

ENTREPRENEURSHIP AND ENTREPRENEURIAL ECOSYSTEM IN THE V4 COUNTRIES: THE GLOBAL ENTREPRENEURSHIP INDEX PERSPECTIVE

László SZERB¹, William N. TRUMBULL²

¹University of Pécs, Faculty of Business and Economics, Pécs Hungary

²School of Business Administration, The Citadel, Charleston, USA

E-mail: szerb@ktk.pte.hu

Summary: Unlike previous analyses that applied single activity related entrepreneurship measures like self-employment, business ownership ratio, or the GEM's TEA rate, we use a complex entrepreneurship measure, the Global Entrepreneurship and Index (GEI) to examine the level of entrepreneurship in the V4 countries of the Czech Republic, Hungary, Poland and Slovakia. GEI incorporates both individual and institutional factors of entrepreneurship in order to explain the role of entrepreneurship in economic development. The GEI, with its three sub-indexes and fourteen pillars, is a particularly suitable tool for examining the level, the components, and the configuration of the National System of Entrepreneurship. Investigating the V4 countries, we can see that the overall level of entrepreneurship in these countries fits to their level of economic development.

Keywords: entrepreneurship, GEM, Global Entrepreneurship Index, Visegrad countries

1. Introduction: Entrepreneurship in transition countries

The fall of the Berlin Wall in 1989 clearly indicated an end of the era of the Soviet type socialist system. Early research about the transition was characterized by the identification of the phases, the necessary steps as well as the order and the speed of transition (Aghion and Blanchard, 1994; Kornai, 1990; Sachs, 1996). Interest later turned towards the institutional structure of the market economy and the microeconomic issues of firm performance (Earle et al., 1996; Aidis et al., 2008). One important, albeit relatively under-researched, fields of transition was the role of entrepreneurship (Tyson et al., 1994; Estrin and Mickiewicz, 2010). McMillan and Woodruff (2002) argued that "the success or failure of a transition economy can be traced in large part to the performance of its entrepreneurs" (p. 154).

The examination of entrepreneurship in the former socialist countries is relatively new. While some forms of entrepreneurship existed in all of the former socialist countries, private business ownership was basically banned or, at best, tolerated for a long time. In the initial years of transition both the share of privately owned businesses and the contribution of the private sector in GDP grew fast (World Bank, 1996) due to both pent up entrepreneurial desire and pent up demand for consumer goods services. Business development was fuelled by *de novo* startups and privatization (Kornai, 1992, Tyson *et al.*, 1994).

The situation changed in the 2000s. By that time, the main transformation changes to set up the basic institutions of a market economy were finished, economies were mostly liberalized, and the wave of privatization ended. The European Union accession became the primary challenge for most of the transition countries, requiring a further opening of their economy. Under the increased pressure of foreign competition and quickly saturated domestic markets new venture creation slowed down and the weaknesses of the newly created businesses become relevant. Most researchers notice significant differences in entrepreneurship between the transition and the developed countries as well as amongst transition countries even nowadays (Nikolova, 2012). There are three views of explanations about these variations. A group of researchers emphasize the role of institutions that do not support or even retard

entrepreneurship (Aidis et al., 2008; van der Zwan 2011). Others highlight the individual aspects and characteristics (McMillan and Woodruff, 2002; Cieslik and van Stel, 2012). The third group of scholars underlines the importance of both the individual and the institutional aspects (Hashi and Krasniqi, 2011). Following Baumol's theory (Baumol, 1990), these researchers recognize institutional barriers as well as identify different kinds of entrepreneurship behavior and characteristics resulting various, in some cases unique forms of businesses. While there was a lack of high growth, innovative ventures, various underproductive, unproductive or in some cases even destructive entrepreneurship emerged such as nomenclatura, self-employment, part time and informal sector businesses (Smallbone and Welter, 2001). Besides formal institutions Estrin and Mickiewicz (2010) call attention to the slow adaptation of informal institutions, attitudes and social norms, particularly general trust.

The main purpose of this paper is to examine how far has transition countries progressed? We aim to examine the level of entrepreneurship in the transition countries in particular the V4 economies and to compare it to other country groups by relying on the Global Entrepreneurship Index (GEI) methodology.

2. Measuring entrepreneurship

While entrepreneurship has become an emerging field in business and economic research over the last decades, there is still no agreement on the definition and the conceptualization of entrepreneurship. According to Acs *et al.* (2014) entrepreneurship concepts include framework, activity and output measures. However, a minimal consensus about viewing entrepreneurship as a multidimensional concept has been emerging (Wennekers and Thurik, 1999; Acs and Audretsch, 2010). The Global Entrepreneurship Monitor (GEM) is designed to measure the individual capabilities, motivations, and attitudes about entrepreneurship. GEI adds the macro-level institutional dimensions or in other words ecosystem, as it relates to entrepreneurship to the individual-level dimensions of the GEM. The resulting index, therefore, accounts for all the stages of transition, both macro and individual.

The GEDI views country-level entrepreneurship from a system perspective involving both the individual and the institutional sides. Formally, we define country-level entrepreneurship as "...the dynamic, institutionally embedded interaction between entrepreneurial attitudes, entrepreneurial abilities, and entrepreneurial aspirations by individuals, which drives the allocation of resources through the creation and operation of new ventures" (Acs *et al.*, 2013, p. 11). Like other composite indexes, the GEI has a multilevel structure. Namely, there are four levels of the GEI index: (1) variables, (2) pillars, (3) sub-indices, and, finally, (4) the super-index. All three sub-indices contain many pillars which can be interpreted as quasi-independent building blocks of this entrepreneurship index. The three sub-indices of attitudes, abilities, and aspiration constitute the entrepreneurship super-index, which we call the Global Entrepreneurship Index.¹

3. Entrepreneurship in the V4 countries

The calculation of the GEI scores and the description of the methodology is based on Acs *et al.* (2014). Table 1 shows the rank of the countries' overall GEI scores for the 2014 year. We highlight the examined transition countries with light grey and the V4 countries with dark grey.

¹ For details see Acs et al. (2014).

Table 1: The Global Entrepreneurship Index rank of some selected countries (2014)

Rank	Country	GDP 2013	GEI	Rank	Country	GDP 2013	GEI
1	United States	51 340	86,6	54	Montenegro	14 152	37,6
2	Canada	41 894	79,7	55	Brunei Darussalam	69 474	37,4
3	Australia	42 831	78,4	56	Malaysia	22 589	36,9
4	Sweden	43 741	76,2	57	Macedonia	11 609	36,7
5	Denmark	41 991	76,2	58	Costa Rica	13 431	36,2
6	Taiwan	40 393	69,8	59	Kazakhstan	22 467	35,1
7	Iceland*	41 250	69,2	60	China	11 525	34,9
8	Switzerland	54 697	68,2	61	Argentina	18 709	34,8
9	United Kingdom	37 017	68,0	62	Tunisia	10 768	34,5
10	France	37 154	66,7	63	Ukraine	8 508	33,6
..				64	Thailand	13 932	33,4
20	United Arab Emirates*		61,3	65	Jordan	11 407	33,3
21	Israel	31 029	57,6	66	Botswana	15 247	33,1
22	Estonia	25 132	57,5	67	Panama	18 793	32,3
23	Luxembourg	87 737	57,3	68	Russia	23 564	32,2
24	Qatar		56,6	69	Bolivia	5 934	32,0
25	Lithuania	24 483	55,0	70	Peru	11 396	31,9
26	Latvia	21 825	53,7	71	Dominican Republic	11 795	31,5
27	Korea	32 708	53,6	72	Namibia	9 276	31,3
28	Turkey	18 660	52,9	73	Moldova	4 521	31,3
29	Bahrain	42 428	52,1	74	Serbia	12 893	31,0
30	Japan	35 614	50,7	75	Algeria	12 893	30,6
31	Slovenia	27 576	50,7	76	Albania	10 405	30,1
32	Spain	31 596	50,6	77	Belize	8 215	29,8
33	Portugal	25 596	50,2	78	Morocco	6 967	29,4
34	Poland	22 877	49,5	79	Libya	20 371	28,9
35	Puerto Rico	33 638	48,4	80	Iran	15 090	28,8
36	Saudi Arabia	52 068	47,9	81	Georgia	6 946	28,8
37	Slovakia	26 263	46,5	82	Bosnia and Herzegovina	9 387	28,8
38	Oman	42 649	45,9	83	Trinidad & Tobago	29 469	28,3
39	Kuwait		45,7	84	Vietnam	5 125	28,2
40	Hong Kong	51 509	45,4	85	Nigeria	5 423	28,1
41	Hungary	22 914	45,3	86	Gabon	18 646	27,8
42	Romania	18 200	45,1	87	Mexico	16 291	27,5
43	Colombia	12 025	44,9	88	Ecuador	10 541	27,5
44	Czech Republic	27 959	44,5	89	Jamaica	8 607	27,4
45	Greece	24 540	42,3	90	Egypt	10 733	27,4
46	Bulgaria	15 695	41,8	91	Philippines	6 326	26,9
47	Uruguay	18 966	41,4	92	Brazil	14 555	26,2
48	Italy	34 167	41,3	..			
49	Cyprus	27 394	41,2	128	Sierra Leone	1 495	14,4
50	Croatia	20 063	40,1	129	Mauritania	2 945	13,2
51	Lebanon	16 623	39,8	130	Malawi	755	12,4
52	Barbados	15 299	38,6	131	Burundi	747	11,9
53	South Africa	12 106	38,6	132	Chad	2 022	9,9

Source: by authors based on Acs et al. (2014)

Altogether, there are 21 such countries. A Baltic country Estonia, lead the rank of transitional countries followed by the other two Baltic countries Lithuania and Latvia.

The most developed transition country, Slovenia is a little bit ahead of the best Visegrád country, Poland with marginally below 50.0 GEI points. Slovakia is the second best V4 country with 46.5 GEI points. Hungary and Romania with 45.3-45.1 GEI points are ahead of the more developed Czech Republic (44.5). Montenegro, Macedonia, Kazakhstan Ukraine, Russia, Moldova, Serbia, Albania, Georgia, and Bosnia and Herzegovina follow them with much lower GEI scores of 37.6-28.8.

When we compare this performance to the development implied trend-line, The Czech Republic and Slovakia are below the trend by 11,5% and 4%, respectively, while Hungary and Poland are above the trend by 1,5% and 10,9%, respectively. This performance is about the same as other similarly developed efficiency driven non-transition countries.

Table 2 provides a more detailed picture about the components of the GEI; that are the fourteen pillars, the three sub-indices and the individual and the institutional components. A note that the institutional components of the pillars can be interpreted as the contextual, ecosystem variables. In this case we compare the V4 countries to other transition and non-transition countries.

Table 2: The composition of the fourteen pillars, the three sub-indices, the individual and institutional components for the V4, transition and non-transition countries

Country	Czech Republic	Hungary	Poland	Slovakia	Transition average	Non transition efficiency driven average
Entrepreneurial Attitudes	36,4	43,7	51,5	44,4	39,2	38,2
Opportunity Perception	0,32	0,27	0,39	0,19	0,27	0,53
Startup Skills	0,60	0,50	0,89	0,64	0,61	0,44
Risk Acceptance	0,58	0,51	0,38	0,54	0,32	0,33
Networking	0,49	0,58	0,67	0,87	0,62	0,52
Cultural Support	0,11	0,42	0,52	0,32	0,37	0,40
Entrepreneurial Abilities	41,5	45,5	37,8	36,4	39,0	31,7
Opportunity Startup	0,49	0,49	0,26	0,31	0,38	0,40
Technology Absorption	0,68	0,55	0,35	0,53	0,44	0,20
Human Capital	0,28	0,49	0,45	0,39	0,47	0,35
Competition	0,48	0,38	0,49	0,31	0,41	0,46
Entrepreneurial Aspirations	56,1	47,1	59,5	59,2	45,2	31,2
Product Innovation	0,61	0,32	0,69	0,57	0,38	0,42
Process Innovation	0,78	0,45	0,45	0,55	0,44	0,28
High Growth	0,62	0,60	0,72	0,69	0,60	0,39
Internationalization	0,99	0,82	0,95	1,00	0,69	0,34
Risk Capital	0,61	0,36	0,60	0,78	0,49	0,32
GEI	44,6	45,4	49,6	46,7	41,1	33,7
Institutional (ecosystem)	0,71	0,67	0,69	0,64	0,58	0,55
Individual	0,58	0,54	0,59	0,63	0,61	0,60

Source: by authors

The entrepreneurial attitudes pillars are the weakest component for all V4 countries but Poland. In fact, entrepreneurial attitudes are the highest for Poland in the transition countries. At the same time, the Czech Republic entrepreneurial attitudes are the lowest, even below the

transition country averages. It worth noting that the Opportunity perception pillar is generally the weakest pillar of the transition countries. Entrepreneurial abilities are the highest in Hungary and the lowest in Slovakia. Out of the three sub-index, it is Poland's weakest sub-index in particular due to the low rate of opportunity startups. Contrary to general believes, necessity startups are lower in the transition countries than in other non-transition efficiency driven economies. Human capital is the weak point of the Czech Republic. At the same time, Czech entrepreneurs are the best in technology absorption. Entrepreneurial aspirations are the strong sub-index for the transition countries and generally lower for the non-transition countries. Out of the five aspiration related pillars, Internationalization is the highest for the V4 countries. Product innovation and Risk capital are also high for the V4 countries except Hungary while all four countries are good in Process innovation and High growth. Examining the individual and the institutional components of the GEI it is clear, that all V4 countries have higher scores in the institutional component that can also be interpreted as the ecosystem for individual initiations. While the individual component is the lowest for Hungary and the highest for Slovakia, the difference between the individual and the institutional component is the highest for the Czech Republic. It seems that these countries should pay more attention to train its present and potential entrepreneurs to be able to exploit the opportunities provided by the countries' ecosystem

4. Conclusion

Transiting from the planned economy to a capitalist market economy used to be one of the hot research topics in the 1990s. The interest toward transition over time has somewhat decreased as the novelty has worn off. After 2004, when seven former socialist countries accessed to the European Union, most people thought that transition was complete. Since then Romania, Bulgaria, and most recently Croatia have also become full members of the European Union. The completion of transition can be recognized by the level of institutional development, reinforced by our analysis. However, transition countries are lagged behind similarly developed non-transition countries in terms of individual entrepreneurial initiation and capabilities.

In the 1990s, Czech Republic, Poland and Hungary, together with Slovenia were the forerunners of transition. Later on, Slovakia and the Baltic States couth up the leaders. By 2014, the Baltic States of Estonia, Latvia and Lithuania seems to be ahead of the V4 countries in entrepreneurship development, only Poland seems to be close to them. While the overall entrepreneurship development of the V4 countries match to other similarly developed countries, all four nations have some weak point that prevent further development. Examining the three sub-indices and the fourteen pillars of the V4 countries, it is interesting to see notable differences despite similar historical roots. These differences call for different, tailor made entrepreneurship policy as opposed to uniform policy steps focusing on the increased number of start-ups. For the Czech Republic, the attitude related opportunity perception and in particular cultural support seems to be weakest points. Slovakia is also weak in opportunity perception, however, Slovaks should focus more on improving the ability related opportunity startups and competition. Hungary faces problems in opportunity perception but the aspiration related product innovation and risk capital are also serious bottlenecks in Hungary. Poland has relatively good scores in attitudes and aspirations. At the same time Polish policy makers should pay attention to develop entrepreneurial abilities in particular opportunity startup and technology absorption

References

1. Acs, Z., Audretsch, D.B. (2010), "Introduction to the 2nd edition of the Handbook of Entrepreneurship Research", in Acs, Z. and Audretsch, D.B. (Eds.), *Handbook of Entrepreneurship Research: An Interdisciplinary Survey and Introduction*, second edition, International Handbook Series on Entrepreneurship, Vol. 5, pp. 1-19.
2. Acs, Z., Autio, E., Szerb, L. (2014), "National systems of entrepreneurship: Measurement issues and policy implications", *Research Policy*, Vol. 43, No. 3, pp. 476-494.
3. Acs, Z., Szerb, L., Autio, E. (2013), *The Global Entrepreneurship and Development Index 2013*, Edward Elgar Publishing, p. 352.
4. Aghion, P., Blanchard, O.J. (1994), "On the speed of transition in Central Europe", in *NBER Macroeconomics Annual*, Vol. 9, pp. 283-330. MIT, MIT Press.
5. Aidis R, Estrin, S., Mickiewicz, T. (2008), "Institutions and Entrepreneurship development in Russia: A Comparative Perspective", *Journal of Business Venturing*, Vol. 23, pp. 656-672.
6. Baumol, W. (1990), "Entrepreneurship: Productive, Unproductive, and Destructive", *Journal of Political Economy*, Vol. 98, No. 5, pp. 893-921.
7. Cieslik J. A. van Stel A. (2012), "Trends in Entrepreneurial Activity in Central and East European Transition Economies", Scales Research Reports H201202, EIM Business and Policy Research.
8. Earle, J.S., Estrin, S., Leshchenko, L.L. (1996), "Ownership structures, patterns of control, and enterprise behavior in Russia", in Gommander, S. Qimiao, F., Schaffer, M.E. (Eds.), *Enterprise restructuring and economic policy in Russia* (pp. 205-252), World Bank, Washington.
9. Estrin S., Mickiewicz T. (2010) Entrepreneurship in transition economies: The role of institutions and generational change, IZA Discussion Paper No.4805.
10. Hashi, I., Krasniqi, B. (2011), "Entrepreneurship and SME Growth: Evidence from Advanced and Laggard Transition Economies", *International Journal of Entrepreneurial Behaviour & Research*, Vol. 17, No. 5, pp. 456-487.
11. Kornai, J. (1990), *Road to a Free Economy*. Norton, New York.
12. Kornai, J. (1992), *The Rise of the Private Sector, "The Socialist System"*, Princeton University Press, Princeton, NJ.
13. McMillan, J., Woodruff, C. (2002), "The Central Role of Entrepreneurs in Transition Economies", *Journal of Economic Perspectives*, Vol. 16, No. 3, pp. 153-170.
14. Nikolova, E., Ricka, F., Simroth, D. (2012), "Entrepreneurship in the transition region: An analysis based on the Life in Transition Survey", EBRD Working Paper No. 141.
15. Sachs, J.D. (1996), "The transition at mid decade", *American Economic Review*, Vol. 86, No. 2, pp. 128-133.
16. Smallbone, D., Welter, F. (2002), "The distinctiveness of entrepreneurship in transition economies", *Small business Economics*, Vol. 16, pp. 249-262.
17. Tyson, L., Petrin, T., Rogers, H. (1994), "Promoting Entrepreneurship in Eastern Europe", *Small Business Economics*, Vol. 6, No. 3, pp. 165-184.
18. Van der Zwan, P., Verheul, I., Thurik, R. (2011), "The Entrepreneurial Ladder in Transition and Non-Transition Economies", *Entrepreneurship Research Journal*: Vol. 1: Iss. 2, Article 4. Available at: <http://www.bepress.com/erj/vol1/iss2/4>