DETERMINANTS OF SELF-EMPLOYMENT AMONG POLISH AND ROMANIAN IMMIGRANTS IN GERMANY

Marek SZARUCKI[1], Jan BRZOZOWSKI[2], Jelena STANKEVIČIENĖ[3]

[1]*Department of Strategic Analyses, Cracow University of Economics, Cracow, Poland,*
[2]*Department of Economics and Social Sciences (DISES),*
Università Politecnica delle Marche, Ancona, Italy,
[3]*Faculty of Business Management, Vilnius Gediminas Technical University, Vilnius, Lithuania*
E-mails: [1]marek.szarucki@uek.krakow.pl; [2]j.p.brzozowski@staff.univpm.it;
[3]*jelena.stankeviciene@vgtu.lt (corresponding author)*

Abstract. This empirical study investigates the determinants of self-employment propensity of Polish and Romanian immigrants in Germany. The German economy is an important object of analysis, as it is the most important destination for international migrants in the European Union. In the paper, we use the recently collected M sample of the German Socio-Economic Panel to examine which personal, country of birth-specific socio-economic and cultural factors influence the self-employment propensity of immigrants. The results of binominal logit regression show that the Central European migrants exhibit different self-employment propensity than migrants from former Yugoslavia, Russian and Kazakhstan, Turkey and Italy, with the self-employment aversion especially strong among Romanians. These differences remain substantial even after controlling for social and human capital endowment of the individuals. This study offers important policy recommendations, showing the potential obstacles in encouraging entrepreneurial activity of immigrants. This topic is becoming increasingly important with the current migration crisis in the EU, caused by intensive inflow of asylum-seeking foreigners in 2015.

Keywords: immigrant self-employment, entrepreneurship, self-employment determinants, economic integration, international migration, Germany.

JEL Classification: J15, J24, J61, F22, L26.

Introduction

The EU enlargements in 2004 and 2007 have led to increased labour mobility between member states. Out of almost 1.5 million new immigrants in 2014, 39% constituted the citizens from A8+2 countries (577 thousand persons, cf. Statistisches Bundesamt 2015). The inflow of such economic migrants is expected to contribute to the growth of the German economy, contrasting with increased numbers of asylum-seekers driven by political conflicts MENA countries (especially the Syrian domestic war) whose successful socio-economic integration would be a bigger challenge in upcoming years.

The studies on immigrant economic integration in the EU have become increasingly popular in years 2000s, as the consequence of the economic slowdown in Euro Area in 2001–2003 and the expected EU enlargement in 2004 (Algan *et al.* 2010). The country of particular attention was Germany, which in the pre-accession period hosted almost 60% of all immigrants from A8+2 countries of Central and Eastern Europe (Kaczmarczyk, Tyrowicz 2015), and was most visibly affected by recession in 2001–2003 period. Consequently, these studies stressed the rather pessimistic aspects of immigrant integration: risk of unemployment (Kogan 2004) or overqualification on German labour market (Liebig 2007; Kogan 2011), relatively high levels of discrimination (McGinnity, Gijsberts 2015) and how self-employment of immigrants might help to overcome these negative aspects of integration (Kontos 2003; Constant, Zimmermann 2006).

Consequently, there is a need to further investigate the integration of recent immigrants from Central and Eastern Europe countries in Germany, with the particular attention to the foreigners coming from new member states of the EU (i.e. A8+2 group). Therefore, the aim of this study is to investigate the determinants of self-employment propensity among immigrants in Germany, with particular attention paid to immigrants from Poland and Romania, who constitute the majority of newcomers from Central and Eastern Europe. In our study we use the German Socio-Economic (henceforth: SOEP) Panel. This is a representative panel survey, which offers detailed information on economic (but also social) performance of the native, but also immigrant populations. The last round of SOEP in 2013 was involved with the expansion of the immigrant sample to account for a recent inflow of new immigrants from Central and Eastern Europe, resulting in a special IAB-SOEP Migration Sample (Brücker *et al.* 2014).

The structure of our paper is as follows. Firstly, we review the main theoretical approaches both on propensity to self-employment in general, as well as the willingness to become self-employment among immigrants in particular. The assessment of those concepts will allow us to formulate the research hypotheses. Then we describe the dataset and discuss the possible limitations of data for our research, including the methodological considerations. The empirical analysis is described in the fourth section, while the fifth section concludes the paper, describing policy implications of the study and further perspectives for the research in this topic.

1. Theoretical discussion

In this section we fist review the most relevant literature on entrepreneurship and self-employment, adopting the definitions for our study. Then we review more specific literature on immigrant entrepreneurship and self-employment linking it to the previous literature review and formulating hypotheses for our research.

Determinants of self-employment in the business research

Researchers exploring the development of small businesses have noticed the increasing role of entrepreneurship in many countries (Evans, Leighton 1989; Blanchflower 2000; Stel *et al.* 2005; Thurik *et al.* 2008; Carter 2010; Hall *et al.* 2010; Folta *et al.* 2010). According to Eurostat (2015), most of enterprises (99.8%) within non-financial busi-

ness economy in the European Union are small and medium-sized enterprises (SMEs). Due to the objective of this paper we do concentrate on the reasons influencing and fuelling the process of self-employment that is regarded as one of the key terms in the theory of entrepreneurship (Cunningham, Lischeron 1991). Self-employment sometimes can be regarded as hybrid entrepreneurship, meaning "individuals who engage in self-employment activity while simultaneously holding a primary job in wage work" (Folta *et al.* 2010: 254). Some authors use terms individual entrepreneurial activity (Blanchflower 2000; Kelley *et al.* 2011), "entrepreneurship" and "self-employment" as synonyms (Freytag, Thurik 2007; Shinnar, Young 2008; Block, Sandner 2009), while others not (Bradley, Roberts 2004; Stel *et al.* 2005). In this paper we use the definition of self-employment proposed by Startienė *et al.* (2010) which is understood as "a simplified form of entrepreneurship, where a person, by combining financial resources and personal capacity offer market (consumes) goods services in order to obtain financial and (or) nonfinancial benefits and assuming the risk of self-employment".

A number of studies have attempted to identify relevant individual reasons for starting an own firm. An interesting research on reasons leading to new firm formation conducted in eleven countries by Scheinberg and MacMillan (1988) revealed six various factors motivating individuals into self-employment: perceived instrumentality of wealth, degree of communitarianism, need for approval, need for personal development, need for escape and need for independence. On the other hand, Reynolds and Miller (1988) and Cooper *et al.* (1989) argued that different reasons identified by other scientists could be reduced to three factors perceived in terms of achievable goals: autonomy, wealth and challenge. Worth to mention the research conducted by Shane (2003), who took into account individual, psychological and environmental aspects.

Literature review on motivations leading to self-employment (Georgellis *et al.* 2005; Eriksson *et al.* 2006; Carter 2010; Dawson *et al.* 2014) has revealed three general groups of factors: financial motives, market opportunity and desire for autonomy. In line with other authors who mainly adopt a sociological approach in attempting to illustrate and explain the entrepreneurial process (Shapero, Sokol 1982), Deakins and Whittam (2000) distinguish between pull and push factors.

Some studies have proven that regional institutional and competitive environments in Europe may influence entrepreneurial motivation and entrepreneurial involvement. Respectively studies differentiate between Scandinavian, Corporatist, Anglo-Saxon, Southern-European and postcommunist countries (Stam *et al.* 2010). For example, Verheul *et al.* (2010) in their research revealed that Scandinavians are more likely than Anglo-Saxons to be related to opportunity-motivated and mixed-motivated entrepreneurship than to necessity-based entrepreneurial activity. On the other hand, necessity and mixed motivation to be entrepreneurially involved are of greater importance for respondents from post-communist European countries than to Anglo-Saxons who tend to be entrepreneurially engaged out of opportunity motivation Verheul *et al.* (2010). These results are in line with research conducted among the Swedish and Polish micro entrepreneurs revealing the dominance of push factors in Poland compared to Sweden (Eriksson *et al.* 2006; Szarucki 2009).

This issue seems to be of special importance for immigrants from other countries, especially with different cultural backgrounds. Thus, the mentioned issue will be further elaborated in the next section.

Determinants of immigrant self-employment

As literature on ethnic groups and immigrants suggests, the members of Ethnic minorities face the problems of economic integration due to discrimination, lack of cultural capital (esp. proficiency in the language used in host country) and the problems with skill recognition (Clark, Drinkwater 2000).

In this context, the case of Germany is very relevant for the study on immigrant economic integration and their self-employment behaviour, as this country is one of the most important destinations for foreigners across the globe. According to recent OECD study (OECD 2015), Germany ranks second only after the US in terms of the magnitude of the immigrant inflow. Moreover, among the top sending nations the Central and Eastern Europeans are very visible, with the special emphasis on Poles and Romanians. "One in ten new immigrants to the OECD is Chinese and 4.4% are from India. Romania and Poland rank second and third, with 5.5% and 5.3% of overall inflows to OECD countries" (OECD 2015).

Consequently, in our study we consider immigrants from Central and Eastern Europe and compare them to immigrants from other geographical locations in terms of their self-employment propensity. We differentiate between the self-employment behaviour of immigrants from main ethnic groups in Germany, including: Italians, Poles, Romanians, Turks, Russians and Kazakhs and individuals from ex-Yugoslavia. This group is heterogenous, because includes some of the already well-established and traditional immigrant communities in Germany such as individuals coming from Poland or ex-Yugoslavia countries on one hand, and the relatively new groups as Romanians on the other. Moreover, most of CEE immigrants are also the citizens of European Union, which gives them a privileged conditions of entry and stay in Germany. Consequently, we have to look not only on general literature on entrepreneurship and self-employment, but also for migration studies literature to find theoretical reasoning for our hypotheses.

The empirical studies on immigrant economic integration show that they usually have higher self-employment rates than the domestic (native) population of the host country (Fairlie, Mayer 1996). This phenomenon is mostly explained by the fact that migration is a form of investment, therefore involves some risk-taking (De Haas 2010). Moreover, the literature on migration studies tends to emphasize the cultural differences between various ethnic groups as the important factor which explains different self-employment rates among immigrant communities in a host country (Brzozowski *et al.* 2014). In this regard, particularly helpful is the well-known Hofstede (1993, 2001) analysis of the dimensions of national cultures, out of which uncertainty avoidance and long-term orientation play a key role in explaining the self-employment propensity. Immigrants from less-uncertainty avoiding cultures and more inclined to long-term orientation should be more likely involved in entrepreneurial activities.

Moreover, the specific factors associated with the conditions of migrants' entry to host country do matter for their subsequent entrepreneurial decisions. The refugees, who came to destination countries, fleeing from war or political persecution at home, need more time to adapt to new socio-economic reality and are obviously less inclined to become self-employed. Then the economic migrants constitute a heterogeneous group in terms of self-employment propensity. Most of the self-employed immigrants tend to operate in so-called ethnic enclave (Portes 1987; Curci, Mackoy 2010), i.e. a niche on the market dominated by co-ethnics. The entry barrier to such enclave economy is relatively low in terms of financial capital for start-up, but this economic choice is mostly available for firmly-established immigrant communities, characterized by geographical concentration in ethnic districts and strong and effective social networks (Ndofor, Priem 2011; Kushnirovich 2016). As most of immigrants come with relatively low stock of financial capital, the access to social capital (or even migration capital, e.g. Sundararajan M., Sundararajan, B. 2016) is crucial for the business creation.

Therefore, the studies on immigrant entrepreneurship do not offer a single explanation whether the self-employment of the foreigners in the host country is necessity-driven, or stems from opportunity discovery. Actually, the most popular approach is that those two types are not necessarily mutually exclusive: the highly-skilled immigrants create firms in the mainstream of the economy, resulting in equal or higher economic performance that the native entrepreneurs, while the low-skilled migrants create small, unstable and less profitable businesses in the enclave economy (Curci, Mackoy 2010). Consequently, in their case the self-employment can be a necessity-driven strategy also for skilled immigrants, which serves as a self-defence measure against unsuccessful economic integration at host country.

Based on this literature review, we can now formulate the following hypotheses for our study:

H1: The immigrants from Poland and Romania exhibit different self-employment propensity than other immigrants in Germany.

H2: The variations in self-employment propensity among immigrants in Germany can be attributed to the access to social capital.

H3: The variations in self-employment propensity among immigrants in Germany can be attributed to the home country-specifics cultural factors.

2. Dataset description and methodological issues

Our research project relies on the dataset derived from The German Socio-Economic (henceforth: SOEP) Panel and more precisely, from the special IAB-SOEP Migration Sample collected in 2013. The German Socio-Economic Panel is one of the largest representative household panel surveys. SOEP was started in 1984 and includes detailed information on the respondents' educational background, labour market performance, family and social ties. However, this data-set until recently suffered from a serious limitation. The panel started in 1984 reflected the structure of immigrants before 1995,

which means that in 2000s it oversampled the guest-workers from Turkey and ex-Yugoslavia and ethnic Germans from Russian and Kazakhstan. In this sense, the new immigration waves started in 2000s, and from 2004 onwards, including the individuals from Central and Eastern Europe countries, were under-represented in the SOEP sample. Aware of this fact, the research team responsible for SOEP started a new wave of survey in 2013. This new IAB-SOEP Migration Sample (Sample M) has been expanded and weighted in such way that it is representative for the entire immigrant population in Germany (Brücker *et al.* 2014).

The full M sample of SOEP includes 4964 immigrants. However, as in our study we are investigating the determinants of self-employment as compared to waged employment, we have restricted the sample to individuals who at the moment of survey were regularly employed. Moreover, we have excluded those migrants who have reported that they arrived to Germany for a short-stay only (usually to visit their family). Subsequently, our sample includes 2648 observations. The descriptive statistics are presented on the Table 1 below.

Table 1. Descriptive statistics

Variable	Means			Pearson χ2 or t-test
	all imigrants	Self-employment	Waged employment	comparision of means/ frequency
No. observations	2648	229	2419	–
Male	57.80%	66.40%	57%	–2.76***
Age	39.28	41.03	39.11	–2.73***
Married	70.35%	71.61%	70.24%	–0.44
Children	56.5	0.49	0.57	1.17
Tertiary_home	16.65%	27.95%	15.58%	–4.80***
Tertiary_Germany	11.63%	17.90%	11.04%	–3.08***
Imigration before1995	11.18%	10.04%	11.29%	0.57
Born in Germany	24.36%	34.50%	23.40%	–3.74***
Years of stay in GER	14.53	14.89	14.5	–0.57
All immigrants		8.65%		
cob: Italy		9.09%		
cob: Poland		6.81%		
cob: Romania		5.74%		
cob: Russia and Kazakhstan		3.89%		
cob: ex-Yugoslavia		4.76%		
cob: Turkey		10.63%		

Note: for years of stay only 1910 obs are avaliable. *** p < 0.01, ** p < 0.05, * p < 0.1.

Most of immigrants in the sample are male, however the incidence of male self-employed is higher than in the case of the wage employment and this difference is statistically significant. Self-employed immigrants are also older, better-educated and more likely to be born in Germany than other migrants. Still, the share of self-employed in our sample is rather small, which should be a source for concern in the case of empirical analysis. The relative rarity of self-employment among the surveyed immigrants is evident: these are only 229 individuals out of 2648 fully-employed persons (8.7 per cent). In the case of rare events when the dependent variable is binary, the usage of maximum likelihood estimation (i.e. the logistic model) is problematic, as the biases in the estimated coefficients can be substantial (King, Zeng 2001). The most popular solution in this case is the application of penalized likelihood method (i.e. Firth method, cf. Firth 1993), which enables to reduce the rarity of events and small-sample bias and compute consistent estimates (Allison 2012). For instance, Stanek and Hosnedlová (2012) have used Firth correction to estimate the propensity of transnational practices among Ukrainian immigrants in Spain. We adopt the same technique for our study, and the results of the empirical investigation are shown in the following section.

3. Empirical analysis

In our study, the dependent variable is the self-employment status of immigrant, which is a binary variable. We use the Firth penalized likelihood method, adopting several specifications of the estimated equation. Our empirical analysis was carried out in the statistical package STATA. The penalized likelihood method is available in STATA, but the program does not report the coefficient of determination (R squared), which has to be calculated by hand. For the sake of our analysis, we use the Tjur's (2009) method to calculate this statistics. First, we used the base model which included the main independent variables, in line with the previous studies on the determinants of self-employment. Thus the first, basic specification includes the gender (male = 1, female = 0), age of the immigrant, marital status (married = 1, 0 otherwise), number of children, measures of human capital - tertiary education at home country and tertiary education in Germany (dummies). Moreover, as some immigrants did not report the length of stay in Germany, we have used the immigration before 1995 dummy, which is available for every respondent. Finally, we have included the dummy for being born in Germany. The results of the estimation are shown in Table 2. Both gender and age have been found as important determinants, with the signs of the parameters according to expectations: males and older immigrants are on average more likely to become self-employed. Moreover, this effect is significant and strong across all further specifications of the econometric model. Obtaining tertiary education in the home country increases the likelihood of becoming self-employed. This effect can be explained both by the fact that entrepreneurship requires bigger human capital endowment, but also that human capital is not easily transferable across international borders. Thus, getting a university diploma in home country does not guarantee the white-collar job in Germany and immigrant might be pushed into the self-employment. This also is able to explain why the tertiary education has no significant impact on the self-employment. Still, further speci-

fications which controlled for the discrimination on the labour market and proficiency in German language do not support this claims, so at this point we can only argue that this effect needs a closer investigation in the future. The variation of the first model includes the variable on the years of stay in Germany (years_stay), yet please observe that this specification includes fewer cases (1910 observations instead of 2648 as in the full sample). Still, the effect of the length of stay on self-employment propensity has been found insignificant. This is mostly attributed to the high collinearity between the age and years_stay variable. Therefore, in the further specifications we decided to drop years_stay and keep the age.

Table 2. Results of Firth corrected binomial logit regression on self-employment propensity

	1	1a	2	3	4	5
Male	0.407***	0.352*	0.350**	0.384**	0.315**	0.288*
	0.149	0.185	0.151	0.150	0.151	0.153
Age	0.023***	0.007	0.028***	0.025***	0.029***	0.031***
	0.008	0.010	0.008	0.008	0.008	0.008
Married	−0.072	−0.098	−0.080	−0.044	−0.005	−0.015
	0.170	0.222	0.172	0.171	0.171	0.174
Children	−0.079	−0.052	−0.084	−0.071	−0.087	−0.097
	0.074	0.090	0.075	0.074	0.075	0.076
Tertiary_home	0.897***	1.121***	0.858***	0.872***	0.860***	0.800***
	0.171	0.199	0.175	0.179	0.173	0.178
Tertiary_Germany	0.281	0.149	0.245	0.287	0.279	0.194
	0.197	0.317	0.198	0.197	0.198	0.201
Imig_before1995	0.054		−0.215	0.076	−0.075	−0.260
	0.245		0.256	0.247	0.252	0.260
Born_Germany	0.747***		0.415**	0.842***	0.726***	0.300
	0.172		0.183	0.224	0.179	0.203
Years_stay		0.016				
		0.012				
Italy			−0.216			−0.734
			0.309			0.792
Poland			−0.290			−0.300
			0.284			0.653
Romania			−0.663**			−1.224
			0.330			0.857
Rus_kaz			−1.081***			−1.604***
			0.252			0.567
Jugoslavia			−0.804*			−0.240
			0.417			0.922
Turkey			0.173			−0.020
			0.219			0.533
Other_migexp				0.404**		
				0.206		
Bornger_migexp				−0.630*		
				0.367		

End of Table 2

	1	1a	2	3	4	5
Support_received				−0.179		
				0.178		
Visits_home				0.013		
				0.008		
Social_German				−0.016		
				0.263		
Social_foreign				0.220		
				0.298		
contacts_abroad				−0.007		
				0.206		
Risk					0.170***	0.136***
					0.028	0.038
Hofstede_lto					−0.007*	0.000
					0.004	0.005
Christian						0.101
						0.168
Muslim						−0.189
						0.264
Risk_ita						0.087
						0.124
Risk_pol						−0.010
						0.108
Risk_rom						0.077
						0.129
Risk_ruka						0.104
						0.091
Risk_jug						−0.095
						0.165
Risk_Turkey						0.060
						0.077
_cons	−3.864***	−3.479***	−3.644***	−4.124***	−4.519***	−4.383***
	0.324	0.412	0.349	0.486	0.403	0.487
N.obs.	2648	1910	2648	2648	2648	2648
Tjur R^2	0.3	0.275	0.453	0.354	0.516	0.66

Note: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

In the second specification, we have added the dummies for the source countries of immigrants to test our hypotheses on different self-employment propensity of immigrants from A8+2 countries. In the final version of this specification we included only dummies for the most numerous groups of immigrants in our sample, namely Italy, Poland, Romania, Russia and Kazakhstan, former Yugoslavia and Turkey. Surprisingly, mostly the immigrants from Romania, former Yugoslavia, Russia and Kazakhstan were found significantly disinclined to become self-employed, with the strongest reluctance to be found in the last category. Consequently, the next two model specifications were

designed to check for possible explanations of such reluctance to self-employment, especially in the case of immigrants from Romania.

Thus, in the third specification of the model we have controlled for the social capital determinants. We have included the following new independent variables: dummies for other migration experience (than just the immigration into Germany), support received from relatives or friends during the immigration (as a proxy for an access to migration networks), number of visits at home country in the last 2 years, dummies for social contacts with foreigners (social_foreigners) and Germans (social_german) in a previous year and dummy for maintenance of social ties and relatives abroad. Our expectation was that the access to different forms of social capital would have heterogeneous impact on self-employment propensity: while previous migration experience, the contacts with foreigners, family at home, access to social networks and transnational practices (i.e. frequent visits in the home country) should support the entrepreneurial likelihood, especially in the ethnic enclave, the contacts with Germans should rather improve the chances of getting a waged employment. Still, we found rather surprising results: only the additional migration experience has a strong positive effect on the self-employment propensity, which is easy to explain, as the repeated migration experience accounts for those individuals who are more risk-takers. Therefore, in upcoming specifications we have focused on risk propensity/aversion as the important potential independent variable. Moreover, the individuals who were born in Germany and had some other migration experience were actually found less likely to become self-employed. We do not have a sound explanation for this effect, but the possible justification might be that the migration spell was not successful and discouraged individuals to start their business activity in Germany. These second-generation migrants with a former migration experience should be therefore an object of the further analyses.

In the fourth specification we have tested the cultural factors. It is a well-documented phenomenon that national cultures vary from each other and this has an important impact on the business-making. A most known in the scholar literature is the Hofstede typology on the cultural dimensions (1993, 2001). For the sake of our study, we have chosen two dimensions: uncertainty avoidance (hofstede_uai) and long term orientation (hofstede_lto). The countries that score low on uncertainty avoidance have more risk-taking society, which is more favourable to entrepreneurship development. On the other hand, the countries which score high on long term orientation are more future-oriented and eager to accumulate savings for the future investments. Therefore, we should expect that hofstede_lto should be positively associated with migration propensity. The limitation we have found during the data gathering is that data on uncertainty avoidance was not available for every country. Still, in SOEP dataset there was a perfect proxy variable – propensity to take risk (risk), which after the investigation was found very strongly correlated with hofstede_uai. Consequently, we have chosen to keep the risk variable in this model specification. The results of the estimation confirm that indeed the immigrants who are more risk-takers are much more likely to become self-employed. Yet, the long term orientation affects the likelihood of self-employment in a negative way. This surprising effect can be explained by the fact that many immigrants might

consider a return to their home country, therefore they do not want to make substantial investments in Germany. Still, this effect needs a closer investigation in future studies.

Finally, the fifth specification includes the cultural factors and tests for moderating effects of national culture of the immigrants on the self-employment propensity. When the interactions of risk variable with the home-country dummies are included, we can notice that the effect of all countries (with the exception of Russia and Kazakhstan) become insignificant. This tells us basically that the willingness to take risk is – as suggested by Hofstede (1993) strongly correlated with national culture and is able to explain for the variations on self-employment propensity of immigrants coming from different countries. In the case of the countries from Central and Eastern Europe, the communist heritage left a mark on the national cultures, resulting in relatively high uncertainty avoidance levels. This explains why especially Romanians, but also to some extent Poles, in Germany are less inclined to start their businesses as compared to immigrants from other countries.

Conclusions

The main aim of our study was to investigate the determinants influencing the self-employment propensity of immigrants in Germany. The added value of our research as compared to the previous studies on immigrant self-employment in Germany is the inclusion of new immigrants from A8+2 countries of Central and Eastern Europe, particularly Romanians and Poles. The obtained results contribute to the development of the studied area in four ways: theoretically, methodologically, practically and in terms of policy-making. Our theoretical contribution expands the previous studies on determinants of immigrant entrepreneurship by providing solid evidence for the significance of the cultural factors role in determining self-employment propensity.

We have found some support for the first hypothesis on the different propensities of self-employment of immigrants from Central and Eastern Europe as compared to immigrants from other ethnic groups. More precisely, we have found a significant reservation to self-employment among immigrants from Romania, Russia and Kazakhstan and former Yugoslavia, but in the case of Poland this effect was not significant.

The obtained results have provided very limited support for the role that social capital plays in the propensity of self-employment. Only in the case of immigrants with the former migration experience the likelihood of becoming self-employed was positive and significant, ceteris paribus. Thus, the second hypothesis was rejected. Finally, we have found substantial support for the third hypothesis on the impact of home country cultural factors on the propensity of self-employment among immigrants. The immigrants from more risk-taking societies were found more likely to become self-employed, while the long term orientation was found surprisingly negatively connected to self-employment propensity. These results have important implications for the future research on immigrant entrepreneurship. We argue that the negative impact of long-term orientation on self-employment might suggest indirectly that return plans and motivations of the indi-

vidual might play an important role in this regard. Being more precise, the immigrants who aim to return to their home country, might be inclined more to wage employment than to self-employment. This conclusion could have some practical implications to self-employed from Romania and Poland and for labour market institutions at national and regional level. Nevertheless, this hypothesis needs closer investigation in further research on immigrant entrepreneurship.

Summing up the results of the analysis we have to stress the importance of the following determinants influencing self-employment among Polish and Romanian immigrants in Germany: country of birth, gender, level of education and cultural factors. In our study social capital turned out to be of less importance for self-employment propensity.

The importance of ethnic-specific cultural factors in self-employment propensity has also significant policy implications, especially in the German context. First, in the case of immigrants from Central and Eastern Europe, which account for most of new immigrants after 2004 in Germany, the relatively high risk aversion substantially decreases the likelihood for those individuals to start up their businesses. Consequently, the public policies aiming at economic integration of these immigrants should be rather focused on the employment creation and support than on the entrepreneurship promotion.

We applied a robust methodology to examine the dataset of high quality, nevertheless some limitations remain. Our analysis, due to the cross-sectional dimension of our dataset, is static, so we capture the economic activity of Polish and Romanian immigrants at the early phase of their settlement in host country. As the GSOEP sample is intended to be continued in the future, a longitudinal analysis would become possible and of value, allowing for investigations on the evolution of self-employment incidence among Central and Eastern European immigrants in Germany and their transitions between self-employment and wage-employment. Finally, more in-depth research on the evolution of immigrant self-employment and entrepreneurship is needed, especially focused on the dynamics of this process. To be more precise, it is vitally important to determine whether the self-employment is a necessity-driven economic strategy, or immigrants tend to adopt self-employment driven by opportunity search and recognition. It is also worth to expand the study on determinants of self-employment of immigrants to the self-employed immigrants from other ethnical backgrounds.

References

Algan, Y.; Dustmann, C.; Glitz, A.; Manning, A. 2010. The economic situation of first and second-generation immigrants in France, Germany and the United Kingdom, *The Economic Journal* 120(542): F4–F30. http://dx.doi.org/10.1111/j.1468-0297.2009.02338.x

Allison, P. 2012. *What's the best r-squared for logistic regression?* [online], [cited 02 November 2015]. Available from Internet: http://statisticalhorizons.com/r2logistic

Blanchflower, D. G. 2000. Self-employment in OECD countries, *Labour Economics* 7: 471–505.

Block, J.; Sandner, P. 2009. Necessity and opportunity entrepreneurs and their duration in self-employment: evidence from German micro data, *Journal of Industry, Competition and Trade* 9: 117–137. http://dx.doi.org/10.1007/s10842-007-0029-3

Bradley, E. D.; Roberts, J. A. 2004. Self-employment and job satisfaction: investigating the role of self-efficacy, depression and seniority, *Journal of Small Business Management* 42(1): 37–58. http://dx.doi.org/10.1111/j.1540-627X.2004.00096.x

Brücker, H.; Kroh, M.; Bartsch, S.; Goebel, J.; Kühne, S.; Liebau, E.; Trübswetter, P.; Tucci, I.; Schupp, J. 2014. *The new IAB-SOEP Migration Sample: an introduction into the methodology and the contents (No. 216).* SOEP Survey Papers. Berlin: DIW/SOEP.

Brzozowski, J.; Cucculelli, M.; Surdej, A. 2014. Transnational ties and performance of immigrant entrepreneurs: the role of home-country conditions, *Entrepreneurship & Regional Development* 26(7–8): 546–573. http://dx.doi.org/10.1080/08985626.2014.959068

Carter, S. 2010. The rewards of entrepreneurship: exploring the incomes, wealth and entrepreneurial well-being of entrepreneurial households, *Entrepreneurship Theory and Practice* 35: 39–55.

Clark, K.; Drinkwater, S. 2000. Pushed out or pulled in? Self-employment among ethnic minorities in England and Wales, *Labour Economics* 7: 603–628.
http://dx.doi.org/10.1016/S0927-5371(00)00015-4

Constant, A.; Zimmermann, K. F. 2006. The making of entrepreneurs in Germany: are native men and immigrants alike?, *Small Business Economics* 26(3): 279–300.
http://dx.doi.org/10.1007/s11187-005-3004-6

Cooper, A. C.; Woo, C.; Dunkelberg, W. 1989. Entrepreneurship and the initial size of firms, *Journal of Business Venturing* 4(5): 317–332. http://dx.doi.org/10.1016/0883-9026(89)90004-9

Cunningham, J. B.; Lischeron, J. 1991. Defining entrepreneurship, *Journal of Small Business Management* 29(1): 45–61.

Curci, R.; Mackoy, R. 2010. Immigrant business enterprises: a classification framework conceptualization and test, *Thunderbird International Business Review* 52(2): 107–121.
http://dx.doi.org/10.1002/tie.20318

Dawson, C.; Henley, A.; Latreille, P. 2014. Individual motives for choosing self-employment in the UK: does region matter?, *Regional Studies* 48(5): 804–822.
http://dx.doi.org/10.1080/00343404.2012.697140

De Haas, H. 2010. Migration and development: a theoretical perspective, *International Migration Review* 44(1): 227–264. http://dx.doi.org/10.1111/j.1747-7379.2009.00804.x

Deakins, D.; Whittam, G. 2000. Business start-up: theory, practice and policy, in S. Carter, D. Jones-Evans. (Eds.). *Enterprise and small business. principles, practice and policy, financial times*. Harlow, 115–131.

Eriksson, B.; Larsson, P.; Šaruckij, M. 2006. Business start-up motives and satisfaction among Swedish self-employed, *"World Review of Entrepreneurship, Management and Sustainable Development* 2(4): 295–308.

Eurostat. 2015. *Small and medium-sized enterprises (SMEs)* [online], [cited 14 February 2016]. Available from Internet: http://ec.europa.eu/eurostat/web/structural-business-statistics/structural-business-statistics/

Evans, D. S.; Leighton, L. S. 1989. Some empirical aspects of entrepreneurship, *The American Economic Review* 79(3): 519–535.

Fairlie, R. W.; Meyer, B. D. 1996. Ethnic and racial self-employment differences and possible explanations, *The Journal of Human Resources* 31(4): 757–793.
http://dx.doi.org/10.2307/146146

Firth, D. 1993. Bias reduction of maximum likelihood estimates, *Biometrika* 80(1): 27–38.
http://dx.doi.org/10.1093/biomet/80.1.27

Folta, T. B.; Delmar, F.; Wennberg, K. 2010. Hybrid entrepreneurship, *Management Science* 56(2): 253–269. http://dx.doi.org/10.1287/mnsc.1090.1094

Freytag, A.; Thurik, R. 2007. Entrepreneurship and its determinants in a cross-country setting, *Journal of Evolutionary Economics* 17: 117–131.
http://dx.doi.org/10.1007/s00191-006-0044-2

Georgellis, Y.; Sessions, J. G.; Tsitsianis, N. 2005. Windfalls, wealth and the transition to self-employment, *Small Business Economics* 13(2):, 407–-428.

Hall, J. K.; Daneke, G. A.; Lenox, M. J. 2010. Sustainable development and entrepreneurship: Past contributions and future directions, *Journal of Business Venturing* 25(5): 439–448.
http://dx.doi.org/10.1016/j.jbusvent.2010.01.002

Hofstede, G. 1993. *Cultural constraints in management theories*. Academy of Management.
http://dx.doi.org/10.5465/ame.1993.9409142061

Hofstede, G. 2001. *Culture's consequences: comparing values, behaviours, institutions and organizations across nations*. 2nd ed. Thousand Oaks CA: Sage Publications.

Kaczmarczyk, P.; Tyrowicz, J. 2015. *Winners and losers among skilled migrants: the case of post-accession Polish migrants to the UK (No. 9057)*. Institute for the Study of Labor (IZA).

Kelley, D.; Bosma, N.; Amorós, J. E. 2011. *Global Entrepreneurship Monitor: 2010 Global Report*. Babson College, Wellesley, MA, Universidad del Desarrollo, Concepción.

King, G.; Zeng, L. 2001. Logistic regression in rare events data, *Political analysis* 9(2): 137–163.
http://dx.doi.org/10.1093/oxfordjournals.pan.a004868

Kogan, I. 2004. Last hired, first fired? The unemployment dynamics of male immigrants in Germany, *European Sociological Review* 20(5): 445–461. http://dx.doi.org/10.1093/esr/jch037

Kogan, I. 2011. New immigrants – old disadvantage patterns? Labour market integration of recent immigrants into Germany, *International Migration* 49(1): 91–117.
http://dx.doi.org/10.1111/j.1468-2435.2010.00609.x

Kontos, M. 2003. Self-employment policies and migrants' entrepreneurship in Germany, *Entrepreneurship & Regional Development* 15(2): 119–135.
http://dx.doi.org/10.1080/0898562032000075131

Kushnirovich, N. 2016. Economic integration of immigrant entrepreneurs, *Entrepreneurial Business and Economics Review* 3(3): 9–28. http://dx.doi.org/10.15678/EBER.2015.030302

Liebig, T. 2007. *The labour market integration of immigrants in Germany,* Working paper, No. 47. OECD Social, Employment and Migration. OECD Publishing.

McGinnity, F.; Gijsberts, M. 2015. *Perceived group discrimination among Polish migrants to Western Europe: comparing Germany, the Netherlands, the UK and Ireland,* Working paper No. WP502. The Economic and Social Research Institute, Dublin.

Ndofor, H. A.; Priem, R. L. 2011. *Immigrant entrepreneurs, the ethnic enclave strategy, and organizations across nations.* 2nd ed. Thousand Oaks, CA: Sage.

OECD. 2015. *International migration outlook 2015*. Paris: OECD Publishing.
http://dx.doi.org/10.1787/migr_outlook-2015-en

Portes, A. 1987. The social origins of the Cuban enclave economy of Miami, *Sociological Perspectives* 30(4): 340–372. http://dx.doi.org/10.2307/1389209

Reynolds, P. D.; Miller, B. 1988. *1987 Minnesota new firm study*. Minneapolis, MN: Center for Urban and Regional Affairs, University of Minnesota.

Scheinberg, S.; MacMillan, I. C. 1988. *An 11-country study of motivations to start a business*, in B. A. Kirchoff; W. A. Long; W. E. McMullan; K. H. Vesper; W. E. Wetzel (Eds.). *Frontiers of Entrepreneurship Research*. Wellesley, MA: Babson College, 669–687.

Shane, S. 2003. *A general theory of entrepreneurship. The individual-opportunity nexus*. Cheltenham, UK: Edvard Elgar. http://dx.doi.org/10.4337/9781781007990

Shapero, A.; Sokol, L. 1982. The social dimensions of entrepreneurship, in C.A. Kent, D.L. Sexton, K.H. Vesper (Eds.). *Encyclopedia of entrepreneurship*. Englewood Cliffs, NY: Prentice Hall.

Shinnar, R. S.; Young, C. A. 2008. Hispanic immigrants entrepreneurs in Las Vegas metropolitan area: motivations for entry into and outcomes of self-employment, *Journal of Small Business Management* 46(2): 242–262. http://dx.doi.org/10.1111/j.1540-627X.2008.00242.x

Stam, E.; Thurik, R.; van der Zwan, P. 2010. Entrepreneurial exit in real and imagined markets, *Industrial and Corporate Change* 19(4): 1109–1139. http://dx.doi.org/10.1093/icc/dtp047

Stanek, M.; Hosnedlová, R. 2012. Exploring transnational practices of Ukrainian migrants in Spain, *Economics & Sociology* 5(1): 62–73. http://dx.doi.org/10.14254/2071-789X.2012/5-1/5

Startienė, G.; Remeikienė, R.; Dumčiuvienė, D. 2010. Concept of self-employment, *Economics & Management* 15: 262–274.

Statistisches Bundesamt. 2015. *Wanderungen zwischen Deutschland und dem Ausland* [online], [cited 14 February 2016]. [cited]. Genesis of Federal Statistical Office, Wiesbaden. Available from Internet: https://www-genesis.destatis.de/

Stel, A.; Carree, M.; Thurik, R. 2005. The effect of entrepreneurial activity on national economic growth, *Small Business Economics* 24: 311–321. http://dx.doi.org/10.1007/s11187-005-1996-6

Sundararajan, M.; Sundararajan, B. 2016. Immigrant capital and entrepreneurial opportunities, *Entrepreneurial Business and Economics Review* 3(3): 29–50. http://dx.doi.org/10.15678/EBER.2015.030303

Szarucki, M. 2009. Entrepreneurial start-up motives in transitional economy – case of Poland, *Business Excellence* 3(2): 9–21.

Thurik, A. R.; Carree, M. A.; van Stel, A.; Audretsch, D. B. 2008. Does self-employment reduce unemployment?, *Journal of Business Venturing* 23: 673–686. http://dx.doi.org/10.1016/j.jbusvent.2008.01.007

Tjur, T. 2009. Coefficients of determination in logistic regression models – a new proposal: the coefficient of discrimination, *The American Statistician* 63(4): 366–372. http://dx.doi.org/10.1198/tast.2009.08210

Verheul, I.; Thurik, R.; Hessels, J.; van der Zwan, P. 2010. Factors influencing the entrepreneurial engagement of opportunity and necessity entrepreneurs, *EIM Research Reports* H 2010/11: 1–24.

Marek SZARUCKI is an Assistant Professor in the Department of Strategic Analysis at the Cracow University of Economics (Poland). His scientific interests concentrate on the methodology of management science, strategic management, entrepreneurship in Eastern and Central Europe, business start-up motivations.

Jan BRZOZOWSKI an Assistant Professor at the Department of European Studies at Cracow University of Economics. He works in the field of international migration and socio-economic development. His research focuses on the economic implications of international migration for the sending countries, especially at the regional level.

Jelena STANKEVIČIENĖ is a Professor at the Department of Finance Engineering at Vilnius Gediminas Technical University (Lithuania). Her main research topics include assets and liability management, regulation of financial institution, financial management for value creation, value engineering.