

THE IMPACT OF IMMIGRATION ON THE UNDERGROUND ECONOMY IN THE EU CONTEXT

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Abstract: *The main purpose of the actual paper is to analyse if the phenomenon of immigration has any impact on developing the underground economy for the destination countries and if the size of the underground economy determines any change in the number of legal immigrants, in the European Union. Thus, the research question refers to: Is there any relation between the immigration phenomenon and the underground economy in the EU countries and to what extent is related to? In order to check the relation between the two facts, was performed a Panel Data analysis, using data from 22 EU member states over the period between 2008 and 2015. Meanwhile, was tested the relation between the size of the shadow economy and the share of long-term legal immigrants arriving into the reporting country during the reference year within total population of the reporting country and underlined that there is a bidirectional relation between the two variables. Even the illegal immigration is considered in many cases a significant source of deviation and criminality with impact on the shadow economy, the analyse highlights the relation between legal immigration and underground economy, supposing that this segment of immigrants has an important impact on labour force a long time. Unfortunately, illegal immigration is hard to be quantified because of it dynamic and impossibility of monitoring the entire phenomenon.*

Keywords: *immigration, shadow economy, EU countries, labour force, legal immigration*

JEL Classification: *J61, E26, F15, C23*

INTRODUCTION

The immigration phenomenon is no doubt an important challenge for any destination country in terms of socio-economic aspects. In the later 20th century, Europe has faced a high growth of immigration of both European and non-European origin individuals even if the attractiveness of a place does not remain the same along history. For example, until 1960s countries like Greece, Italy or Norway were mostly the main source of emigrants for other developed countries like France or Germany, but during years, these origin countries have become destinations due to increasing living standards.

Another important event that had impact on the trend of immigration in Europe was the Schengen Agreement signed in 1985. The treaty abolished the internal borders, thus the European citizens have the right to live and work anywhere in EU. Nowadays there are 26 countries having full rights within the Schengen Agreement, including four non-EU countries (Switzerland, Iceland, Norway and Liechtenstein). In this context, UK and Ireland preferred to maintain its own borders and the free movement between them under the Common Travel Area, but respecting the Schengen Information System providing data on law enforcement (stolen cars, missing persons, court proceedings). Also from 28 EU countries, Bulgaria, Romania, Croatia, Cyprus, UK and Ireland are not part of Schengen zone, but the citizens of these countries are free to travel for tourist purpose.

Schengen treaty was always criticized by contributing to migration and criminality development. A rethinking of Schengen agreement was taken in account after 2015 when the influx of immigrants passed over one million in Europe, most of them Syrian refugees who entered the EU by crossing Greece. The effects of the immigrant flow appeared immediately and *“the 13 November Paris attacks, which killed 130 people, prompted an urgent rethink of the Schengen agreement (...) There was alarm that killers had so easily slipped into Paris from Belgium, and that some had entered the EU with crowds of migrants via Greece”*(BBC News, 2016). Beside some criminal facts that have serious impact on social life, immigration might contribute to underground economy sustenance. Some observers explained the possible causality between the underground economy and the immigration development assuming that: *“...European case studies contradict the view that the underground economy is primarily a consequence of immigration... [...]. Undoubtedly, immigrants provide one source of labour for the expansion of these activities, and they may be preferable to domestic workers because of their vulnerability. However, the 201 underlying causes for the expansion of an informal economy in the advanced countries go well beyond the availability of a tractable foreign labour supply.”* (M. Samers, pp.1, apud. Castells and Portes).

By this research paper, we choose to analyse the impact of legal immigration on the underground economy assuming that the rate of legal immigrants has significant impact on underground economy and vice-versa. In order to determine if there is any connection between the two phenomena we used a panel data analysis. Data were collected over 2008-2015 for 22 EU countries regarding the rate of immigrants from total population in each country and the rate of underground economy.

The paper is structured in 4 parts. The first section consists of a short incursion in the discussion upon the meaning of the concepts of shadow economy and immigration as well as the relation between these two phenomena, from the perspective of previous research. The second section contains the description of the research methodology and a short description of the database used. Within the third part, we expose and interpret the results of the two models developed on the available set of data. The last section contains the conclusions of the analysis performed and future research directions.

LITERATURE REVIEW

Usually the immigration is considered the best tool in reducing labour market shortages and to control the on-going trend of population ageing. In order to achieve a positive influence from the “new comers” it might exist an integration process, which is the purpose for most immigrants.

In fact, the integration is the definition of being accepted by the society to all levels. Of course, there is not a certain model of integration, this might be different because of the immigrant status, political framework, economical aspects. According to their purpose, immigrants might be divided in legal workers, illegal workers, for study purpose, asylum seeker or refugee. Asylum seekers and the refugees are considered persons with special status with specific regulations according to their cases. An important aspect highlighted about asylum seekers in different studies shows that “Additional labour immigrant flows have positive influences on the labour market performance of the foreign population already residing in the EU-10 countries, while the asylum seekers are not very concluding in impacting the labour market host countries” (Nicu Marcu, Marian Siminică, Grația Noja, Mirela Cristea, Carmen Elena Dobrotă, 2018, p.9).

Being part of the weak segment of population, the immigrant (no matter what status he has) is liable to improper activities because of two reasons: first, he needs any job to sustain himself and his family and second the employers could take advantage of their situation. Thus, results the first favourable indicators, which can contribute to shadow economy.

More and more states are facing the phenomenon of underground economy with larger shares in GDP. The concept of the underground economy refers mainly unreported income arising from transactions unreported and / or criminal activities such as prostitution, drugs and weapons. Thus, the size of the underground economy is influenced by factors such as excessive tax burden and regulations of the state.

“Increasing the tax burden to workers and social security contributions and labor market regulations cause a larger underground economy” (Schneider, 2000, Johnson, Kaufmann & Shleifer, 1997). Over time, the concept of underground economy was highlighted by various categories of specialists in economic, legal, social and the definitions related to the underground economy are some of the most diverse as are the activities carried out in this sector. In literature the name of the concept of different connotations underground economy gains from parallel economy, the economy hidden, concealed, occult, unofficial, dual, grey, shadow, informal etc.

Defining and measuring informal economy involve a complex approach that experts on economic, scientists have contributed to the development of methods to identify and measure the impact on the economy stagnating economic development of states. In the perspective of several researchers (Schneider, Savasana, 2007) (Caballé, Panadés, 2007) (Levaggi, 2006) (McGee, 2005) (Torgler, Valev, 2007) among the causes leading to the determinants of economy underground are mentioned: tax fiscal pressure, pressure from regulations imposed by state tax morality denoting attitudes of citizens to public sector services.

Other economists emphasize corruption as another determining factor for increasing shadow economy and find significant evidence on the contribution of labour market regulations on the underground economy, "*the unofficial economy accounts for a larger share of GDP when there is more corruption and when the rule of law is weaker*" (Johnson, Kaufmann and Zoido, 1998, pp.387).

Moreover, the difficult economic conditions and also increasing poverty were those that led to the growth of the informal economy and migration in all European countries. In this context, the phenomenon of labour migration to areas economy contributed to its growth since migration has become a mass phenomenon that affects every aspect of a company.

Unfortunately, in countries of SE Europe there is a high degree of acceptance of employment in the underground economy according to a study (SELDI, 2016), which "deprives large masses of labour protection government regulations." In this part of Europe, unemployment reaches alarming levels, and with the economic conditions and increased pressure corruption in the region led to emigration continuously by the European Union, and why not, most often in the grey economy. Lately, about the migration phenomenon in literature has reached a consensus that "migration is a universal phenomenon with implications at global level". In a study conducted by the authors (Massey et al, 1998), it states "migration is as old as humanity."

Moreover, the researcher observed that even if the direct tax burden decreases, "*the shadow economy is still increasing, because other important factors like regulation, have increased during this time*" (Schneider, 2000, pp. 17).

The specialised literature provides evidence that the immigration "*may facilitate but does not create underground activity*" (Samers, 2004 apud, Quassoli, 1998; Reyneri, 1998; Sassen, 1996, 1998; Wilpert, 1998).

In other studies developed by the authors (Bühn Schneider & Karmann, 2007), they point out that "one of the causes of growth economy, as represented by the large number of unemployed contributing to the development of this type of economy." Moreover, the difficult economic conditions and increasing poverty were those that led to the growth of the informal economy and migration in all European countries. In this context, the phenomenon of labour migration to areas economy contributed to its growth, since migration has become a mass phenomenon that affects every aspect of a company. Also, in countries of SE Europe there is a high degree of acceptance of employment in the underground economy according to a study (SELDI, 2016), which "deprives large masses of labour protection government regulations."

DATA AND METHODOLOGY

In order to test whether there is a unidirectional or bidirectional causality between immigration and the shadow economy in the European Union member states we conducted a panel data analysis. Thus, we collected annual data regarding the phenomena of immigration and underground economy, from the Eurostat database, which cover a period of 8 years, between 2008 and 2015, for 22 out of the 28 EU member states and also from the research conducted by other economists (Schneider, 2015). Six of the EU member

states were excluded from the analysis due to the lack of continuous and accurate data regarding the variables under analysis. However, the database used within this analysis is representative for the EU 28, since within the excluded countries there are three groups of states based on the value of the number of long-term immigrants arriving into the reporting country. The first group of states is represented by Bulgaria and Croatia and is characterized by a reduced value for the number of long-term immigrants arriving into the reporting country during the reference year. The second group of states, designed by Belgium, France and Romania, registers an average value for the number of long-term immigrants arriving into the reporting country above the average value recorded by the indicator for all the 28 EU member states under the period considered within the analysis. By contrast, the United Kingdom is one of the EU member states registering one of the highest values of long-term immigrants arriving into the reporting country.

The present research paper uses two variables: the size of the shadow economy and the share of the long-term legal immigrants arriving into the reporting country during the reference year within total population of the reporting country. Table 1 provides the summary statistics for the two variables used within this study.

Table 1. Summary statistics of the variables

Share of long-term immigrants arriving into the reporting country during the reference year within total population of the reporting country (%)					
	Mean	Median	Maximum	Minimum	Standard deviation
2008	1.00	0.88	3.67	0.04	0.87
2009	0.88	0.74	3.19	0.12	0.80
2010	0.80	0.65	3.38	0.10	0.77
2011	0.88	0.63	3.96	0.09	0.88
2012	0.91	0.66	3.90	0.10	0.84
2013	0.93	0.64	3.93	0.10	0.87
2014	1.01	0.66	4.06	0.10	0.97
2015	1.21	0.75	4.23	0.13	1.07

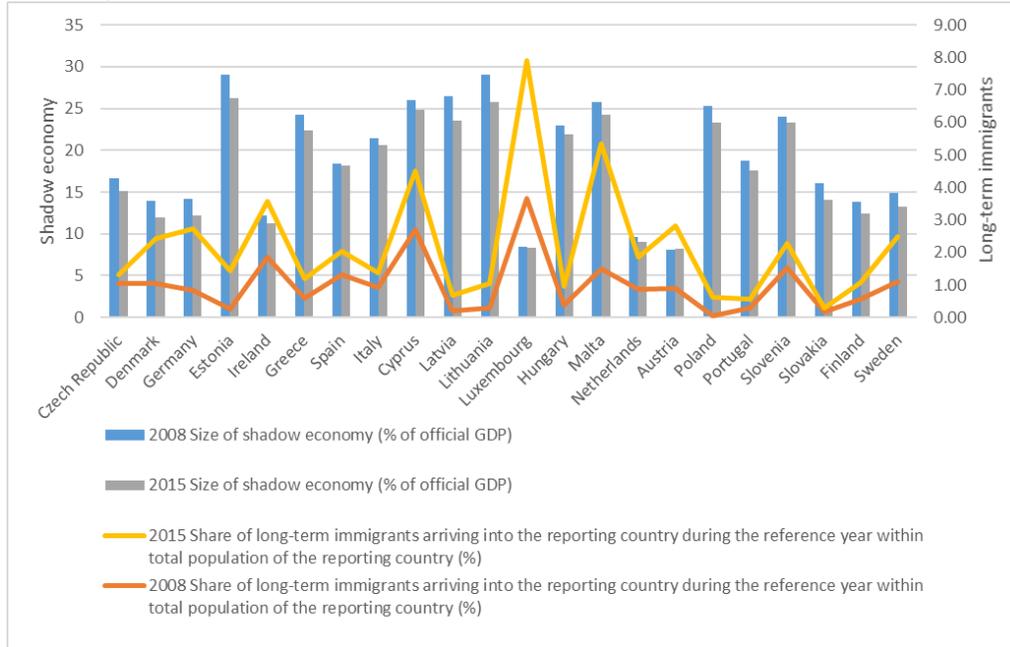
Size of shadow economy (% of official GDP)					
	Mean	Median	Maximum	Minimum	Standard deviation
2008	19.06	18.55	29.10	8.10	6.69
2009	19.61	19.50	29.60	8.50	6.70
2010	19.40	19.30	29.70	8.20	6.81
2011	19.02	19.30	29.00	7.90	6.69
2012	18.72	19.30	28.50	7.60	6.63
2013	18.25	18.80	28.00	7.50	6.52
2014	18.04	18.60	27.10	7.80	6.39
2015	17.63	17.90	26.20	8.20	6.19

Source: a) author's computation based on the data retrieved from Eurostat Database; b) Schneider, 2015

The data included in table 1 emphasizes the fact that the share of long-term immigrants arriving into the reporting country during the reference year within total population of the reporting country (%) registered, on average, values between 0.80% and

1.21%, with a significant increase in the last two years under analysis , i.e. 2014 and 2015 (Figure 1). In the same time, the estimated size of the shadow economy registers, on average, a declining trend over the analysed period (Figure 1), with a peak registered in 2009 and a minimum value registered in the last year under analysis.

Figure 1. Evolution of the size of the shadow economy and the share of long-term immigrants in 22 EU member states, 2008 and 2015



Source: author’s computation based on the data retrieved from Eurostat Database; Schneider, 2015

Thus, using different explanatory (X_i) variables we tried to catch the influence these variables have on the dependent variable (Y), by using The Panel Least Squares Method. Given a set of observations, the panel data regression model could be written as follows

$$“Y_{it} = \alpha + X_{it}\beta + \delta_{it} + \gamma_{it} + \varepsilon_{it} \text{ (1)}”$$

where:

Y_{it} – represents the dependent variable;

X_{it} - represents a k dimensional vector of regressors;

ε_{it} – represents the innovation for M cross-sections and T observed periods;

δ_{it} and γ_{it} – represent the specific effects (random or fixed) for units of the cross-section or for some periods of time” (Necula, 2012, pg.61).

In this paper, we developed two econometric models.

First, in Model 1 we considered the size of the shadow economy as the dependent variable and tested the unidirectional causality between the share long-term immigrants arriving into the reporting country during the reference year within total population of the reporting country and the size of the shadow economy. Furthermore, we used fixed effects

for both the cross-section units and the periods included (22 cross-sections included, 8 periods, 176 observations).

Second, in Model 2 we considered the share long-term immigrants arriving into the reporting country during the reference year within total population of the reporting country as the dependent variable and tested the unidirectional causality between the size of the shadow economy and the share long-term immigrants. We used fixed effects for both the cross-section units and the periods included (22 cross-sections included, 8 periods, 176 observations).

RESULTS AND DISCUSSIONS

The estimated results obtained by performing Model 1 are reported in Tabel 2. The results indicate that there is a unidirectional causality between the two variables.

Table 2. Results of the Panel Data Regression Model 1

Variable	Coefficient	Std. Error	t-Statistic	Prob.
Intercept	1.686393	0.194698	8.661590	0.0000
share of long-term immigrants arriving into the reporting country during the reference year within total population of the reporting country	-0.039267	0.009833	-3.993275	0.0001
R-squared	0.083951			
F-statistic	15.94625			
Prob.	0.000096			

Source: author's computation using Eviews

Thus, the increase of one share of long-term immigrants arriving into the reporting country during the reference year within total population of the reporting country expects the size of the shadow economy to decrease on average by 0.039 % of the official GDP. The results were statistically significant with a 95% confidence interval. Considering the value of the Adjusted R-squared, the explanatory variable (the share of long-term immigrants arriving into the reporting country during the reference year within total population of the reporting country) explains 8.39% of the response variation (shadow economy as % of the official GDP). Thus, other factors influence the change in the size of the shadow economy in a proportion of 91,61%.

However, the results confirm that the size of the shadow economy slightly decreases when the share of long-term legal immigrants arriving into the reporting country during the reference year increases. This might be a consequence of the fact that public governments across the EU member states promote public policies to sustain the integration of the legal immigrants on the labour market. Evidence on the activity rates of immigrants aged 15 years or over, in the 22 EU member states, shows that for the period between 2008 and 2017 the activity rate increases within half of the states within the sample, while in the rest of states the activity rate decreases. However, the increase in the level of the activity rates between 2008 and 2017 is quite insignificant (below 1 percentage point) for states like Austria, Slovakia and Italy. For states like Bulgaria, the Czech

Republic, Germany, Estonia, Latvia, Luxembourg, Poland and Sweden the activity rate of immigrants increased by 1 to 4 percentage points in 2017 compared to 2008. On the other hand, a significant increase in the level of the activity rate of immigrants was recorded in Lithuania, Hungary and Malta (over 4 percentage points).

Moreover, some other factors, such as increasing quality of life by improving social security system, reducing risk of poverty, participating in lifelong learning, might contribute to the decrease of the size of the shadow economy.

If we analyse the opposite situation, i.e. a decrease in the share of long-term immigrants determining an increase in the size of the shadow economy, we argue that legal immigrants contribute to the increase of the formal economy sector. Legal immigrants have all the legal rights to live and/or work in the country, thus they get involved in the formal economy as workers and if they are interested in obtaining the full rights any citizen of that country has, they become part of the productive workforce involved in the formal sector of the national economy.

The estimated results obtained by performing Model 2 are reported in Table 3. The results indicate that there is a unidirectional causality between the two variables.

Table 3. Results of the Panel Data Regression Model 2

Variable	Coefficient	Std. Error	t-Statistic	Prob.
Intercept	20.75014	0.692325	29.97166	0.0000
size of the shadow economy (% of official GDP)	-2.137969	0.535392	-3.993275	0.0001
R-squared	0.083951			
F-statistic	15.94625			
Prob.	0.000096			

Source: author's computation using Eviews

Thus, the increase of one share in the size of the shadow economy (% of official GDP) expects the share of long-term immigrants to decrease on average by 2.13 % within total population of the reporting country. The results were statistically significant with a 95% confidence interval. Considering the value of the R-squared, the explanatory variable (shadow economy as % of the official GDP) explains 8.39% of the response variation (the share of long-term immigrants arriving into the reporting country during the reference year within total population of the reporting country). Thus, other factors influence the change in the share of long-term immigrants in a proportion of 91,61%.

The results confirm that the share of long-term legal immigrants arriving into the reporting country during the reference year increases when the size of the shadow economy decreases. This might be a consequence of the fact that the country becomes more attractive to immigrants due to the public fiscal and monetary policies promoted by EU member states governments to sustain the economic growth and minimize the size of the underground economy. In the same time, immigrants and especially legal immigrants decide to leave their home country for better economic and social conditions, no matter the area of interest (i.e. security, family, work, leisure etc.). This means that a country with an increasing size of the shadow economy will determine a decrease in the share of long-term

immigrants arriving into the reporting country during the reference year within total population of the reporting country.

CONCLUSIONS

The analysis undertaken within this paper emphasized a bidirectional indirect relation between the size of the shadow economy and the share of long-term immigrants arriving into the reporting country during the reference year within total population of the reporting country. However, the influence a change in the size of the shadow economy has on the share of long-term immigrants arriving into the reporting country during the reference year within total population of the reporting country is quite significant. Still, the analysis underlines a weak impact a change in the share of long-term immigrants arriving into the reporting country during the reference year within total population of the reporting country has on the size of the shadow economy.

Moreover, the analysis underlines that 8% of the change occurred in one of the two variables is explained by one share change in the other variable.

Bottom line, the immigration has not a significant impact on the underground economy which means that a positive effect of integrating the immigrants might be taken in consideration if a couple of priorities are respected: flexible policies according to labour market needs, respect immigrants rights and reduce discrimination, frequently supervise the impact of immigration in order to rise the capacity of predicting the economic impact of immigration. A complete scenario of an efficient integration of the immigrants on the labour market, which does not leverage the size of shadow economy, shall admit all the roles that immigrants might play for the host country as a worker, a consumer, a tax payer and why not, an investor.

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