Adrian Hatos[1], Florica Stefanescu[2], Roxana Hatos[3]
INDIVIDUAL AND CONTEXTUAL FACTORS OF ENTREPRENEUR-SHIP IN EUROPE: CROSS-COUNTRY COMPARISON

Models of entrepreneurial behavior usually focus on individual level factors, yet starting and running a business depends a great deal on economic, social and institutional environment. Our analysis uses data from 2008 European Social Survey to assess the weight of country-level characteristics in explaining individual entrepreneurship measured as self-employment or business ownership. The article starts with a specialist literature review which sets the bases for our hypotheses. The results describe cross-country comparisons of entrepreneurship rates, individual and country-level regressions of entrepreneurship. As expected, there are large differences between countries with respect to the rates of entrepreneurship. A great part of this variance can be accounted for the division between former socialist countries and other countries and by the levels of urbanization.

Keywords: *entrepreneurial behavior; contextual factors; comparative analysis.*

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ІНДИВІДУАЛЬНІ І КОНТЕКСТНІ ФАКТОРИ ПІДПРИЄМНИЦТВА В ЄВРОПІ: МІЖКРАЇННЕ ПОРІВНЯННЯ

У статті показано, що моделі підприємницької поведінки зазвичай сконцентровано на індивідуальних чинниках, але відкриття бізнесу і його ведення багато в чому залежать від економічного, соціального й інституційного середовища. В аналізі використано дані європейського опитування за 2008 рік для оцінювання ролі різних чинників на рівні країни в контексті малого бізнесу. Проаналізовано літературні джерела, на основі чого розроблено авторські гіпотези. За результатами аналізу проведено порівняння підприємництва в різних країнах, виявлено істотну різницю по країнах. Найбільш значущими чинниками, що впливають на темп розвитку підприємництва, є рівень урбанізації і наявність соціалістичного минулого країни.

Ключові слова: *підприємницька поведінка; контекстні фактори; порівняльний аналіз.*

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ИНДИВИДУАЛЬНЫЕ И КОНТЕКСТНЫЕ ФАКТОРЫ ПРЕДПРИНИМАТЕЛЬСТВА В ЕВРОПЕ: МЕЖСТРАНОВОЕ СРАВНЕНИЕ

В статье показано, что модели предпринимательского поведения обычно сконцентрированы на индивидуальных факторах, но открытие бизнеса и его ведение во многом зависят от экономической, социальной и институциональной среды. В анализе использованы данные европейского опроса за 2008 год для оценки роли различных факторов на уровне страны в контексте малого бизнеса. Проанализированы литературные источники, на этой основе разработаны авторские гипотезы. По результатам анализа проведено сравнение предпринимательства в разных странах, обнаружена существенная разница по странам. Самыми значимыми факторами, влияющими на темп развития предпринимательства, являются уровень урбанизации и наличие социалистического прошлого страны.

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Introduction. One of the most striking evidences in international comparison of entrepreneurship is the low rate of business creation in former Communist countries of Eastern Europe compared with their Western partners. This deficit needs an explanation for which the short history of free enterprise in these countries is a suitable, but not necessary the only, candidate. Models of entrepreneurial behavior usually focus on individual level factors, yet starting and running a business depend a great deal on the economic, social and institutional environment. According to our assessment, the current literature in the field fails to account for the differences between countries in the rates of entrepreneurial activities, including the systematic East-West differences in entrepreneurship in Europe which can be attributed to systematic differences in social compositions of the countries or to the different context in which economic activity is developed in various types of societies.

Our article starts with highlighting the individualist roots of the entrepreneurship concept. We go through empirical models of entrepreneurship, enriched lately by comparative international research for building hypotheses around the issues of individual vs. contextual determinants of business creation. The test of our hypotheses is done applying multilevel regression techniques to the data of 2008 European Social Survey.

The idea of entrepreneurship has at its heart the notions of agency, initiative or voluntarism. French economist Richard Cantillon (1680-1734) saw entrepreneurship as a true engine of the economy, assigning to it characteristics that are still accepted today: self-employment, risk taking, profit gaining (Cantillon, 1959, and van Praag, 1999). With the passing of the time, to these significations of the term are added further ones: the fourth production factor (Marschall, 1890), innovation (J. Schumpeter, 1934). Most of the recent approaches to entrepreneurship highlight the voluntaristic and agency laden features of business creation: 1) Gartner's approach (1988) was later taken over and developed by Aldrich, 1999; Thorton, 1999; Sharma & Chrisman, 1999; Hernandez, 2001 and others. Within this approach the entrepreneur has a vision and carries on actions which lead to change. 2) Bruyat's approach (1993) sees the entrepreneurship from the point of view of the individual he/she is at the same time the one who creates the value and the beneficiary of the created value. These approaches, considered to be complementary ones by Loue and Laviolette (2006) are to be found within the idea of entrepreneurship as an innovative activity, associated with the idea of success, with the top positions; unlike the situation of copying good methods which can lead at most to an average situation. Furthermore, among the values considered to be fundamental within the entrepreneurial culture, creativity is situated by most specialists at the first place, followed by leadership, responsibility, autonomy and solidarity.

Building an empirical model of entrepreneurship

a) Individual determinants. The research literature is rich in listing individual-level predictors of entrepreneurship. A psychologist David McClelland explains the entrepreneurship by the entrepreneur's personality traits, especially through his/her need for personal fulfillment which would motivate him/her to maximize the eco-

nomic results (McClelland, 1961). Tremblay and Grasse (2007) explain the same thing the profile's impact and previous records. A brief summary of an entrepreneur's personality traits delineates a complex and demanding image of the latter one; the need for success and self-fulfillment (Collins et al., 2004), the focus on results and efficiency (Hornaday & Abound, 1971), independence and autonomy (Engle et al., 1997), initiative and creativity (Stoner & Fry, 1982), positive attitude (Arrenius & Minniti, 2005), total involvement (Kets de Vries, 1977), work strength, energy, enthusiasm (Panday & Tewary, 1979), opportunity capitalization (P. Drucker, 1985).

Much of the literature notices that men have a higher likelihood of being entrepreneurs than women (Georgelis & Wall, 2005; Walker & Webster, 2007). This issue can be explained by the fact that the mechanisms of cultural models' reproduction and social roles' transmission favor men. (Giacomin, Guyot, Janssen & Lohest, 2006). Age was also found to have a positive effect on business ownership (Walker & Webster, 2007). This is not because younger people tend to get into self-employment less than older ones, but because at a younger age changes in occupational status occur more frequently (Evans & Leighton, 1989). At the same time, it is supposed that unlike young people, older people have already acquired a prosperous economic situation, thus not being motivated to start a business out of the desire to gain a large income.

The specialist literature notices a possible negative effect of education, attributing this to the theory that entering entrepreneurship is due mainly to push factors, to a fragile position at the labor market (Moore & Mueller, 2002). However, advanced education is found to be also predictive of entrepreneurship - as highly educated people tend to start service businesses with increased added value. Thus, we expect a nonlinear relationship of education and the probability of business ownership and we will use the squared of number of education years in the following multivariate models.

The economic literature, in contrast with sociological studies on entrepreneurship is less rich in discussing the intergenerational transmission of occupational status. However, according to most accounts, the self-employment experience of parents plays a great role in determining the offspring's career in entrepreneurship. Thus, business ownership is positively dependent (Georgelis & Wall, 2005) on the parents' - i.e. in most of the cases, fathers' self-employed status. Parents' self-employment experience and business success appear to be stronger predictors, among indicators of inter-generational transmission of entrepreneurship than the parents' financial capital (Dunn & Holtz-Eakin, 2000).

One can bring into discussion in this context the hypothesis of assuming the presence of reproductive mechanisms and activation of an individual social capital (Giacomin et al., 2006). Often an individual may decide to set up a business in the field in which his/her parents were successful, but he/she is also influenced by the entrepreneurs' entourage since he/she will benefit from the advice given by the family or the acquaintances, or may use the family's or friends' networks.

b) Contextual determinants. Most frequently mentioned contextual predictors are: labor market situation, the level of income and income expectations, residential background, laws, access to financing, a market's characteristics, research/development/technology, entrepreneurial education and culture, the level of economic development, the stage within the economic cycle, entrepreneurship enhancement policy.

Nevertheless, the knowledge of contextual and especially country-level factors of individual economic behavior is less rich. Unemployment basically acts as a push factor for self-employment (Audretsch & Thurik, 2004).

The push factors derive from the tension between the present state and a desired state, being associated with a discontent, frustrating state; while the pull factors represent expectations and hopes deriving form an entrepreneur's status.

Based on the specialist literature review we expect a positive influence of income differentials on the number of self-employed (Evans & Leighton, 1990). Urban areas will give rise to economies of scale through which small-sized entrepreneurship in retailing come under pressure (Noorderhaven, Thurik, Wennekers & Van Stel, 2004; Wildeman et al., 1999). Thus, it is plausible to expect the rate of urbanization to be negatively related to individual likelihood of entering self-employment.

We expect life dissatisfaction to be positively related with job dissatisfaction and thus with self-employment. The role of post-materialism in explaining differences in self-employment between countries is dealt with in Uhlaner et al. (2002).

Tackling the cultural dimension of entrepreneurship, Uhlaner & Thurik (2006) underline the fact that motivation of entrepreneurs in different countries can vary. They show that although an individual entrepreneur is motivated by materialistic, earning values, one can also take into account the role of post-materialism in predicting the total entrepreneurship, especially the rates of setting up new companies. Furthermore, changes occurring in management models within organizations can explain "the decrease in entrepreneurship in post-materialist societies, since people may more easily be able to find ways to meet needs for self-expression within larger organizations in such cultures, without having to resort to self-employment". The authors suggest that "policies to stimulate entrepreneurship in the future might be customized toward the cultural biases present in a particular society. Thus, for instance, in a more post-materialist culture, it may be important to emphasize the non-material benefits of launching one's own firm (autonomy, creativity etc.) rather than on the economic benefits".

What is missing in the specialist literature is an analysis of East-West differences in entrepreneurship, though there are numerous studies of the process of business start in separate former Communist countries (Earle & Sakova, 2000; Saar & Unt, 2006, 2008; Yueh, 2009). An explanation for smaller number of entrepreneurs in the Eastern European countries might rely on the financial, bureaucratic and cultural difficulties they meet. Once they leave for developed countries where these barriers are missing (we are not aware of the studies supporting this theory), a Polish plumber or a Romanian strawberries reaper might become entrepreneurs of plumbing companies or of farms, the way history has previously noticed in other geographical areas.

Yet a study carried by OECD within 15 European countries, USA, Canada and New Zealand (Measuring Entrepreneurship, 2005) regarding entrepreneurial activities shows that in 2005 the share of new companies within the total of national companies was the maximum in countries from the East Europe: Romania, Estonia, Lithuania, Slovakia. In the study, these results are accounted for strong growth and economic restructuring in these countries within the context of the EU adhesion. To this fact, we might add the novelty of this type of activities, curiosity and attractiveness. Another conclusion of the study is that entrepreneurship within these countries

is higher by 4-5% in the services area rather than in industry, a fact accounted for higher costs and investments needed in the secondary sector as opposed to the tertiary one. We would add that a further cause of this situation can be found in the low level of development of the services sector in the Eastern Europe, a fact that would entail some important entrepreneurial outlets in this sector. It would be interesting to find out however if these new companies have survived for a period longer than 1 or 5 years.

This option for entrepreneurship can also be derived from an analysis of the advantages and disadvantages of the entrepreneurial status. The cause of this fact is situated beyond evident advantages like: bigger earning possibilities, flexible schedule, independence in taking decisions and acting, social status, satisfactions offered, self-improvement process; there is also a series of disadvantages represented by risks, uncertainty, loaded schedule, limitations imposed on private life. One can infer that it is actually an issue of priorities. In the East, the desire to obtain greater income, but also the need for independence, flexible schedule and even social status can be greater, maybe as a reaction to the communist period when all of these were virtually impossible. Deductively, from this point of view, these elements are not attractive for Western Europeans.

On the other hand, Westerners having a higher life standard, would adopt another life style, being more interested in their personal lives and being less willing to take risks and responsibilities, a loaded schedule; a fact that would explain the decrease in interest for entrepreneurial activities in developed countries. Another explanation is represented by the fact that values like personal development and self-esteem precede the concern for material safety.

Research objectives. The paper endeavors to answer a set of important questions regarding the covariates of entrepreneurship:

1.   How much does entrepreneurship actually vary across countries?

2.   Do the models of entrepreneurship change from country to country?

3.   What are the individual factors of entrepreneurship controlling the contextual variables?

4.   What are the contextual predictors of individual entrepreneurship controlling individual predictors?

The above-mentioned questions which focus on the distinction between individual predictors and contextual factors cannot be answered but through a hierarchical linear modeling (Snijders & Bosker, 1999). This methodology has gained popularity among international comparative researchers for its statistical robustness. It has been scarcely used in entrepreneurship research, though.

Data. Method. We have used the database of 2008 European Social Survey which includes answers from 54,988 subjects selected using stratified probabilistic procedures from the adult population of 28 countries. The data were weighted in order to adjust the database to the size of each country's population. The weighted database contains 58,456 cases. Using the country variance of entrepreneurship, the weight of individual and country-level factors on this trait was assessed using hierarchical linear modeling. A null model was first fit, then predictors from the first (individual) and second (country) level had been introduced in blocks. Finally, the cross-country variance of the first level parameter was assessed through separate two-level regressions.

Variables. The dependent concept in the study is entrepreneurship. Entrepreneurship was defined as business ownership or self-employment. As such, we have defined as entrepreneurs those individuals who in the European Social Survey indicated their occupational status as being self-employed or working in a family business. According to this definition, 9.9% from the weighted sample qualify as entrepreneurs.

Table1. **Individual level variables**

Variable name	Description	Measurement	Univariate statistics
Age	Age of respondent	Numeric	Avg=47.1 Stdev=18.6
Education squared	Squared of years of full-time education completed	Numeric	Avg=158.3 Stdev=101.7
Male	Gender	Dichotomy (1=male)	44.5%
Rural	Residence	Dichotomy (1=rural)	31.6%
Father self-employed at 14	Father self-employed at 14	Dichotomy (1=self employed when the subject was 14)	16.3%
Father with secondary education	Education of father	Dichotomy (1=father with secondary education)	41.9%
Mother with secondary education	Education of mother	Dichotomy (1=mother with secondary education)	43.4%

Inspired by the specialist literature we have modeled individual entrepreneurship using several features of the countries in the database.

Table 2. **Country-level variables**

Variable name	Description and source	Measurement	Univariate statistics
Former communist	Country: former communist or not	Dichotomy (1=former communist)	12 (42%)
Unempl2006	% of unemployed in 2006 according to labor force surveys ILO	Numeric	Range: 3.4-13.5
GDP/capita	Gross Domestic Product per capita in USD in 2008, from the CIA Factbook (for Cyprus we have used 2009 estimates)	Numeric	Range: 7271-58141
Urbanization	% of population living in cities, data from the CIA Factbook	Numeric	Range: 48-97

Satisfaction with life index	Satisfaction with life index, data from http://en.wikipedia.org/wiki/Satisfaction_with_Life_Index#International_Rankings_2006	Numeric	Range: 120-273
Post-materialist	Percent of post-materialists in the population, according to WVS of 1998-1999, except for Cyprus where estimates from 2006 were used.	Numeric	Range: 1.7-22.7

Results. The results (Table 3) contain parameters for 3 logistic multilevel regression models, excluding the null model from which only the second level variance component is of interest to assess the inter-class-correlation coefficient (ICC) of the dependent variable. Model fit indicators were not computed for several methodological reasons: R2 is artificial for dichotomous dependent variables while computing the LR2 for nested models adds little information compared to the one contained in the significance of the parameters. Moreover, LR2 for nested models cannot be computed when cross-level interactions or random regression coefficients are considered, so this made sense only for comparing model 2 to model 1.

How much does entrepreneurship vary between countries? Computing ICC for multilevel logistic regression models is not straightforward. Knowing that the second level (country) variance component is 0.24, this produces an ICC of 7.5%. Thus, 7.5% of the total variance in the incidence in entrepreneurship can be attributed to between-country variation.

Random regression coefficients. This is a model similar to an OLS regression with the peculiarity that the group level average is allowed to vary from group to group. According to this model, all individual level predictors, except for the father's education, have significant positive effects on the dependent variable. The most powerful influence is that of father's self-employed status when the subject was 14, which suggests a strong intergenerational reproductive mechanism of entrepreneurship.

Very interestingly, the variance component of the between-group variability is reduced by half compared to the null model which underlines the fact that a sizeable part of the inter-country variability of entrepreneurship is due to the differences in the composition of individual predictors.

All fixed effects. This model improves the previous one with the country-level predictors. None of the 6 country variables has a significant impact upon the country-level average which differs significantly from country to country.

All random effects. Compared to the all fixed effects model, this one allows the parameters of the individual-level variables to vary between countries. This model, which has required the most cumbersome computations, produced the most interesting results:

- All variance components of the individual-level parameters are significant except for that of the father's education. In other words, the effect of all the predic-

tors measured at the individual level is significantly different across countries. This demands further analysis concerning cross-level interactions (what country-level factors might explain the difference in the impact of gender, for example, considering the countries).

- Several country-level factors appear to be actually significant:
- Inhabitants of former communist countries have reduced odds of being entrepreneurs;
- Unemployment rate increases the likelihood of entrepreneurship;
- Increased country-level satisfaction with life encourages individual entrepreneurship.
- GDP/capita, level of urbanization and post materialism do not correlate with individual propensity for entrepreneurship.

Discussion and conclusions. A significant proportion of variability in the likelihood of one adult person being an entrepreneur - understood here as self-employed or working in family business - is due to the differences between countries in these odds in the set of 28 countries investigated in the European Social Survey. Successive multilevel models indicated that a part of this variability is explained by the different composition of countries in characteristics that predict entrepreneurship: age composition, father's self-employed status at the age of 14, rural population, education structure. It is noteworthy that, in models that do not allow the variability of individual level parameters across countries, the most powerful individual predictor of entrepreneurship is the father's previous status of self-employed highlighting that business-ownership is determined by important intergenerational transfer mechanisms in some countries. In some countries, younger generations inherit from their parents not only the material resources but their connections and habits which are so important in running a business (Miller & Swanson, 1958). When the between-country differences in individual regression parameters are considered, the most important predictors are gender and place of residence. Thus, the most common European-wide predictors of entrepreneurship are male and resident of rural areas.

Another very important conclusion of the analyses is that the correlations described above shift from country to country. Thus, theorizations of entrepreneurship should take into consideration the peculiar conditions of each analyzed country. However, the multilevel models allow us underline some important generalizations. First, it is clear that former communist countries provide their inhabitants with lower odds of being entrepreneurs even when controlling for social composition effects. The causal mechanism of this correlation is not clear, though a combination of cultural and institutional deficits can be presumed to be at work. The fact that unemployment rate is positively linked to the probability that one individual is an entrepreneur supports the push model of entrepreneurship: businesses are started and run as a solution to adverse situation at the labor market rather than as outcomes of positive opportunities of other markets. Another version of the push mechanism is, though rejected by the model: aggregated satisfaction with life is actually correlated positively with individual business ownership. Thus, there is little evidence that dissatisfaction with work or life would explain entering entrepreneurship, although the results have to be interpreted with care to avoid fallacy.

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Table 3. **Multilevel models of self-employment**

	Random regression coefficient model (M2)			All fixed effects model (M3)			All random effects model (M4)		
	B	t	Sig.	B	t	Sig.	B	t	sig
First level									
Intercept	-3.773	27.885	0.000						
Age	0.009	3.075	0.003	0.009	3.107	0.002	-0.001	-0.508	0.615
Gender (male=1)	0.779	7.992	0.000	0.781	8.052	0.000	0.515	10.510	0.000
Rural (yes=1)	0.414	6.135	0.000	0.414	6.232	0.000	0.319	8.113	0.000
Education squared	0.001	4.259	0.000	0.001	4.465	0.000	0.001	6.766	0.000
Father self-employed	0.844	11.656	0.000	0.840	12.248	0.000	0.388	3.883	0.001
Mother's education	0.445	4.977	0.000	0.448	5.473	0.000	0.280	3.752	0.001
Father's education	-0.070	-0.659	0.510	-0.070	-0.639	0.523	0.078	1.248	0.223
Second level									
Intercept				-4.804	-3.659	0.002	-4.750	-6.260	0.000
Former communist (1=yes)				-0.171	-0.700	0.492	0.372	2.397	0.026
Unemployment				0.025	0.646	0.525	0.079	3.245	0.004
GDP/capita				-0.015	-1.013	0.323	-0.008	-0,679	0.504
urban %				-0.002	-0.238	0.814	-0.005	-0,961	0.348

The End of *Table 3*

Satisfaction with life index 2006		0.007	1.942	0.065	0.010	3.363	0.003
Post-materialists %		-0.003	-0.287	0.776	0.006	0.634	0.533
U_0 variance component	0,12			0,082		
						p variance components
Age						0.000
Gender (male=1)						0.000
Rural (yes=1)						0.000
Education squared						0.000
Father self-employed						0.000
Mother's education						0,024
Father's education						0,429

Стаття надійшла до редакції 23.01.12