
Influencing factors of early-stage entrepreneurial activity in Romania

LEHEL GYÖRFY¹ – ANNAMÁRIA BENYOVSZKI¹ – ÁGNES NAGY² – ISTVÁN PETE¹ – TÜNDE PETRA PETRU¹

Abstract

In Romania a representative sample of adult population was interviewed using a standard GEM questionnaire. After emphasizing the special situation of Romanian entrepreneurship in international context we aimed to determine the influencing factors of opportunity-motivated and necessity-motivated early-stage entrepreneurs, using socio-demographic and perceptual variables.

Keyword: Entrepreneurship, opportunity-motivated early-stage entrepreneurs, necessity-motivated early-stage entrepreneurs.

1. Introduction

The unending debate on the concept of the entrepreneur persists also today, researchers having the duty to define the terms they use [Bygrave, Hofer, 1991]. However, recent works indicate that the empirical definitions regarding the person of the entrepreneur are easily comparable, recommending the rejection of definitions focused on the spiritually doted entrepreneur's opened mind for the innovation and pointing that there is a large scale of categories for a person to fit in, from "very entrepreneur" to "absolutely non-entrepreneur" [van Praag 2005]. These findings justify the analyses focused on finding the factors, which influence entrepreneurial activity with a significant probability in individual cases.

We have to notice also that ongoing debates on how the entrepreneur can be defined have been replaced by debates on an extended view on the entrepreneurial process, as a whole. We accept Bygrave and Hofer's [1991] extended view on the entrepreneurial process, confirmed by Shane and Ventakaraman's [2000] summarizing remarks, partially concretized in the entrepreneurial life-cycle model [Szerb 2000]. We consider that birth of a business can be considered a phase of the entrepreneurial activity, but not its starting point or its final result. The existence, the discovery of the entrepreneurial opportunity and the decision to exploit it are considered the starting point of any entrepreneurial activity [Shane, Ventakaraman 2000]. Taking all this in consideration, the definition of Global Entrepreneurship Monitor on the entrepreneur's person and the phases of the entrepreneurial process has been accepted.

¹ Faculty of Economic and Business Administration Babeş-Bolyai University

² Member in the Board of Directors of the National Bank of Romania

Global Entrepreneurship Monitor (GEM) is a large-scale research program launched in 1997 by leading researchers in the field of entrepreneurship at London Business School and Babson College. The first research was published in 1999 and it included 10 countries. Since then the project has been extended to include 42 countries in 2007, 43 countries in 2008. The main aim of GEM research is to study the complex relationship between entrepreneurship and economic growth, to measure the level of entrepreneurial activity between countries, to uncover factors determining the levels of entrepreneurial activity and to identify policies which may stimulate the level of entrepreneurial activity. GEM, as a research program that focuses on a major driver of economic growth, entrepreneurship, also admits the widely acknowledged phenomena that entrepreneurship is one of the most important forces shaping the changes in the economic landscape [Acs et al. 1999, Bosma et al. 2008, Nagy et al. 2008].

In each country, a survey company conducts a telephone survey or face-to-face interview of the adult population. In Romania in 2008 a representative sample of 1746 adults between 18 and 64 years was interviewed using a standard GEM questionnaire. This survey was carried out to measure the entrepreneurial behaviour and the attitudes of adult population in Romania [Nagy et al. 2008]. The survey data are used to calculate the Total Entrepreneurial Activity Index, the only comparable measure of entrepreneurial activity across countries [Bosma et al. 2008].

GEM used the following terms in assessing the entrepreneurial activity of the adult population:

- **Nascent Entrepreneurs** are those who are actively planning a new venture. These entrepreneurs have done something during the previous 12 months to help start a new business, that he or she will at least partly own. Activities such as organizing the start up team, looking for equipment, saving money for the start up or writing a business plan would all be considered as active commitments to starting a business. Wages or salaries will not have been paid for more than three months in respect of the new business.

- **Young Business Entrepreneurs** are those entrepreneurs who at least partly own and manage a new business that is between 4 and 42 months old and have not paid salaries for longer than this period. These new ventures are in the first 42 month after the new venture has been set up.

- **Early-Stage Entrepreneurs** refers to the early-stage entrepreneurial activity among the adult population aged 18-64 years inclusive, identified as nascent or young business entrepreneurs. In those cases when the respondent is involved both as nascent and young business entrepreneur then the respondent is counted only once as a nascent entrepreneur.

- **Opportunity-Motivated Early-Stage Entrepreneurs** are those early-stage entrepreneurs who are pulled to entrepreneurship, there are two major drivers – desire of independence and increase their income.

- **Necessity-Motivated Early-Stage Entrepreneurs** are those early-stage entrepreneurs who are pushed into entrepreneurship, they maintain that they have no other way earning a living.

- **Established Business Owners** are those entrepreneurs who have set up businesses that they have continued to own and manage and which had paid wages and salaries for more than 42 months.

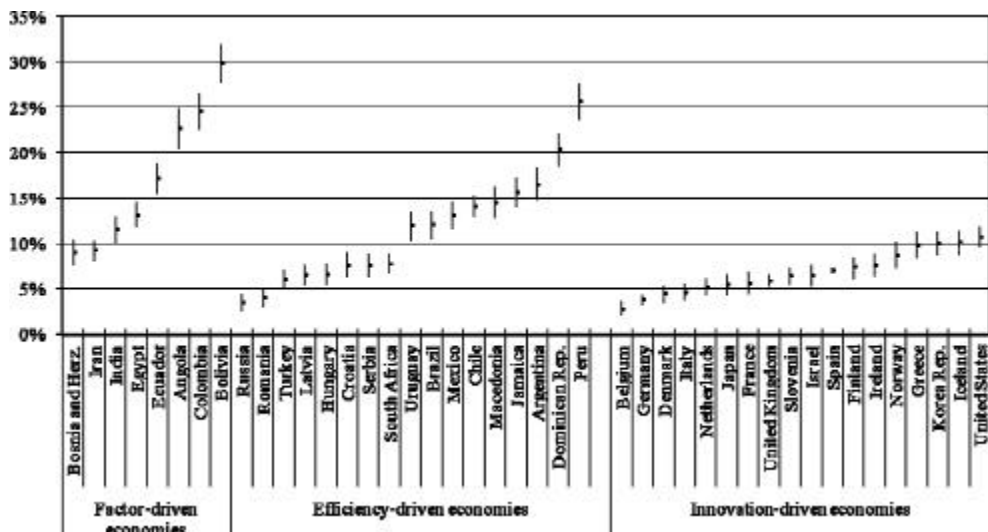
The paper, accepting Arenius and Minniti's [2005] and Karadeniz's [2009] recommendations focuses on the characteristics of the population i.e. the demographic composition, the resources, the abilities of individuals, and their attitudes towards entrepreneurship, taking in account Arenius and Minniti's [2005] classification of those factors as "socio-demographic factors, perceptual variables, and contextual factors". Many factors influence an individual's decision to set a business: a perception of opportunities within their environment, whether they have sufficient knowledge and skills, if they know other people who are engaged in entrepreneurial activity and a reduced reluctance to become involved in entrepreneurial activity through fear of failure [Arenius, Minniti 2005].

The paper aims to identify which of the above-mentioned factors influence significantly the Romanian opportunity-motivated and necessity-motivated early-stage entrepreneurial activity. More specifically, the studied factors were grouped in demographic variables (such as age, gender, income level, education level and work status) and perceptual variables (such as networking, fear of failure, alertness to opportunities, self-confidence) [Arenius and Minniti 2005, Karadeniz 2009] on entrepreneurial activities in Romania, one of the lowest among low- and middle-income countries [Nagy et al. 2008].

2. Overview on the Romanian entrepreneurship in international view

The general overview on the Romanian entrepreneurship in international comparison indicates a low early-stage entrepreneurial activity (TEA) rate. Figure 1 presents early-stage entrepreneurial activity (TEA) rates for each GEM 2008 country. The countries are grouped by phase of economic development and ranked within groups in ascending order of the national point estimate for TEA. If the vertical bars on either side of the point estimates for TEA of any two countries do not overlap, this means that they have statistically different TEA rates. This figure serves as a benchmark for countries in similar phases of economic development. In factor-driven economies a reduction in the TEA rate may be seen as a good sign, and is especially likely when the general econo-

mic climate is doing well and job opportunities increase. Such reduction in TEA would typically be due to a decline in the rate of necessity entrepreneurship. In innovation-driven economies, a high TEA rate may be specific to regional economic, demographic and cultural contexts and may be composed of entrepreneurs who may vary in type and aspiration [Bosma et al., 2009].



Source: Bosma et al., 2009, p 21.

Figure 1: Early-stage entrepreneurial activity (TEA) rates for each GEM 2008 country

Overall, Romania's early-stage entrepreneurial activity rate measures 3.98% with 2.54% of the adult population being nascent entrepreneurs, i.e. more than 2.5 of every 100 adults, aged between 18-64 years, are in the process of starting a business. These figures are lower than those recorded in most Central Eastern European countries (e.g. Hungary, Croatia, Serbia and Latvia) and among the lowest among the efficiency-driven economies and also of all GEM countries this year. Table 1 lists all prevalence rates of different phases of entrepreneurial activity for Romania in 2008.

Only 25.75% of the adult population perceives good conditions to start a business in the next six months, this figure being higher than in Hungary and Latvia, but lower than in Croatia and Serbia and again one of the lowest among all GEM efficiency-driven economies this year.

In Romania, 37.9% of the adult population reported an acquaintance with an entrepreneur, much higher than in Hungary and Latvia, but much lower

than in Croatia and Serbia. Only 23.8% feel they have the necessary skills to start a business and about half (56.2%) considers that the media focuses strongly enough on entrepreneurship.

Table 1: Entrepreneurial activity in Romania

Entrepreneurial activity	Percentage	
	2007	2008
Nascent entrepreneurs	2,9	2,54
Young business entrepreneurs	1,3	1,56
Established business owners	2,5	2,07
Early-stage entrepreneurs	4,02	3,98

Source: own calculation in Györfy et al. 2008, own calculations in GEM 2007 and 2008, Adult Population Survey, Romania

Table 2: Individual perceptions regarding entrepreneurial activity in Romania

Perceptions	2007	2008
Fear of failure rate ³	28,3%	41,48%
Perceived capabilities ⁴	29,4%	23,77%
Knows a person who started a business in the past 2 years	41,6%	37,88%
Prefers that everyone had a uniform standard of living	46,6%	48,83%
Perceived opportunities ⁵	26,2%	25,75%
Thinks that those who are successful at starting a new business have a high level of status and respect	62,5%	68,53%
Media attention for entrepreneurship ⁶	50,4%	56,19%

Source: own calculation in GEM 2007 and 2008, Adult Population Survey, Romania

³ Percentage of 18-64 population (individuals involved in any stage of entrepreneurial activity excluded) who indicate that fear of failure would prevent them from setting up a business.

⁴ Percentage of 18-64 population (individuals involved in any stage of entrepreneurial activity excluded) who believe they have the required skills and knowledge to start a business.

⁵ Percentage of 18-64 population (individuals involved in any stage of entrepreneurial activity excluded) who see good opportunities to start a business in the area where they live

⁶ Percentage of 18-64 population (individuals involved in any stage of entrepreneurial activity excluded) who agree with the statement that in their country, they often see stories in the public media about successful new businesses.

The main change in entrepreneurial motivation is the share of those that chose to start a business to maintain their income or have been motivated by necessity (from 17.2% in 2007 to 41.7% in 2008). The high increase can be attributed to the fact that there was a high level of mixed motivation in 2007, the year before the first signs of the world economic crisis appeared.

The ratio of opportunity (1.9%) to necessity (1.2%) entrepreneurship indicates 1.54 times more opportunity-oriented ventures, which is higher than in the other countries in the region, due to the economic growth of the previous seven years.

Table 3 represents the individual perceptions regarding opportunity-motivated and necessity-motivated early-stage entrepreneurial activity in Romania. Despite the fact that the fears of failure rate increased from 2007 to 2008, only the 15.1% of the necessity-motivated early-stage entrepreneurs think that fear of failure would prevent them from starting a new business. The opportunity-motivated and necessity-motivated early-stage entrepreneurs in their opinion have the required knowledge and skills to start a business.

Table 3: Individual perceptions regarding opportunity-motivated and necessity-motivated early-stage entrepreneurial activity in Romania

	Involved in opportunity-motivated early-stage entrepreneurial activity	Involved in necessity-motivated early-stage entrepreneurial activity
Fear of failure would prevent to start a business	21.3%	15.1%
Has the required knowledge/skills to start a business	87.8%	88.5%
Knows a person who started a business in the past 2 years	88.4%	88.5%
All inhabitants prefer uniform living standard	56.3%	67.5%
Sees good opportunities for starting a business in the next 6 months	42.2%	72.2%
Lots of media coverage for new businesses	70.7%	68.1%

Source: own calculation in GEM 2007 and 2008, Adult Population Survey, Romania

On bases of our correlation analyses we can affirm that the necessity-motivated entrepreneurs see good opportunities for business start-ups in the next six month. Both necessity-motivated and opportunity-motivated early-stage entrepreneurs consider they possess the required knowledge and skills to start a new business. No significant correlation at the 0.05 level were found between any kind of early-stage entrepreneurial activity and the appreciation of the media coverage for businesses, as well as with the consideration of uniform living standard preference.

Table 4. Correlation between individual perceptions and opportunity-motivated, respectively necessity-motivated entrepreneurial activity in Romania

	Involved in opportunity-motivated early-stage entrepreneurial activity	Involved in necessity-motivated early-stage entrepreneurial activity
Fear of failure would prevent to start a business	-0.031	-0.035
Has the required knowledge/skills to start a business	0.157**	0.148**
Knows a person who started a business in the past 2 years	0.1**	0.107**
All inhabitants prefer uniform living standard	0.025	0.037
Sees good opportunities for starting a business in the next 6 months	0.033	0.109**
Lots of media coverage for new businesses	0.016	0.04

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

Source: own calculation in GEM 2008, Adult Population Survey, Romania

3. Influencing factors of opportunity-motivated and necessity-motivated early-stage entrepreneurial activity in Romania

Using the GEM Adult Population Survey data for 2008, according to recent methodological recommendations [Arenius and Minniti 2005, Karadeniz 2009] we estimate two logistic regressions in order do determine the main influencing

factors for opportunity-motivated⁷ and necessity-motivated⁸ early-stage entrepreneurship in Romania, using the following set of explanatory variables:

Table 5. Variables used in the model

Notation	Name	Values
TEAOPP (dependent variable for model 1)	Opportunity-motivated early-stage entrepreneur	No/Yes
TEANEC (dependent variable for model 2)	Necessity-motivated early-stage entrepreneur	No/Yes
Gender	Gender	Male/Female
Education	Educational level	Low/Medium/High
WORK	Work status	Full-time/Part-time/Unemployed/Retired or disabled/Student/Homemaker/Other
KNOWEN	Knowing other entrepreneurs	No/Yes
SUSKILL	Perception regarding the trust in own entrepreneurial skills	No/Yes
NBMEDI	Perception on the proper promotion of entrepreneurial successes by the mass media	No/Yes
Age	Age categories	19-24/25-34/35-44/45-54/55-64
Household size	Total size of household including respondent	1-15

The logistic models were estimated using the STATA statistical software.

According to the univariate tests done, the following variables were maintained as influencing factors of the probability of becoming an opportunity-motivated early-stage entrepreneur:

⁷ Model 1.

⁸ Model 2.

- gender
- knowing other entrepreneurs (KNOWEN)
- perception regarding the trust in own entrepreneurial skills (SUSKILL)
- educational level (Education)
- work status
- household size.

The statistical analyses emphasized that the other variables have an insignificant influence in explaining the phenomena of being an opportunity-motivated early-stage entrepreneur in Romania in 2008.

Table 6. The results of the logistic regression on the estimation sample for the dependent variable: *opportunity-motivated early-stage entrepreneur* (Number of observations: 1667)⁹

Explanatory variable	Coefficient	Standard Error	Z Statistics	P value
Constant	-3.315489	0.7698976	-4.31	0.000
Gender	-1.167832	0.4455577	-2.62	0.009
Education	0.3227106	0.1280909	2.52	0.012
Work	-0.3562309	0.1814057	-1.96	0.050
KNOWEN	0.1408834	0.0425706	3.31	0.001
SUSKIL	0.0825966	0.0413386	2.00	0.046
Household size	-0.0211871	0.009062	-2.34	0.019
Pseudo R ² = 0.1744				
Wald $\chi^2(6)$ = 59.12(p value 0.0000)				
Log pseudolikelihood = -141.10648				

Source: Own calculations in STATA on basis of GEM Adult Population Survey for Romania, 2008

The values of the statistic tests indicate that the obtained model respects the exigencies of good econometrical standards. The variables are statistically significant¹⁰. The explanatory variables have the expected sign. The general explanatory level of the model is not very good, but it is acceptable, taking in account the value of the pseudo R² = 0.1744.

⁹ 18-64 years old

¹⁰ The statistical relevance of the selected criteria is emphasized by the good values of the z statistics coefficients of the estimated function.

In the model which describes the influencing factors of the probability of becoming a necessity-motivated early-stage entrepreneur in Romania in 2008 the following variables were maintained:

- educational level
- knowing other entrepreneurs (KNOWEN)
- age (AGE)
- perception on the proper promotion of entrepreneurial successes by the mass media (NBMedI)
- perception regarding the trust in own entrepreneurial skills (SUSKIL).

Table 7. The results of the logistic regression on the estimation sample for the dependent variable: *necessity-motivated early-stage entrepreneur* (Number of observations: 1656)¹¹

Explanatory variable	Coefficient	Standard Error	Z Statistics	P value
Constant	-2.041982	0.9990117	-2.04	0.041
Education	-1.005142	0.3792035	-2.65	0.008
KNOWEN	0.2098581	0.0294491	7.13	0.000
SUSKIL	0.0816407	0.0247822	3.29	0.001
NBMedI	-0.1171978	0.0339891	-3.45	0.001
Age	-0.0003091	0.0001632	-1.89	0.058
Pseudo R ² = 0.1042 Wald $\chi^2(5)$ = 92.80 (p value 0.0000) Log pseudolikelihood = -100.69837				

Source: Own calculations in STATA on basis of GEM Adult Population Survey for Romania, 2008

The statistical tests on the level of the estimation sample indicate that the model obtained respects the exigencies of a good econometrical performance. The coefficients are statistically significant¹². The signs of the variables education, KNOWEN and SUSKIL have the expected sign. NBMedI indicates that Romanian necessity-motivated early-stage entrepreneurs are unsatisfied by how entrepreneurial successes are promoted by the mass-media, feeling a need

¹¹ 18-64 years old

¹² The statistical relevance of the selected criteria is emphasized by good values of the z-statistics associated to the coefficients of the estimated function.

for a better promotion, starting from their own situation. The sign of the variable AGE can be explained by the fact that Romanian necessity-motivated early-stage entrepreneurs are mostly fresh graduates, who are pushed into entrepreneurial activity. The general explanatory power of the model is acceptable, according to the pseudo $R^2 = 0.1042$.

The results of the estimation in case of both models indicate high values of the area under the ROC curve, 84.88% for the first model (opportunity-motivated early-stage entrepreneurs) and 75.22% for the second model (necessity-motivated early-stage entrepreneurs), with both values above the 75% reference limit, supported also by the form of both ROC curves, as it can be seen in the Appendix.

Conclusions

One of the lowest rates of early-stage entrepreneurial activity was found in Romania (3.98%) with 2.54% of the adult population being nascent entrepreneurs, i.e. more than 2.5 of every 100 adults, aged between 18-64 years, are in the process of starting a business. These figures are lower than those recorded in most Central Eastern European countries (e.g. Hungary, Croatia, Serbia and Latvia) and among the lowest of all GEM countries in 2008.

These low rates can be explained by the lack of entrepreneurial tradition, activity and education before the 90's during the socialist period, the unfavorable entrepreneurial environment in the transition period of the 90's, as well as the population's acceptance regarding the less risky jobs offered by big firms in the period of economic growth after 2000.

Starting from these facts, this paper aimed to emphasize the factors, which influence the status of opportunity-motivated and necessity-motivated early-stage entrepreneurship in Romania. The significant explanatory variables of probability of becoming an opportunity-motivated early-stage entrepreneur in the logistic regression were: the gender, knowing other entrepreneurs (KNOWEN), perception regarding the trust in own entrepreneurial skills (SUSKIL), educational level, work status, household size. While in the case of necessity-motivated early-stage entrepreneurs: educational level, knowing other entrepreneurs (KNOWEN), age, perception on the proper promotion of entrepreneurial successes by the mass media (NBMEDI), perception regarding the trust in own entrepreneurial skills (SUSKIL).

References

Acs, Z.J., Armington, C., Robb, A., 1999: Measures of job flow dynamics in US economy. Upper Marlboro, Maryland, US Bureau of the Census, Center for Economic Studies, discussion paper.

Arenius, P. and Minitti, M., 2005: Perceptual variables and nascent entrepreneurship, *Small Business Economics*, 24, 233-247.

Bosma, N., Jones, K., Autio, E. and Levie, J., Global Entrepreneurship Monitor 2007, Executive Report, Babson College, London Business School and Global Entrepreneurship Research Consortium (GERA), 2008.

Bosma, N., Acs, J., Autio, E., Coduras A. and Levie, J., Global Entrepreneurship Monitor 2008, Executive Report, Babson College, London Business School and Global Entrepreneurship Research Consortium (GERA), 2009.

Bygrave W.-Hofer C.W. 1991: *Theorizing about entrepreneurship*. Entrepreneurship Theory and Practice, Winter, p. 13-22.

Györfy L., Nagy, A., Matis D. Pete Ş., Benyovszki A., Petru T.P. 2008: *Monitorizarea globală al antreprenoriatului în România*, Raportul de țară al României, Editura Abel (CNCSIS28), 47 p., A4, Cluj-Napoca

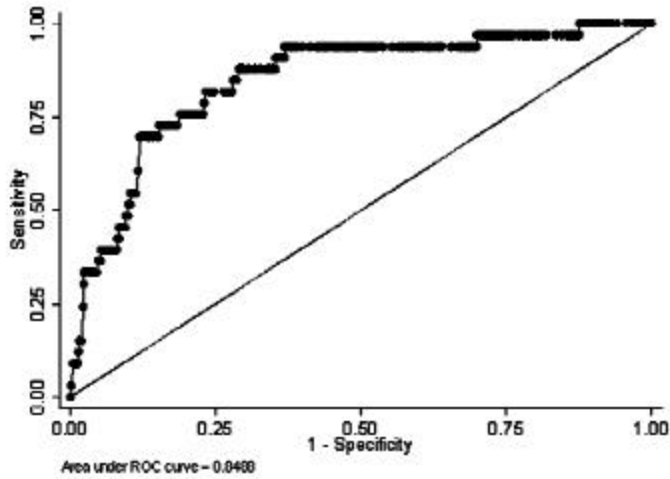
Nagy, Á., Matis, D., Györfy, L.Z., Benyovszki, A., Petru, T.P., 2008: *Main Characteristics of Entrepreneurial Activity in Romania*, în Benyovszki A., Györfy L., Pete Ş., Petru P. :Entrepreneurship and Economic Growth International Conference 28-29th March, 2008, Cluj-Napoca, Ed. Abel (CNCSIS) ISBN 978-973-114-061-2, p.108-114.

Shane S., Venkataraman S. 2000: *The Promise of Entrepreneurship as a Field of Research*, Academy of Management Review, vol. 25. nr. 1., p. 217-226

Szerb L. 2000: *Kisvállalati gazdaságtan és vállalkozástan.*, Bornus Nyomda, Pécs

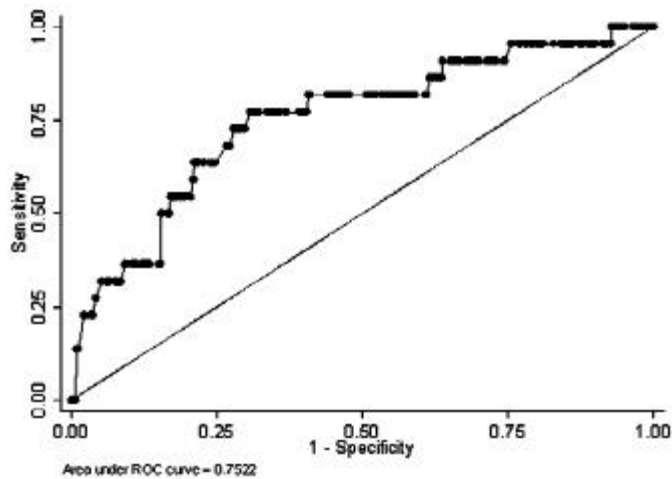
Van Praag, M. 2005: *Successful Entrepreneurship*, Edward Elgar, London

Appendix



Source: Own calculations in STATA on basis of GEM Adult Population Survey for Romania, 2008

Figure 1. ROC curve – Logistic model, opportunity-motivated early-stage entrepreneurs



Source: Own calculations in STATA on basis of GEM Adult Population Survey for Romania, 2008

Figure 2. ROC curve – Logistic model, necessity-motivated early-stage entrepreneurs

