Micro Based Results of Shadow Labour Market in the Baltic States, Poland, Sweden, and Belarus

The aim of this paper is to present the results of representative population surveys on public perceptions of the shadow economy and actual engagement in shadow economic activities which was conducted in six countries, including Belarus, Estonia, Latvia, Lithuania, Poland and Sweden in May–June 2015. Major results are that the likelihood of being detected by working in the shadow economy labour market is generally seen as low with the exception of Sweden where the majority of the population tends to see this likelihood as rather high. The majority of the survey respondents in all countries do not justify any kind of shadow economy. Only in the case when they have a legal job contract and a part of the wage is paid as an "envelope wage", the justification is somewhat higher. Latvia has the highest share of respondents who have friends or relatives working in the shadow labour market (36 %) and Sweden has the lowest proportion of such population (8 %).

Keywords: shadow economy; shadow labour market, survey results about the shadow economy in Estonia, Latvia, Lithuania, Poland, Sweden, Belarus; risk of punishment; justification of shadow economic activities.

Introduction

The aim of this paper is to present and analyse the results of representative population surveys on public perceptions of the shadow economy and actual...
engagement in shadow economic activities which were conducted in six countries, including Belarus, Estonia, Latvia, Lithuania, Poland and Sweden in May–June 2015. The objectives of this paper are 1) to give a brief introduction of the methodology of the survey; 2) to present macro based estimates of shadow economy done by other researchers; 3) to analyse the results of the survey, including perception of risk and punishment, the justification of shadow activities and also the extent of shadow labour market; 4) to calculate macro estimates of the size of the shadow labour market and finally; 5) to give policy recommendations.

Such detailed analysis of the extent and causes of shadow labour market was conducted for the first time. Most of the previous investigations were not as detailed and were focused only on the macro level data, drew very general conclusions about people’s motivations, attitudes and perceptions towards the shadow economy and were not done on the cross country basis. The survey data and other sources of evidence were used to investigate the drivers of the shadow economy and to draw some policy recommendations.

The research presented in this paper is based on a direct, micro (survey) approach to investigate who is engaged in the shadow economy, and what are the motives. The strength of this approach is that it allows to better understand people’s motivations, perceptions and attitudes towards shadow economy. After all, it is very difficult to formulate an effective policy without understanding public attitudes the policy is supposed to address. We therefore believe that this publication does not only give new insights about the extent of the shadow economy in the six investigated countries but it also helps to better understand the perceptions of the participants of shadow economy and the public at large.

The introduction will be followed by the methodological remarks and will present macro based estimates of shadow economy from other sources in the investigated countries. After this, we will present the most important results of the survey including:
1) The likelihood of being detected and the perception of punishment;
2) Justification of shadow economy activities;
3) The extent of shadow labour market;
4) Macro estimate of the shadow labour market based on survey results;
5) Finally, the paper will end in summary and some policy recommendations.

Methodological Remarks

Our paper is based on representative surveys which were designed by the Lithuanian Free Market Institute and its partner organizations and experts and carried out by the market and public research company Spinter Research in Lithuania, Latvia, Estonia, Poland, Sweden, and Belarus. The main goal of the surveys was to investigate public perceptions of the shadow economy, actual participation in shadow economic activities, and opinions about certain shadow practices.

The surveys took place from May 22nd until June 15th, 2015. The target audience included 18 to 75-year-old residents, with a total sample size consisting of 6,035 respondents from all six countries. The surveys were carried out based on the CAWI (Computer Assisted Web Interview) method using a standardized questionnaire.
Approximately two thirds of the survey participants were 36 years old and older at the time when the survey was conducted. This means that they were born earlier than 1980. This is important to keep in mind while interpreting the results of the countries that were a part of Soviet Union prior to its collapse in 1991. This means that at least partly the results of this survey on shadow economy may represent the antigovernment sentiment and mentality which developed in the occupied countries. Nevertheless, significant part of respondents grew and formed their views in the environment of independent countries.

The chapters below present analysis of the results of the surveys in all six countries. Special precaution has to be kept while analysing the data of Belarus. There is a huge political and economic difference between Belarus on the one hand and all other five countries on the other hand. Belarus cannot be considered to be market economy and it has problems with the processes of democracy. We do not have enough data and expertise to comprehensively analyse how these differences impacted people’s opinions in the survey. Due to these reasons, the data of Belarus will be presented but we will not interpret them.

**Macro Based Estimates**

As we realize increasing interest in the topic of the shadow economy among politicians, governmental institutions and society, it is important to determine an actual size of the shadow economy in each country. It is worth noting that the shadow economy accounts for a relatively large fraction of surveyed countries’ GDP.

Macro estimates of non-observed economic activity as a percentage of GDP are presented in Table 1.

If we consider first the results of the size of the shadow economy of the Official Statistics, we see with the exception of Lithuania that the shadow economy values which were estimated by the Official Statistical Offices are on average much lower than the ones which were calculated by

<table>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Macro, year 2015</td>
</tr>
<tr>
<td>Lithuania</td>
<td>15 % (2013)</td>
<td>15.0 %</td>
<td>25.8 %</td>
</tr>
<tr>
<td>Latvia</td>
<td>14.8 % (2013)</td>
<td>21.3 %</td>
<td>23.6 %</td>
</tr>
<tr>
<td>Poland</td>
<td>13.3 % (2014)</td>
<td>-</td>
<td>23.3 %</td>
</tr>
<tr>
<td>Estonia</td>
<td>3.3 % (2015)</td>
<td>14.9 %</td>
<td>26.2 %</td>
</tr>
<tr>
<td>Sweden</td>
<td>2.8 % (2011)</td>
<td>-</td>
<td>13.2 %</td>
</tr>
</tbody>
</table>

T. Putnins and A. Sauka (mostly using a questionnaire approach with some macro calculations) and of F. Schneider using the MIMIC-approach to calculate the size and development of the shadow economy. Only for Lithuania, the values of T. Putnins and A. Sauka and of the Official Statistical Office are similar. In other cases, the official estimates are much lower than the unofficial ones, especially in the case of Estonia and Sweden.\(^2\)

According to the official statistics of countries, the size of the shadow economy as a percentage of GDP varies from 2.8% in Sweden to 15% in Lithuania. In the most recent study, T. Putnins and A. Sauka (2015) explore the shadow economy in three Baltic countries. They estimate that Latvia has the largest shadow economy among the Baltic States which accounts for 21.3% of GDP while Estonia has the smallest – 14.9% of GDP.

The macro estimations provided by F. Schneider (2015) show that the size of the shadow economy in Estonia is 26.2% while in Sweden it is only 13.2%. F. Schneider (2015) points out that these estimates should be corrected for such activities as smuggling (because they are not part of shadow labour market), materials used in shadow work (which were purchased legally), do-it-yourself activities and neighbours’ help – they all should be deducted from the overall share of the shadow economy. After the adjustment, estimates show that the size of the shadow economy in the Baltic States is roughly around 16%.

The big differences in macro based estimation of shadow economy show that there is a need for further examination of the extent and causes of shadow economy activities based on different approaches and methods.

### Results

In this chapter, we present the most important results with respect to:

1) The likelihood of being detected and perception of punishment;
2) Justification of shadow economy activities;
3) Extent of the shadow labour market;
4) Macro estimation of the shadow labour market.

Mostly, we show statistically significant difference in the means (medians in case of ordinal data) and variances among the countries. In order to test it, Kruskal-Wallis test was applied to ordinal data. Therefore, results revealed that difference in means (medians in case of ordinal data) among countries exists and it is statistically significant.

Before identifying the causes of the shadow economy or offering any specific result, it is important to understand public perceptions about shadow activities. Without this knowledge, even the most carefully thought-out measures may become useless and fail to achieve the desired result.

Research reveals that the size of the shadow economy in a country is highly dependent on the tax morality of its residents, which in turn is determined by public perceptions and attitudes. Some studies show that beliefs and attitudes towards the shadow economy more strongly correlate with compliance than do deterrence factors (Carroll, 1987; Etzioni, 1988; Murphy, 2005, 2008; Roth et al., 1989; Smith, 1990). Therefore, measures aimed at improving commitment to paying taxes are directly related to understanding people’s attitudes towards shadow activities.

Three parts of the survey focus on how people rate the severity of possible penalties, the likelihood of being detected, and,
most importantly, their justification of shadow activities.

**Likelihood of Being Detected and Perception of Punishment**

People sometimes engage in shadow activities. They get part of or even entire wages “in an envelope” (or “under the table”), or buy goods or services from people who do not pay taxes. People who engage in such activities risk disclosure, fines or additional tax bills from the authorities. Respondents were asked about their perceptions of the likelihood of detection; the results are shown in Fig. 1.

In Sweden, people perceive the likelihood of detection of employment without a legal contract to be the highest. As many as 63 % of respondents believe it to be very high or quite high (as opposed to 27 % who perceive it to be quite low or very low). From all the surveyed countries, Sweden is the only one with a higher share of people who perceive the likelihood of being detected as high or very high as compared to those who judge it to be quite low or very low. Regarding engagement in the shadow labour market, Poland has the lowest perception of likelihood of detection. Only 32 % of respondents consider the likelihood to be very high or quite high and 63 % consider it as quite or very low. All three Baltic States show very similar tendencies. The share of people who see the likelihood of detection as high varies from 39 % in Latvia to 43 % in Lithuania, and there is a higher share of those who consider the risk to be very or quite low, from 54 % in Estonia to 57 % in Latvia.

The perception of the likelihood of detection differs quite a lot in some countries depending on whether the respondent has personally been involved in shadow labour activities. Those who have experience in working in the shadow labour market view the likelihood of detection as much lower than those who have none. It is lower by 13 percentage points (p.p.) in Belarus, 11 p.p. in Sweden, 6 p.p. in Estonia, and 2 p.p. in Latvia. Interestingly, in Poland, the share of people who judge the likelihood of being detected as high is the same regardless of whether people have had experience in the shadow labour market or not.

![Fig. 1. Likelihood of being detected working without a legal job contract, or getting at least part of the wage as an “envelope wage” (%); year 2015](image-url)
When thinking about people’s incentives to engage in shadow economy activities, it is important to investigate not only the perception of likelihood of being detected but also the perceived punishment once a person is caught. Respondents were asked how severe they believed the punishment would be if they were caught engaging in shadow economy activities, such as getting part of or the entire wage “in an envelope” (or “under the table”) or buying goods or services from people who do not pay taxes; the results are shown in Fig. 2.

Punishment for working in the shadow labour market is perceived to be the most severe in Lithuania, the only of the six surveyed countries where the majority of respondents qualify this punishment as very or quite severe (55%). A total of 38% of the respondents see it as quite or very mild.

The distributions of answers for Latvia, Poland and Estonia are also quite similar. Yet, the majority is not reached in any of these groups. A total of 45% of respondents in Latvia, 41% in Poland and 40% in Estonia consider the punishment to be very or quite severe, compared to 43%, 46% and 47%, respectively, who see it as quite or very mild. In Sweden, on the other hand, the majority (60%) believe the punishment to be quite or very mild, compared to only 26% who think otherwise.

Furthermore, Sweden is also an interesting example of the connection between the perceived likelihood of being detected while engaging in shadow economy activities and perceived punishment for it. In most of the surveyed countries, the share of respondents who think that the punishment is quite or very severe is higher than the proportion of respondents who see the likelihood of being detected as very or quite high. Essentially, those who believe they will most likely be caught see the punishment as severe. This tendency is very clear in Lithuania and in Poland. Sweden is the big outlier where deterrence from engaging in shadow economy activities

![Fig. 2. Perception of punishment for working without a legal job contract or getting at least part of the wage as an “envelope wage” (%); year 2015](image-url)
comes not from the perceived severity of punishment but from the high likelihood of detection. The share of Swedish respondents who perceive the likelihood of being detected while working without a legal job contract or getting at least part of the wage as an “envelope wage” as quite or very high is comparatively very large, 63% (the non-weighted average of the other countries is 40%), whereas the share of those who perceive the punishment to be quite or very severe is only 26% (the non-weighted average in the other countries is 46%). This fact provides insights for the policy direction in trying to decrease people’s participation in the shadow economy and increase deterrence. For the effective deterrence detection and punishment policies should come together. Countries where the perceived likelihood of being detected is low compared to the severity of the punishment (e.g. Lithuania and Poland) should focus more on the former.

Justification of Shadow Economy Activities

Survey respondents were asked to express their opinion about the specific shadow activity and the degree to which they justified it. The level of justification of a certain shadow economy activity can be interpreted in several ways. Firstly, it shows how favourable the conditions for the shadow economy are. The more society justifies a certain activity, the easier it is for people to participate in it. A high level of justification can also be interpreted as showing the degree to which people actually engage in the shadow economy. The more people participate in the shadow economy, the higher the degree of justification of these activities is.

Respondents were asked whether they personally saw justification of people engaging in shadow activities; the results are shown in Fig. 3.

The majority of respondents in all six countries do not justify illegal work
whereby the entire wage is paid under the table. However, the proportion of such responses differs significantly across countries.

Latvia has the lowest percentage of those who disapprove of such actions (56 %) compared to 42 % who tend to justify or completely justify them. Poland has a very similar distribution too, with 57 % not justifying this type of employment, and 39 % justifying it.

The Swedish case is slightly different. Even though the overall trends are similar, the importance of some particular groups is different. The proportion of respondents who completely justify this type of shadow employment is the second lowest among all countries (5 %) and the share of those who do not justify it at all is the highest (40 %).

Estonians together with Lithuanians appear to be the strictest when judging illegal work (even 75 % and 74 % tend to not justify or do not justify it at all, respectively), compared to only a fourth of respondents who do (23 % and 24 %, respectively).

Work with a legal job contract when part of the wage is paid as an “envelope wage” seems to be more acceptable in all the countries as compared to getting the entire wage under the table; the results are shown in Fig. 4. Latvia again has the highest share of respondents justifying such behavior (58 % completely justify it or tend to justify it, respectively) compared to 40 % of those who do not. In the other countries, the majority are critical of such working arrangements. In Sweden, 63 % of respondents tend to not justify or do not justify them at all, in Estonia the proportion of such respondents is 64 %, in Lithuania it is 56 %, and in Poland – 55 %.

**Extent of Shadow Labour Market**

The second part of the survey focused on people’s experiences with shadow economy activities. Shadow economy activities include undeclared labour market activities which are divided into two types: (i) working with a legal job contract when part of the wage is received as an “envelope wage” (%); year 2015

![Fig. 4. Justification of working with a legal job contract when part of the wage is paid as an “envelope wage” (%); year 2015](image-url)
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Wage, and (ii) working without a legal job contract when the entire wage is received as an “envelope wage”.

Since shadow employment is a sensitive topic and people might be unwilling to discuss their experiences in detail, survey participants were asked to answer the questions about the experience of their friends and relatives and about their own experience.

The respondents were asked if they had friends or relatives who worked in the shadow labour market (without labour contracts or who received part of their wage as an “envelope wage”) during the last 12 months; the results are shown in Fig. 5.

Latvia comes out first in terms of the share of friends or relatives in the shadow labour market. A total of 36% of respondents in Latvia admitted having such friends or relatives. Poland followed closely with 33%, Lithuania reported 29%, and Estonia recorded a fourth of the respondents (26%). Sweden shows the lowest percentage of people, only 8% whose friends or relatives have undeclared labour relationships (the sectors of shadow labour market are presented in the Appendix).

In terms of the type of shadow employment of relatives or friends, the highest share of them worked with an employment contract and received only part of their wage as an “envelope wage”; the results are shown in Fig. 6. This is the case in all countries except for Sweden. This trend is the most evident in the Baltic States where undeclared labour under a legal job contract was indicated by six to eight out of ten respondents.

Working illegally and receiving the entire wage as an “envelope wage” was the second most common answer among respondents, especially in Sweden (50%). Sweden is the only country where the share of people who had friends or relatives working without a legal job contract was higher than the share of those who had a job contract but received part of the wage as an “envelope wage”.

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**Fig. 5.** Having friends or relatives in shadow labour market (%); year 2015
In Lithuania, Estonia and Sweden, self-employment came out third as another quite popular type of undeclared labour. It was indicated by about a third of respondents. The number of hours spent in shadow employment varies quite significantly across the surveyed countries; the results are shown in Fig. 7.

Weighted averages were calculated to directly compare hours spent and money
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Earned in the shadow labour market in different countries. In Poland, people who are engaged in the shadow labour market spend 26 hours per week for such employment. This is the highest number among the surveyed countries. Estonia follows with 22 hours. Lithuanians spend on average less than half of the normal workweek working in shadow labour activities, 17 hours. It should be noted that these are average hours spent in the shadow labour market. Some respondents have full time jobs in the shadow labour market, while others may work for several hours only.

The higher average monthly income from shadow labour activities in Sweden and Estonia also shows in the weighted average income. It reaches 1 108 euros per month in Sweden and 1 022 euros in Estonia. The lowest amounts earned in shadow employment are in Latvia and Lithuania, where they are 449 and 489 euros respectively. Poland is in the middle bracket with 925 euros per month (see Fig. 8).

Macro Estimation of the Shadow Labour Market

One way to estimate the volume of shadow employment is by comparing the number of hours spent on undeclared labour with those spent in the formal economy. A similar method was used by S. Pedersen (2003), and L. P. Feld and C. Larsen (2005). This method assumes equal productivity in both the shadow and formal sectors. The number of average weekly hours spent in shadow employment is calculated from the survey data by using the proportion of respondents who admitted having friends or relatives in the shadow labour and an estimated weighted average of hours spent in such employment. The results are then compared with the number of average
## Undeclared working hours as a proportion of normal working hours; year 2015

<table>
<thead>
<tr>
<th>Country</th>
<th>Proportion</th>
<th>Average undeclared hours worked by respondents with shadow experience</th>
<th>Average weekly undeclared hours worked for the whole population</th>
<th>Normal average weekly working hours</th>
<th>Undeclared hours as a share of normal hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Latvia</td>
<td>36 %</td>
<td>20.3</td>
<td>7.31</td>
<td>39.1</td>
<td>18.7 %</td>
</tr>
<tr>
<td>Poland</td>
<td>33 %</td>
<td>25.5</td>
<td>8.42</td>
<td>40.7</td>
<td>20.7 %</td>
</tr>
<tr>
<td>Belarus</td>
<td>29 %</td>
<td>23.5</td>
<td>6.82</td>
<td>39.8</td>
<td>17.1 %</td>
</tr>
<tr>
<td>Lithuania</td>
<td>29 %</td>
<td>16.8</td>
<td>4.87</td>
<td>38.1</td>
<td>12.8 %</td>
</tr>
<tr>
<td>Estonia</td>
<td>26 %</td>
<td>22.4</td>
<td>5.82</td>
<td>38.9</td>
<td>15.0 %</td>
</tr>
<tr>
<td>Sweden</td>
<td>8 %</td>
<td>18.9</td>
<td>1.51</td>
<td>36.3</td>
<td>4.2 %</td>
</tr>
</tbody>
</table>

*Note:* Figures for the experience of friends or relatives in the shadow labour market and average weekly undeclared hours are taken from the survey, while normal average weekly working hours come from the Eurostat Database for the year 2014. In the absence of such data for Belarus, it was estimated as an average of normal working hours for Central and Eastern European countries that belong to the European Union.

## Extent of aggregated shadow wages as a proportion of GDP; year 2015

<table>
<thead>
<tr>
<th>Country</th>
<th>Million hours</th>
<th>Average undeclared hourly wage</th>
<th>Extent of shadow market</th>
<th>GDP Million Euros</th>
<th>Extent of shadow employment as a proportion of GDP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poland</td>
<td>11 954</td>
<td>8.24</td>
<td>98 554</td>
<td>410 845</td>
<td>24.0 %</td>
</tr>
<tr>
<td>Belarus</td>
<td>2 504</td>
<td>7.51</td>
<td>18 816</td>
<td>57 300</td>
<td>32.8 %</td>
</tr>
<tr>
<td>Latvia</td>
<td>549</td>
<td>5.03</td>
<td>2 760</td>
<td>23 581</td>
<td>11.7 %</td>
</tr>
<tr>
<td>Sweden</td>
<td>541</td>
<td>13.32</td>
<td>7 212</td>
<td>430 635</td>
<td>1.7 %</td>
</tr>
<tr>
<td>Lithuania</td>
<td>540</td>
<td>6.62</td>
<td>3 570</td>
<td>36 444</td>
<td>9.8 %</td>
</tr>
<tr>
<td>Estonia</td>
<td>289</td>
<td>10.37</td>
<td>2 993</td>
<td>19 963</td>
<td>15.0 %</td>
</tr>
</tbody>
</table>

*Note:* Undeclared hours worked per year are calculated as Shadow frequency/100 x average weekly undeclared hours worked by persons who carried out shadow activities x 52 x total population aged 18–74. Figures for shadow frequency, average undeclared weekly hours, and average undeclared hourly wage are taken from the survey, while the population aged 18–74 and GDP at current prices are taken from the Eurostat Database for the year 2014.
hours worked in the formal economy in each country.

The results show that the proportion of undeclared to normal working hours differs significantly across countries, with Poland registering the highest share of undeclared working hours (21 %) and Sweden – the lowest (4 %). Latvia comes second with 19 %, followed by Belarus with 17 %, Estonia with 15 %, and Lithuania with 13 % (see Table 2).

Another method of evaluating the extent of the shadow labour market is by using the average hourly undeclared wage. This method was first used by S. Pedersen (2003), and L. P. Feld and C. Larsen (2005).
The idea is to express the aggregated shadow wages as a proportion of gross domestic product (by comparing the average hourly wage from shadow employment, multiplied by the total number of undeclared working hours spent per year, to the country’s GDP).

In this case, Belarus seems to have the biggest shadow labour market accounting for as much as a third (33%) of the country’s GDP. In Poland, it reaches 24%, followed by Estonia with 15%, Latvia with 12%, and Lithuania with 10%. In Sweden, it accounts for only 2% of GDP; see Table 3, Fig. 9 and Fig. 10.

Conclusions and Policy Recommendations

Macro Based Estimates by other Researchers

Since the shadow economy accounts for a relatively large fraction of surveyed countries’ GDP, it was important to determine an actual size of the shadow economy in each country. Comparing estimates provided by Official Statistical Offices, T. Putnins and A. Sauka, and F. Schneider, we can see that official estimates (with the exception of Lithuania) are much lower. Thereby, it should be noted that further examination of the extent and causes of shadow economy activities based on different approaches and methods is needed.

Summarizing our findings, we distinguished the following major results:

Perception of Risk

The likelihood of being detected working in the shadow labour market is generally perceived as rather low. The share of respondents who consider this likelihood as quite or very low is larger than the share of those who see the possibility of detection as quite or very high in all of the analysed countries except for Sweden, where the majority of the population tends to see this likelihood as rather high.

Perception of Punishment

The severity of punishment for undeclared labour is perceived to be severe. Most of respondents in Lithuania and a significant share of those in Belarus and Latvia consider punishment for shadow employment to be very or quite severe. Sweden is an interesting exception where an overwhelming majority consider the severity of punishment for undeclared labour to be quite or very mild.

Justification

The majority of survey respondents do not justify any kind of shadow activity. Only a proportion of people (mostly below 50%) justify it, and working with a legal job contract when part of the wage is paid as an “envelope wage” is the most justified activity (in Latvia and Belarus by as many as a majority of the population). On the other hand, engagement in smuggling, illegal production or sales of cigarettes, alcohol products and fuel receives the least justification, as less than a fifth of respondents completely justify it or tend to justify.

Experience with the Shadow Labour Market

The levels of shadow employment differ significantly across countries. Latvia has the highest share of respondents who have friends or relatives working in the shadow labour market (36%). Sweden has the lowest proportion of such population (8%).
In most of the countries, the majority of friends or relatives reportedly work legally but receive part of their wages as an “envelope wage”. In Sweden, most of relatives and friends with shadow employment experience work illegally and receive the entire wage as an “envelope wage”.

Shadow employment seems to be more of a part-time occurrence in most of the countries. Friends and relatives of Lithuanian respondents appear to spend the least amount of time on such activities (17 hours per week), while in Poland, the number of hours spent in the shadow labour market is the highest (26 hours). Not surprisingly, in terms of income earned from shadow employment, Lithuania also shows one of the lowest levels (489 euros of weighted average income), followed only by Latvia (449 euros). In Sweden, the level of income earned from undeclared labour is the highest (1 108 euros).

Macro Based Estimates of the Size of the Shadow Labour Market

Looking at different methods for calculating the extent and hours spent in shadow employment in surveyed countries, similar tendencies are noticed. Poland accounts for the highest share of undeclared working hours (21 %) and Sweden – the lowest (4 %). Moreover, Belarus has the biggest shadow employment as a share of GDP (33 %). Lithuania’s shadow labour market accounts for 10 % of GDP and in Sweden it reaches only 2 %.

Policy Recommendations

What type of policy recommendations can we draw? We suggest the following three policy recommendations:

1) We obviously see that there is no unique answer to the most important areas like perception of punishment or justification and/or experience with the shadow labour market. With the exception of Sweden where the majority of the population sees the likelihood of risk and the likelihood of punishment as quite high, the other countries see this as rather low, hence, the government should increase the perception of risk and the perception of punishment.

2) Also, the government might use incentive orientated policy schemes to shift shadow value added and shadow labour activities to official ones, for example, to make it more profitable to work in the official economy compared to the shadow economy.

3) The “envelope wages” are a significant part, especially in Poland and the Baltic States. Here again the government should use incentives for “envelope wages” to be less attractive, like to set incentives for electronic money transfer or to give workers a share of their wage the opportunity to be declared officially without paying taxes except maybe only social security contributions.

Over all, this survey clearly shows that people have different opinions and values about the whole area of shadow economy. This paper is a first step and only presents survey results. In a second step, a profound micro analysis is needed to investigate what are the main drivers under ceteris-paribus-conditions that engage people in shadow economy activities.
Notes

1  See also C. C. Williams and F. Schneider (2016), and A. Sauka et al. (2016).


3  The weighted average of hours spent in shadow employment is calculated by multiplying the middle of the ranges by the percentage of respondents in each range. The last open range (40 hours and more) is taken as 44 hours. “Don't know” answers are eliminated by distributing the share proportionally to other ranges.

Literature


Appendix

Shadow Employment by Sector; year 2015

Construction and renovation are by far the most common sectors which are indicated by the highest share of respondents in all six countries (61 % in Lithuania, 60 % in Estonia, 56 % in Latvia, 51 % in Poland, 49 % in Sweden, 48 % in Belarus) in regards of shadow employment of friends or relatives (see Table 4).
The other categories showed varying results. Farming, forestry and fishery was the second most common answer in Lithuania and Latvia (28% of responses). In Sweden, catering and hotel services came out second, a category which was also very popular with Swedish respondents in terms of the most common types of unregistered goods and services. Housework, gardening and property care is widespread in Sweden as well (20%). Auto and other repairs, on the other hand, showed a more or less similar percentage across all countries, from 20 to 30% of respondents.

White-collar and qualified professions such as financial intermediation and consultancy or IT and telecommunications were among the least common shadow employment areas. Less than every tenth respondent in all the countries indicated these categories.

Construction and renovation are the most common area of shadow employment as indicated by the highest share of respondents in all six countries. Auto and other repairs are also widespread (reported by 20 to 30% of respondents), as is wholesale and retail trade (10 to 30%).

### Table 4

| Shadow employment by sector expressed in percentage of the respondents*; year 2015 |
|-------------------------------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| | Belarus | Estonia | Latvia | Lithuania | Poland | Sweden |
| Auto and other repairs | 22 | 22 | 26 | 28 | 26 | 18 |
| Catering and hotel services | 4 | 21 | 17 | 15 | 11 | 28 |
| Childcare, sick and elderly care | 4 | 6 | 12 | 14 | 20 | 6 |
| Construction and renovation | 48 | 60 | 56 | 61 | 51 | 49 |
| Farming, forestry and fishery | 10 | 19 | 28 | 28 | 8 | 6 |
| Financial intermediation and consultancy | 1 | 2 | 4 | 5 | 6 | 3 |
| Housework, gardening and property care | 6 | 7 | 13 | 10 | 11 | 20 |
| IT and telecommunications | 9 | 9 | 8 | 5 | 3 | 6 |
| Medical and beauty services | 4 | 7 | 14 | 13 | 9 | 4 |
| Organization of arts, entertainment and recreation activities | 7 | 9 | 10 | 9 | 9 | 5 |
| Production | 18 | 13 | 24 | 19 | 24 | 11 |
| Sewing, clothing and shoe repair | 10 | 9 | 16 | 10 | 11 | 5 |
| Training and tutoring | 5 | 4 | 9 | 7 | 9 | 8 |
| Transportation and storage | 14 | 19 | 14 | 18 | 18 | 9 |
| Wholesale and retail trade | 29 | 16 | 25 | 26 | 25 | 9 |
| N/A | 1 | 1 | 3 | 1 | 7 | 10 |

* Multiple answers were possible