0.034	0.779	-0.223 ***	0.034	0.800	-0.236 ***	0.031	0.790
Expected sanctions (CG: Tax or social security contributions due)												
Tax / social security contributions + fine / prison	-0.172	0.133	0.842	-0.157	0.145	0.854	-0.156	0.126	0.856	-0.187	0.125	0.829
Other / Don`t know	-0.210	0.319	0.811	-0.101	0.322	0.904	-0.018	0.289	0.982	-0.030	0.288	0.970
Detection risk (CG: Very small / Fairly small)												
Fairly high / Very high	-0.285 *	0.157	0.752	-0.261 *	0.158	0.771	-0.166	0.151	0.847	-0.249 *	0.135	0.780
Don`t know	-1.318 **	0.541	0.268	-1.311 **	0.557	0.270	-0.788 *	0.423	0.455	-0.940 **	0.442	0.391
Trust in Tax / Social Security authorities (CG: Tend not to trust)												
Tend to trust	-0.492 ***	0.155	0.612									
Trust in Labour inspectorate (CG: Tend not to trust)												
Tend to trust				-0.363 ***	0.125	0.695						
Knowing people working undeclared (CG: Yes)												
No							-1.373 ***	0.154	0.253			
Estimated percentage of the population working undeclared (CG: Less than 10 %)												
11-40 %										0.619 ***	0.148	1.857
More than 40 %										1.380 ***	0.175	3.974
Don`t know										0.057	0.272	1.059
Constant	1.144 **	0.548	3.138	1.164 *	0.608	3.202	1.312 **	0.550	3.712	0.440	0.620	1.553
Observations			9 648			9 598			10 054			10 218
F			42.81			31.75			41.51			24.30
Prob. > F			0.000			0.000			0.000			0.000

*Note: *** p<0.01, ** p<0.05, * p<0.1; benchmark category in brackets | Source: based on data from Special Eurobarometer 498 (Wave EB92.1, 2019)*

Figure 40. Under-declared employment: effectiveness of different policy approaches



Note: after multilevel logistic regressions; European Union without Croatia and the UK; DK: Don`t know; UDW: undeclared work

Source: based on data from Special Eurobarometer 284 (Wave EB67.3, 2007), 402 (Wave EB79.2, 2013), 498 (Wave EB92.1, 2019)

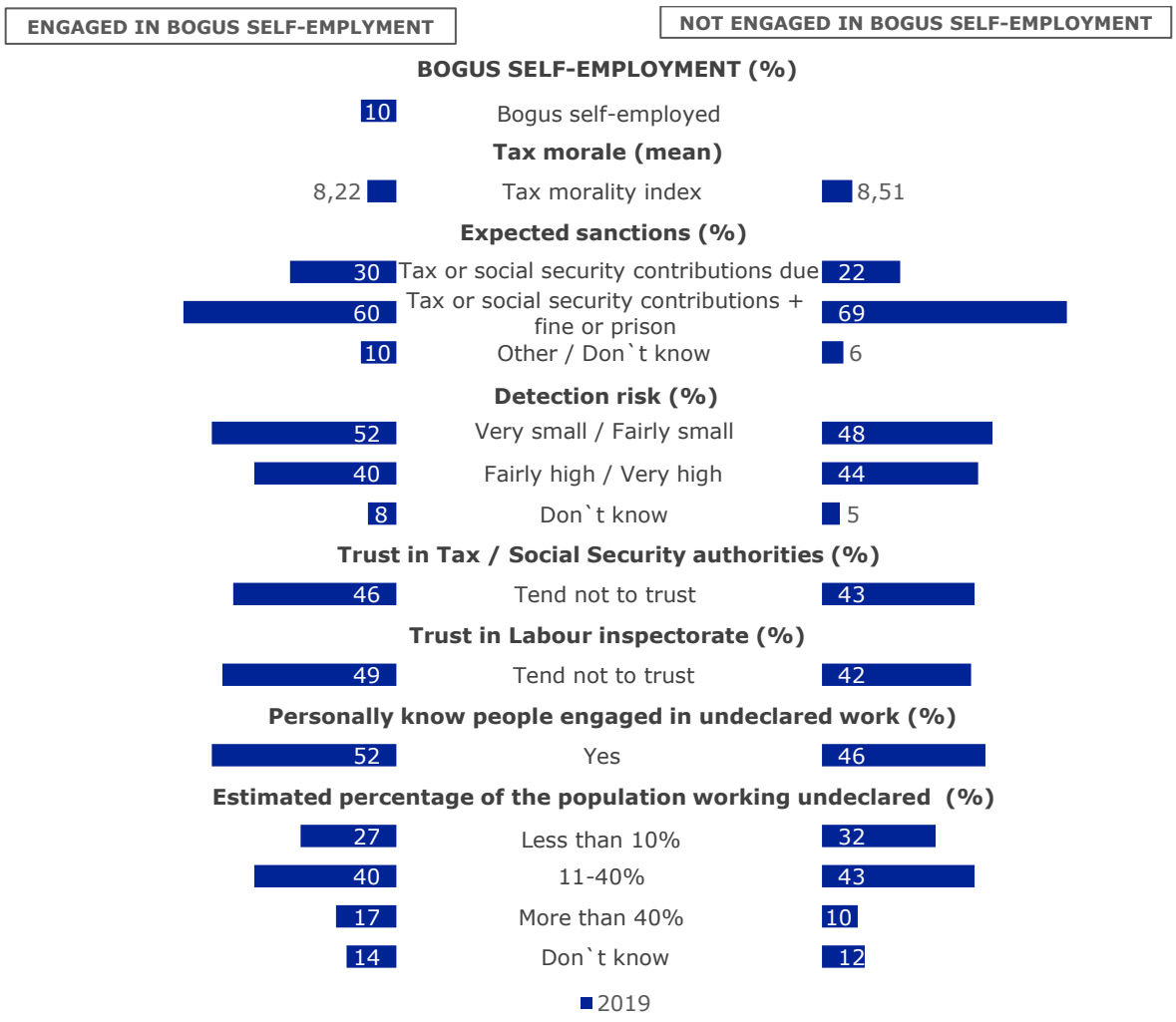
4.3 What policy approaches are effective in tackling bogus self-employment?

Figure 41 explores the relationship between the perception of respondents regarding the direct and indirect policy approaches and their participation in bogus self-employment. The results related to both direct and indirect measures are similar to the results observed for undeclared work and under-declared employment. Those who perceive a high risk of detection are less likely to engage in bogus self-employment. Indeed, 44 % of those not engaged in bogus self-employment perceive a fairly high or very high risk of being caught compared with only 40 % of those engaged in bogus self-employment having the same perception. Similarly, those engaged in bogus self-employment perceive softer sanctions compared to those not engaged in bogus self-employment (30 % of those in bogus self-employment expect to pay only the tax and social contributions due if caught compared with only 22 % of those not engaging in bogus self-employment).

Exploring the indirect measures, the finding is that those engaged in bogus self-employment have lower tax morale (8.22 compared with 8.51 of those in genuine self-

employment) and thus higher asymmetry between their norms and beliefs and the legal environment. Similarly, they display a lower horizontal trust (they know more people engaging in undeclared work and perceive that a higher percentage of the people from their society are working undeclared) and a lower vertical trust (a higher percentage of them tend not to trust the authorities involved in tackling undeclared work). An overview of the findings from previous waves is not possible as Eurobarometer 2019 is the first wave where questions aimed at measuring bogus self-employment have been included.

Figure 41. Tackling bogus self-employment: by policy approach (2019)



Note: EU-27 (European Union without the UK); where not relevant, Don`t know and/or Refusal not displayed in the chart

Source: based on data from Special Eurobarometer 284 (Wave EB67.3, 2007), 402 (Wave EB79.2, 2013), 498 (Wave EB92.1, 2019)

To evaluate the relationship between bogus self-employment and various direct and indirect policy measures, when socio-demographic characteristics are included and held constant, Table 5 reports a multilevel logistic regression analysis. This reveals that neither direct nor indirect policy measures are significantly associated with the propensity of the self-employed to be bogus self-employed. It is rather the case that younger self-employed and those facing financial problems are significantly more likely to be bogus self-employed. This might suggest that this practice is rather employer instigated and regardless of whether the self-employed perceive tougher penalties or a higher risk of detection, and regardless their tax morale and their vertical and horizontal trust, they will still involuntary engage in bogus self-employment.

Table 5. Multilevel logistic regressions of the propensity to be bogus self-employed in EU-27: policy approaches

	Model 1			Model 2			Model 3			Model 4		
	β	se(β)	Exp(β)	β	se(β)	Exp(β)	β	se(β)	Exp(β)	β	se(β)	Exp(β)
Gender (CG: Men)												
Women	0.202	0.160	1.224	0.187	0.176	1.205	0.285 **	0.145	1.329	0.244	0.158	1.276
Age	-0.015 **	0.007	0.985	-0.015 **	0.007	0.986	-0.014 **	0.007	0.986	-0.013 *	0.007	0.987
Difficulties paying bills last year (CG: Most of the time)												
From time to time	-0.810 *	0.417	0.445	-0.887 **	0.429	0.412	-0.721 *	0.376	0.486	-0.694 *	0.383	0.499
Almost never / Never	-0.964 **	0.386	0.381	-0.960 **	0.374	0.383	-0.867 **	0.356	0.420	-0.820 **	0.378	0.440
Type of community (CG: Rural area or village)												
Small or middle sized town	0.342	0.235	1.408	0.326	0.241	1.386	0.350	0.244	1.419	0.324	0.221	1.382
Large town	0.305	0.246	1.357	0.298	0.259	1.347	0.353	0.242	1.423	0.323	0.228	1.381
Working experience (CG: Only in country of origin)												
Another EU country	0.293	0.300	1.341	0.255	0.326	1.291	0.332	0.289	1.394	0.331	0.282	1.392
Non-EU country	0.194	0.370	1.215	0.249	0.363	1.282	0.027	0.399	1.027	0.116	0.358	1.123
Both EU and non-EU country	-0.289	0.674	0.749	-0.579	0.717	0.561	-0.381	0.694	0.683	-0.414	0.692	0.661
Tax morale	-0.056	0.040	0.946	-0.054	0.042	0.947	-0.052	0.034	0.950	-0.056 *	0.034	0.946
Expected sanctions (CG: Tax or social security contributions due)												
Tax / social security contributions + fine / prison	-0.218 *	0.114	0.804	-0.159	0.126	0.853	-0.218 *	0.128	0.804	-0.164	0.134	0.849
Other / Don`t know	0.241	0.263	1.272	0.140	0.248	1.151	0.149	0.253	1.160	0.183	0.247	1.200
Detection risk (CG: Very small / Fairly small)												
Fairly high / Very high	-0.134	0.165	0.875	-0.071	0.158	0.931	-0.036	0.163	0.965	-0.035	0.174	0.966
Don`t know	0.184	0.410	1.202	0.405	0.405	1.499	0.119	0.449	1.127	0.409	0.412	1.505
Trust in Tax / Social Security authorities (CG: Tend not to trust)												
Tend to trust	0.047	0.166	1.048									
Trust in Labour inspectorate (CG: Tend not to trust)												
Tend to trust				0.035	0.192	1.035						
Knowing people working undeclared (CG: Yes)												
No							-0.113	0.188	0.893			
Estimated percentage of the population working undeclared (CG: Less than 10 %)												
11-40 %										0.050	0.146	1.052
More than 40 %										0.313	0.252	1.368
Don`t know										-0.346	0.286	0.707
Constant	-0.377	0.633	0.686	-0.465	0.650	0.628	-0.528	0.586	0.590	-0.655	0.637	0.519
Observations			1 608			1 591			1 678			1 718
F			9.24			2.51			5.66			5.77
Prob. > F			0.000			0.001			0.000			0.000

*Note: *** p<0.01, ** p<0.05, * p<0.1; benchmark category in brackets | Source: based on data from Special Eurobarometer 498 (Wave EB92.1, 2019)*

5 Conclusions

This report has presented the prevalence and characteristics of undeclared work, under-declared employment and bogus self-employment in the EU and evaluated whether there is an evidence-base for pursuing the various policy approaches.

Based on the data from Eurobarometer surveys conducted in 2007, 2013, and 2019, the finding is that undeclared work and under-declared work reduced from 2007 to 2019. However, little progress has been made between 2013 and 2019, with similar shares of the population reporting that they are involved in undeclared work and/or under-declared employment in 2019 and 2013 (i.e., 4 % of respondents in undeclared work and 3 % of employees in under-declared employment). In 2019, questions to measure bogus self-employment have been added. The findings show a high proportion of the self-employed engaged in bogus self-employment. Some 1 in 10 of all the self-employed and about 1 in 8 of the self-employed without employees are in bogus self-employment. This suggests that undeclared work and under-declared employment are still persistent features of the EU economy, as is now bogus self-employment, and that to make further headway in preventing the undeclared economy, policy measures require improvement.

This report also reveals that some population groups are more likely to engage in undeclared paid activities than others. Gender, age, personal financial difficulties, employment status (and size of the company in which one works in the case of employees) and whether one has worked beyond the country of origin are significantly associated with the propensity to participate in undeclared work and under-declared employment. However, only gender and financial status are significantly associated with participation in bogus self-employment.

To improve the policy approaches used for tackling the undeclared economy, the finding is that participation in undeclared work and under-declared employment is prevented more by the indirect policy measures (that seek to improve tax morale, and vertical and horizontal trust) than the direct deterrence policy measures that seek to increase the sanctions and risk of detection. Indeed, from the direct policy measures, only the perceived risk of detection is significantly associated with preventing participation in undeclared work and under-declared employment. The perceived level of sanction does not prevent participation in undeclared work, under-declared employment or bogus self-employment in 2019 and the marginal effect of this policy is the lowest of all the evaluated policy measures. Indeed, its effect has gradually reduced from 2007 to 2013 and now in 2019 has no significant effect on preventing participation.

In sharp contrast, a strong significant relationship is identified between participation in undeclared work and under-declared employment and all the indirect policy measures. Those engaged in undeclared work and under-declared employment have significantly lower tax morale (i.e., a higher asymmetry between their norms and beliefs and the legal environment) and both significantly lower horizontal trust (they think other people are engaged in undeclared work in their society) and significantly lower vertical trust (they have markedly lower trust in the tax and social security authorities and labour inspectorates).

Importantly, however, neither direct nor indirect policy measures are significantly associated with the propensity of the self-employed to be bogus self-employed. This suggests that this practice is largely employer instigated and that younger self-employed and those facing financial problems are significantly more likely to engage in bogus self-employment.

In consequence, if participation in undeclared work and under-declared employment is to be tackled in a more effective manner, besides increasing the perceived risk of detection, there is a need to also use indirect policy measures that improve the tax morale and foster vertical and horizontal trust so as to encourage greater voluntary

compliance. As such, broader awareness-raising and education about the benefits of fully declared work targeted at both employers and employees are necessary.

For workers, the 2019 survey reveals that these awareness-raising campaigns could be targeted at those employed in small firms and men, younger age groups, those who have difficulties paying the bills most of the time, and the occupations stated in the report where undeclared work and under-declared employment are prevalent. These campaigns can focus upon the benefits of fully declared work and the costs of undeclared work in future benefits foregone (e.g., poorer access to credit and loans, health, pension and welfare benefits, lack of recognition of work and so on).

For employers, such awareness-raising campaigns could be targeted at those business types and sectors where undeclared work, under-declared work as well as bogus self-employment are more prevalent, namely companies employing manual workers, professionals or jobs involving travelling, and companies or the self-employed in the agricultural sector.

These awareness-raising and educational initiatives alone, however, will not bring the values, norms and beliefs of citizens, workers and employers into line with the law and regulations unless there are also changes in the formal institutions. This requires a modernisation of governance. Previous studies reveal that vertical trust and tax morale (and therefore voluntary compliance) improves when employees and employers:

- Consider that the share they pay is fair compared with the share paid by other citizens (Kirchgässner, 2011; Molero and Pujol, 2012);
- Are treated by the state authorities in a respectful, impartial and responsible manner (Gangl et al., 2013; Murphy, 2005), and
- Consider that they receive an appropriate quality and level of public goods and services in return for the taxes they pay (McGee, 2005).

Previous studies also highlight the importance of improving horizontal trust by showing that only a small part of the society does not abide by the law (Çevik, 2016; Kondelaji et al., 2016; Trüdinger and Hildebrandt, 2013). Indeed, this issue of **improving horizontal trust is crucial and heavily supported by this report**.

It is improving horizontal trust (that others act in a compliant manner) which has the biggest effect on the likelihood of participation in undeclared work and under-declared employment. How horizontal trust can be improved now requires further consideration by policy makers. It is becoming increasingly understood by policy makers that publishing figures in the media that the undeclared economy is large and extensive reduces horizontal trust and leads to higher levels of participation. It is also increasingly understood that tools such as awareness raising campaigns and notification letters, are also more effective when they highlight the high levels of compliance in the sector, occupation, local area, etc. of the individuals being targeted (European Platform Tackling Undeclared Work, 2019). This report reveals that in future further consideration is required of how to use these tools to improve horizontal trust as well as the identification of additional tools to enhance horizontal trust, along with an assessment of what works and what does not in Member States.

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Appendix

Table A1. Technical Note

Description of the analysed questions and datasets on undeclared work

This report uses data extracted from the 3 Special Eurobarometers on undeclared work in the European Union, namely:

- Special Eurobarometer No. 284 (Wave EB67.3, 2007),
- Special Eurobarometer No. 402 (Wave EB79.2, 2013), and
- Special Eurobarometer No. 498 (Wave EB92.1, 2019).

These surveys involved face-to-face interviews in the 27/28 Member States of the European Union (EU), ranging from 500 in smaller Member States to 1,500+ interviews in larger countries. All interviews were conducted face-to-face in people`s homes and in the appropriate national language with adults aged 15 years and over. In all nations, a multi-stage random (probability) sampling method was applied. A number of sampling points were drawn with probability proportional to population size (for total coverage of the country) and to population density according to the Eurostat NUTS II (or equivalent) and the distribution of the resident population in terms of metropolitan, urban and rural areas. In each of the selected sampling units, a starting address was then drawn at random. Further addresses (every N^{th} address) were subsequently selected by standard 'random route' procedures from the initial address. In each household, meanwhile, the respondent was drawn at random (following the 'closest birthday rule'). The methodology, therefore, ensures that on the issues of gender, age, region and locality size, each country as well as each level of the sample is representative in proportion to its population size. As such, to ensure the sample representativeness for the descriptives provided in this report, weighting scheme have been used in accordance with the data set specificity.

The face-to-face interviews covered attitudes towards undeclared work, followed by questions on purchasing undeclared goods and services, under-declared employment and finally supplying undeclared work and being bogus self-employed (only in the latest Special Eurobarometer on undeclared work).

Here, we confine discussion to the questions on:

- Undeclared paid activities - asked to all respondents;
- Under-declared employment - asked to respondents who reported that they were employees in employment; and
- Bogus self-employment - asked to self-employed respondents.

Alongside socio-demographic characteristics of the respondents, Special Eurobarometers on undeclared work also included questions on their views of the risks of detection and penalties for operating on an undeclared basis, as well as questions on whether they view operating on an undeclared basis as acceptable (i.e., tax morale) and issues related with vertical (between citizens and government) and horizontal (between citizens) trust, enabling the relationship between various policy approaches and participation in undeclared work, under-declared employment and bogus self-employment to be evaluated.

Below we report the countries used in the analysis, sample size and questions used, by each data set.

Special Eurobarometer No. 284 (Wave EB67.3, 2007)

- *Countries analysed in this report* (European Union without Croatia and the UK): Belgium, Bulgaria, Czechia, Denmark, Germany, Estonia, Ireland, Greece, Spain, France, Italy, Cyprus, Latvia, Lithuania, Luxembourg, Hungary, Malta, Netherlands, Austria, Poland, Portugal, Romania, Slovenia, Slovakia, Finland, and Sweden.

- *Sub-samples size*: 25 346 respondents out of which 10 608 were employees in employment.
- *Undeclared paid activities*: *QB19* 'Did you yourself carry out any undeclared activities in the last 12 months for which you were paid in money or in-kind? Herewith we mean again activities which were not or not fully reported to the tax or social security authorities and where the person who acquired the good or service was aware of this?'
- *Under-declared employment*: QB15 'Sometimes employers prefer to pay all or part of the regular salary or the remuneration for extra work or overtime hours cash-in-hand and without declaring it to tax or social security authorities. Did your employer pay you all or part of your income in the last 12 months in this way?'

Special Eurobarometer No. 402 (Wave EB79.2, 2013)

- *Countries analysed in this report* (EU-27: European Union without the UK): Belgium, Bulgaria, Czechia, Denmark, Germany, Estonia, Ireland, Greece, Spain, France, Croatia, Italy, Cyprus, Latvia, Lithuania, Luxembourg, Hungary, Malta, Netherlands, Austria, Poland, Portugal, Romania, Slovenia, Slovakia, Finland, and Sweden.
- *Sub-samples size*: 26 257 respondents out of which 10 528 were employees in employment.
- *Undeclared paid activities*: *QE14* 'Apart from a regular employment, have you yourself carried out any undeclared paid activities in the last 12 months?'
- *Under-declared employment*: *QE10* 'Sometimes employers prefer to pay all or part of the salary or the remuneration (for extra work, overtime hours or the part above a legal minimum) in cash and without declaring it to tax or social security authorities. Has your employer paid you any of your income in the last 12 months in this way?'

Special Eurobarometer No. 498 (Wave EB92.1, 2019)

- *Countries analysed in this report* (EU-27: European Union without the UK): Belgium, Bulgaria, Czechia, Denmark, Germany, Estonia, Ireland, Greece, Spain, France, Croatia, Italy, Cyprus, Latvia, Lithuania, Luxembourg, Hungary, Malta, Netherlands, Austria, Poland, Portugal, Romania, Slovenia, Slovakia, Finland, and Sweden.
- *Sub-samples size*: 26 514 respondents out of which 11 670 were employees in employment and 1 853 were self-employed.
- *Undeclared paid activities*: *QD16* 'Have you yourself carried out any undeclared paid activities in the last 12 months, either on your own account or for an employer?'
- *Under-declared employment*: *QD10* 'Sometimes employers prefer to pay all or part of the salary or the remuneration (for extra work, overtime hours, the amount above the legal minimum wage or bonuses) in cash and without declaring it to tax or social security authorities. Has your employer paid you any of your income in the last 12 months in this way?'
- *Bogus self-employment*: Criteria used for bogus self-employed = self-employed without employees: (a) who have more than one client or a dominant client - which provides at least 75% of total income), (b) have the authority to hire staff, (c) not get paid an agreed fee on a weekly or monthly basis. Those not meeting 2 or 3 criteria were classified as bogus self-employed. Similar methodology previously used by Eurofound in 2018 (Eurofound, 2018). Calculated based on *QD24* 'Which of the following situations apply to you, if any?: You have only one client or a dominant one which provides at least 75% of your income; You have the authority to hire or dismiss employees; You get paid an agreed fee on a weekly or monthly basis.'

Table A2. Multilevel logistic regressions of the likelihood of participation in undeclared work, under-declared employment and bogus self-employment (EU-27; imputed missing data)

	Undeclared work			Under-declared employment			Bogus self-employment		
	β	se(β)	Exp(β)	β	se(β)	Exp(β)	β	se(β)	Exp(β)
Gender (CG: Men)									
Women	-0.536 ***	0.098	0.585	-0.349 ***	0.099	0.705	0.203	0.139	1.225
Age	-0.033 ***	0.003	0.968	-0.028 ***	0.006	0.972	-0.014 **	0.006	0.986
Difficulties paying bills last year (CG: Most of the time)									
From time to time	-0.910 ***	0.183	0.403	-0.689 ***	0.193	0.502	-0.758 **	0.375	0.468
Almost never / Never	-1.417 ***	0.158	0.242	-1.047 ***	0.206	0.351	-0.850 **	0.364	0.427
Type of community (CG: Rural area or village)									
Small or middle-sized town	-0.027	0.089	0.973	0.288 **	0.142	1.334	0.363	0.232	1.437
Large town	-0.175	0.163	0.839	0.357 *	0.184	1.429	0.354	0.225	1.425
Working experience (CG: Only in country of origin)									
Another EU country	0.547 ***	0.157	1.727	0.908 ***	0.148	2.480	0.369	0.275	1.446
Non-EU country	0.135	0.212	1.144	0.476	0.290	1.610	0.165	0.344	1.179
Both EU and non-EU country	1.000 ***	0.265	2.719	1.549 ***	0.377	4.708	-0.382	0.678	0.683
Employment status / Occupation (CG: Self-employed)									
Employed	-0.630 ***	0.156	0.532						
Not working	-0.557 ***	0.168	0.573						
Organisation size (CG: Micro (1-9 employees))									
Small (10-49 employees)				-0.571 ***	0.161	0.565			
Medium-sized (50-499 employees)				-0.949 ***	0.236	0.387			
Large (500+ employees)				-1.836 ***	0.281	0.159			
Constant	0.062	0.286	1.064	-0.959 ***	0.352	0.383	-1.177 **	0.515	0.308
Observations			26 514			11 670			1 853
F			46.48			58.18			3.20
Prob. > F			0.000			0.000			0.001
Imputations			10			10			10

*Note: *** p<0.01, ** p<0.05, * p<0.1; benchmark category shown in brackets*

Source: based on data from Special Eurobarometer 498 (Wave EB92.1, 2019)

Table A3. Multilevel logistic regressions: undeclared work – policy approaches (EU-27; imputed missing data)

	Model 1			Model 2			Model 3			Model 4		
	β	se(β)	Exp(β)	β	se(β)	Exp(β)	β	se(β)	Exp(β)	β	se(β)	Exp(β)
Gender (CG: Men)												
Women	-0.469 ***	0.097	0.625	-0.470 ***	0.098	0.625	-0.416 ***	0.093	0.660	-0.500 ***	0.098	0.606
Age	-0.031 ***	0.003	0.969	-0.032 ***	0.003	0.969	-0.030 ***	0.003	0.970	-0.031 ***	0.003	0.970
Difficulties paying bills last year (CG: Most of the time)												
From time to time	-0.792 ***	0.186	0.453	-0.794 ***	0.187	0.452	-0.732 ***	0.177	0.481	-0.789 ***	0.177	0.454
Almost never / Never	-1.223 ***	0.165	0.294	-1.225 ***	0.166	0.294	-1.113 ***	0.156	0.329	-1.217 ***	0.163	0.296
Type of community (CG: Rural area or village)												
Small or middle-sized town	-0.024	0.093	0.977	-0.020	0.093	0.980	-0.002	0.092	0.998	-0.015	0.089	0.985
Large town	-0.145	0.163	0.865	-0.144	0.164	0.866	-0.139	0.157	0.870	-0.123	0.162	0.884
Working experience (CG: Only in country of origin)												
Another EU country	0.460 ***	0.157	1.583	0.462 ***	0.156	1.587	0.340 **	0.145	1.406	0.469 ***	0.151	1.598
Non-EU country	0.107	0.215	1.113	0.104	0.215	1.110	0.091	0.206	1.095	0.131	0.214	1.139
Both EU and non-EU country	0.954 ***	0.278	2.597	0.966 ***	0.273	2.628	0.819 ***	0.276	2.269	0.973 ***	0.272	2.647
Employment status / Occupation (CG: Self-employed)												
Employed	-0.597 ***	0.172	0.550	-0.601 ***	0.172	0.549	-0.586 ***	0.174	0.557	-0.584 ***	0.170	0.558
Not working	-0.547 ***	0.176	0.578	-0.549 ***	0.178	0.577	-0.421 **	0.172	0.657	-0.508 ***	0.174	0.602
Tax morale	-0.264 ***	0.017	0.768	-0.265 ***	0.018	0.767	-0.242 ***	0.019	0.785	-0.258 ***	0.018	0.772
Expected sanctions (CG: Tax or social security contributions due)												
Tax / social security contributions + fine / prison	-0.159 *	0.094	0.853	-0.155 *	0.094	0.856	-0.109	0.091	0.897	-0.181 **	0.090	0.835
Other / Don`t know	0.010	0.145	1.010	0.010	0.144	1.010	0.074	0.141	1.077	0.104	0.144	1.109
Detection risk (CG: Very small / Fairly small)												
Fairly high / Very high	-0.673 ***	0.090	0.510	-0.675 ***	0.091	0.509	-0.490 ***	0.092	0.613	-0.609 ***	0.089	0.544
Don`t know	-1.127 ***	0.187	0.324	-1.124 ***	0.188	0.325	-0.730 ***	0.198	0.482	-0.768 ***	0.191	0.464
Trust in Tax / Social Security authorities (CG: Tend not to trust)												
Tend to trust	-0.285 ***	0.086	0.752									
Trust in Labour inspectorate (CG: Tend not to trust)												
Tend to trust				-0.282 ***	0.076	0.754						
Knowing people working undeclared (CG: Yes)												
No							-1.742 ***	0.089	0.175			
Estimated percentage of the population working undeclared (CG: Less than 10 %)												
11-40%										0.837 ***	0.132	2.309
More than 40%										1.541 ***	0.119	4.671
Don`t know										-0.144	0.186	0.866
Constant	2.411 ***	0.374	11.14	2.428 ***	0.377	11.34	2.431 ***	0.351	11.37	1.539 ***	0.371	4.658
Observations			26 514			26 514			26 514			26 514
F			57.10			57.65			94.49			135.13
Prob. > F			0.000			0.000			0.000			0.000
Imputations			10			10			10			10

*Note: *** p<0.01, ** p<0.05, * p<0.1; benchmark category in brackets | Source: based on data from Special Eurobarometer 498 (Wave EB92.1, 2019)*

Table A4. Multilevel logistic regressions: under-declared employment – policy approaches (EU-27; imputed missing data)

	Model 1			Model 2			Model 3			Model 4		
	β	se(β)	Exp(β)	β	se(β)	Exp(β)	β	se(β)	Exp(β)	β	se(β)	Exp(β)
Gender (CG: Men)												
Women	-0.300 ***	0.097	0.740	-0.306 ***	0.095	0.736	-0.238 **	0.093	0.788	-0.292 ***	0.098	0.747
Age	-0.027 ***	0.006	0.973	-0.027 ***	0.006	0.973	-0.026 ***	0.006	0.975	-0.026 ***	0.006	0.975
Difficulties paying bills last year (CG: Most of the time)												
From time to time	-0.580 ***	0.206	0.560	-0.574 ***	0.206	0.564	-0.555 ***	0.184	0.574	-0.562 ***	0.198	0.570
Almost never / Never	-0.839 ***	0.212	0.432	-0.833 ***	0.215	0.435	-0.766 ***	0.204	0.465	-0.841 ***	0.214	0.431
Type of community (CG: Rural area or village)												
Small or middle-sized town	0.276 **	0.137	1.318	0.283 **	0.138	1.327	0.257 *	0.151	1.294	0.276 **	0.138	1.318
Large town	0.383 **	0.162	1.467	0.389 **	0.164	1.476	0.355 **	0.170	1.426	0.400 **	0.165	1.491
Working experience (CG: Only in country of origin)												
Another EU country	0.827 ***	0.151	2.286	0.820 ***	0.151	2.270	0.723 ***	0.135	2.061	0.832 ***	0.156	2.299
Non-EU country	0.373	0.302	1.452	0.351	0.302	1.421	0.409	0.297	1.505	0.351	0.289	1.421
Both EU and non-EU country	1.507 ***	0.403	4.512	1.496 ***	0.393	4.465	1.324 ***	0.401	3.758	1.405 ***	0.404	4.077
Organisation size (CG: Micro (1-9 employees))												
Small (10-49 employees)	-0.582 ***	0.167	0.559	-0.589 ***	0.166	0.555	-0.629 ***	0.166	0.533	-0.597 ***	0.160	0.551
Medium-sized (50-499 employees)	-0.939 ***	0.249	0.391	-0.935 ***	0.247	0.393	-0.998 ***	0.232	0.368	-1.012 ***	0.235	0.364
Large (500+ employees)	-1.885 ***	0.290	0.152	-1.879 ***	0.288	0.153	-1.984 ***	0.284	0.137	-1.957 ***	0.284	0.141
Tax morale	-0.216 ***	0.034	0.805	-0.219 ***	0.033	0.803	-0.209 ***	0.036	0.811	-0.224 ***	0.034	0.799
Expected sanctions (CG: Tax or social security contributions due)												
Tax / social security contributions + fine / prison	-0.190	0.124	0.827	-0.191	0.123	0.826	-0.133	0.124	0.875	-0.198 *	0.117	0.820
Other / Don`t know	-0.262	0.253	0.770	-0.252	0.255	0.777	-0.194	0.254	0.823	-0.149	0.259	0.862
Detection risk (CG: Very small / Fairly small)												
Fairly high / Very high	-0.319 **	0.139	0.727	-0.325 **	0.139	0.722	-0.191	0.141	0.826	-0.268 **	0.127	0.765
Don`t know	-1.087 ***	0.313	0.337	-1.092 ***	0.317	0.336	-0.798 ***	0.309	0.450	-0.883 ***	0.308	0.414
Trust in Tax / Social Security authorities (CG: Tend not to trust)												
Tend to trust	-0.476 ***	0.144	0.621									
Trust in Labour inspectorate (CG: Tend not to trust)												
Tend to trust				-0.423 ***	0.124	0.655						
Knowing people working undeclared (CG: Yes)												
No							-1.422 ***	0.149	0.241			
Estimated percentage of the population working undeclared (CG: Less than 10 %)												
11-40 %										0.626 ***	0.143	1.870
More than 40 %										1.296 ***	0.167	3.655
Don`t know										-0.050	0.277	0.951
Constant	1.132 **	0.528	3.101	1.134 **	0.537	3.108	1.213 **	0.514	3.365	0.449	0.582	1.567
Observations			11 670			11 670			11 670			11 670
F			29.79			29.30			43.15			22.82
Prob. > F			0.000			0.000			0.000			0.000
Imputations			10			10			10			10

*Note: *** p<0.01, ** p<0.05, * p<0.1; benchmark category in brackets | Source: based on data from Special Eurobarometer 498 (Wave EB92.1, 2019)*

Table A5. Multilevel logistic regressions: bogus self-employment – policy approaches (EU-27; imputed missing data)

	Model 1			Model 2			Model 3			Model 4		
	β	se(β)	Exp(β)	β	se(β)	Exp(β)	β	se(β)	Exp(β)	β	se(β)	Exp(β)
Gender (CG: Men)												
Women	0.200	0.144	1.221	0.196	0.146	1.216	0.203	0.139	1.226	0.208	0.143	1.231
Age	-0.013 **	0.006	0.987	-0.013 **	0.006	0.987	-0.013 **	0.006	0.987	-0.013 **	0.006	0.987
Difficulties paying bills last year (CG: Most of the time)												
From time to time	-0.753 *	0.385	0.471	-0.750 *	0.387	0.472	-0.756 **	0.378	0.470	-0.774 **	0.386	0.461
Almost never / Never	-0.816 **	0.371	0.442	-0.815 **	0.371	0.442	-0.812 **	0.365	0.444	-0.826 **	0.378	0.438
Type of community (CG: Rural area or village)												
Small or middle-sized town	0.369	0.228	1.447	0.368	0.226	1.444	0.371	0.226	1.449	0.374 *	0.223	1.453
Large town	0.342	0.234	1.408	0.340	0.233	1.405	0.349	0.236	1.418	0.350	0.229	1.419
Working experience (CG: Only in country of origin)												
Another EU country	0.351	0.283	1.420	0.350	0.283	1.418	0.342	0.283	1.407	0.346	0.278	1.414
Non-EU country	0.171	0.354	1.187	0.169	0.354	1.184	0.160	0.358	1.173	0.171	0.347	1.186
Both EU and non-EU country	-0.377	0.681	0.686	-0.370	0.688	0.690	-0.398	0.702	0.672	-0.380	0.687	0.684
Tax morale	-0.054 *	0.033	0.947	-0.056	0.034	0.945	-0.051	0.033	0.950	-0.047	0.033	0.954
Expected sanctions (CG: Tax or social security contributions due)												
Tax / social security contributions + fine / prison	-0.195	0.127	0.823	-0.197	0.127	0.821	-0.194	0.128	0.824	-0.194	0.136	0.823
Other / Don`t know	0.043	0.234	1.044	0.044	0.234	1.045	0.042	0.232	1.043	0.071	0.239	1.074
Detection risk (CG: Very small / Fairly small)												
Fairly high / Very high	-0.122	0.167	0.885	-0.127	0.161	0.881	-0.101	0.165	0.904	-0.095	0.166	0.909
Don`t know	0.070	0.396	1.073	0.065	0.398	1.068	0.094	0.403	1.098	0.281	0.420	1.324
Trust in Tax / Social Security authorities (CG: Tend not to trust)												
Tend to trust	0.034	0.176	1.035									
Trust in Labour inspectorate (CG: Tend not to trust)												
Tend to trust				0.086	0.191	1.090						
Knowing people working undeclared (CG: Yes)												
No							-0.082	0.180	0.921			
Estimated percentage of the population working undeclared (CG: Less than 10 %)												
11-40 %										0.022	0.144	1.022
More than 40 %										0.219	0.242	1.244
Don`t know										-0.454	0.289	0.635
Constant	-0.624	0.569	0.536	-0.633	0.572	0.531	-0.610	0.578	0.543	-0.692	0.617	0.501
Observations			1 853			1 853			1 853			1 853
F			4.71			4.03			4.02			4.89
Prob. > F			0.000			0.000			0.000			0.000
Imputations			10			10			10			10

*Note: *** p<0.01, ** p<0.05, * p<0.1; benchmark category in brackets | Source: based on data from Special Eurobarometer 498 (Wave EB92.1, 2019)*

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