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## Entrepreneurship and transition in the European transition countries: Is transition complete?

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# Entrepreneurship and transition in the European transition countries

## Is Transition Complete?

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### Abstract:

**Objectives:** This paper aims to examine the transition process from the development and state of entrepreneurship in 15 former European socialist countries during 2006-2012.

**Methodology:** 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 Development Index (GEDI). GEDI incorporates both individual and institutional factors of entrepreneurship in order to explain the role of entrepreneurship in economic development. The GEDI, 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.

**Findings:** Investigating the former transition countries, we can conclude that the overall level of entrepreneurship in the Central and Eastern European (CEE) countries fits their level of economic development. While the examined CEE countries have lower GEDI scores as well as institutional development than developed European innovation-driven economies; they possess slightly higher institutional and individual level of development than similarly developed efficiency-driven economies.

**Originality/value:** While our results imply that transition is over, there are some shared characteristics of the former socialist countries that most likely stem from their socialist heritage, such as the relatively low level of opportunity perception or cultural support. The results have important implications as they reinforce our argument that, rather than homogeneous entrepreneurship support policies, effective implementation of policies in CEE should fit the profile of the targeted territory.

**JEL code:** M13, O10, P20,

**Keywords:** Global Entrepreneurship and Development Index, Global Entrepreneurship Monitor, transitional economies, entrepreneurship

## Introduction

The fall of the Berlin Wall in 1989 clearly indicated an end of the era of the Soviet type socialist system. A peaceful transition from the planned to a market economy, which was unprecedented, challenged scholars in the 1990s. Early research 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; Blanchard, 1998; Frot *et al.*, 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; Havrylyshyn, 2003; Peng, 2003).

One of the important, albeit relatively under-researched, fields of transition was the role of entrepreneurship (Aidis, 2005a; Bilsen and Konings, 1997; Ovaska and Sobel, 2005; 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).

In 2004, eight former socialist countries joined to the European Union followed by Bulgaria, Romania, and Croatia later on, indicating the success of transition. Since then the interest toward transition has declined. While many notable researcher claim that transition is complete or nearly over (Kornai 2006; Gros and Steinherr 2004, Döhrn and Heilemann 2005, Kitov 2009, Sonin 2013) other researchers took a less definitive stand about the completion of transition (Thiessen and Gregory, 2005 Havrylyshyn, 2009, Pistor 2013).

Our purpose here is not to come up with a conclusion as to whether transition is over. Rather, our focus here is on just one dimension of transition, entrepreneurship. Entrepreneurship represents the new economy and, as a recent European Bank for Reconstruction and Development report highlights, “the success of a transition economy is linked closely to entrepreneurial activity.” While it is surely the case that certain transition tasks, like privatizing state-owned enterprises, remain unfinished, a perhaps more interesting question is whether the fundamental characteristics of these economies has changed to the point where starting and growing a new business in the former socialist countries is substantively different from starting and growing a new business

elsewhere. Thus, we ask whether it is possible to discern differences with respect to entrepreneurship between the post-socialist countries of Europe and the non-post-socialist countries, controlling for level of economic development. Further, we ask this question at two points in time.

Should we care whether transition is over? We should care because the policies the post-socialist countries should pursue depend very much on whether they are still in transition or not and, if they are in transition, exactly what dimensions of transition remain incomplete, in particular the institutional or the behavioural dimensions. We will, of course, develop this argument more fully in what follows.

The transition countries included in our analysis are those included in the GEDI database<sup>1</sup>. These are Russia, the Visegrad countries (the Czech Republic, Hungary, Poland, and Slovakia), the Baltic countries (Estonia, Latvia, and Lithuania), Romania, and the states that once comprised socialist Yugoslavia (Bosnia and Herzegovina, Croatia, Macedonia, Montenegro, Serbia, and Slovenia). We treat the states of the former Yugoslavia separately, as the Yugoslavian system, generally known as market socialism, was a distinctly different economic system from the planned or state socialism that existed in the other transition countries.

### **Entrepreneurship in transition countries**

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; Fortunato and Alter, 2011). The Global Entrepreneurship Monitor (GEM) is designed to measure the individual capabilities, motivations, and attitudes about entrepreneurship. The Global Entrepreneurship and Development Index (GEDI) adds the macro-level institutional

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<sup>1</sup> The GEDI database is limited by those countries that are participating in the GEM project. Participation in GEM requires some institution in each country to contribute considerable resources to conduct the expensive surveys on which GEM is based.

dimensions of transition 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, discussed above.

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 GEDI has a multilevel structure. Namely, there are four levels of the GEDI 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 and Development Index.<sup>2</sup>

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. European Union accession became the primary challenge for many of the transition countries, requiring a further opening of

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<sup>2</sup> For details see Acs *et al* (2014).

their economies. Under the pressure of foreign competition and increased saturation of domestic markets, new venture creation slowed down and less competitive firms failed.

## **Hypothesis**

In the following, we develop five hypotheses about the current situation of entrepreneurship in the transition countries. Basically, we are interested in answering an important research question: Has entrepreneurial transition finished yet? In order to answer this question we develop five hypotheses.

The evidence on convergence in the conditions of entrepreneurship between transition and developed countries is mixed. While Grilo and Thurik (2006) and more recently Cieslik and van Stel (2012). find no differences between the transition and non-transition countries EU countries, Aidis (2005a) and Nikolova *et al.*, (2012) notice significant deviations. It can be expected that differences over time decrease as transition countries develop their market institutions and close the development gap. While we anticipate that the overall gap in entrepreneurship between transitional countries and similarly developed non-transitional countries has been diminished, developed countries are still ahead of transitional countries.

*Hypothesis 1: Differences in entrepreneurship should be less in the later period than the previous period as compared to the developed non-transition countries.*

*Hypothesis 2: The overall level of entrepreneurship is less advanced – lower GEDI value - in the transition countries than that of the developed European countries.*

*Hypothesis 3: The overall level of entrepreneurship is similar – same GEDI values - in the transition countries as compared to the similarly developed efficiency-driven countries.*

Transition economies have different legacies inherited from the socialist past that have long lasting effects on these countries' entrepreneurial profile. Other developing countries have different historical heritages. Even if the overall performance of the two country groups are about the same we expect that the configuration of the three sub-

indexes and the fourteen pillars of entrepreneurship should be different for the transition and the other non-transition countries. In particular, we hypothesize that some of the attitude-related components, like opportunity perception, fear of failure, and cultural support, to be lower in the transition economies as compared to the efficiency-driven<sup>3</sup> nations.

*Hypothesis 4: The configuration of the three sub-indexes and the 14 pillars is different, reflecting the previous socialist experiences of the transition countries as compared to the efficiency-driven economies.*

Most researchers notice significant differences in entrepreneurship between the transition and the developed countries as well as among transition countries even now (Nikolova, 2012). There are three views on this. One group of researchers emphasizes the role of institutions in transition countries that do not support or even retard entrepreneurship (Aidis, 2005b; Ovaska and Sobel, 2005; van der Zwan, 2011). Another highlights the individual aspects and characteristics of entrepreneurs (McMillan and Woodruff, 2002; Cieslik and van Stel, 2012; Lafuente and Vaillant, 2013). These researchers notice differences not only in entrepreneurial attitudes and activities but also recognize different types of entrepreneurs. The third group of scholars underlines the importance of both the individual and the institutional aspects (Estrin *et al.*, 2006; Hashi and Krasniqi, 2011). Following Baumol's theory of productive, unproductive, and destructive entrepreneurship (Baumol, 1990), these researchers recognize institutional barriers as well as identify different kinds of entrepreneurship behaviours and characteristics resulting in various, in some cases unique, forms of businesses. The transition countries started off with relatively few high-growth, innovative ventures and suffer from a high level of underproductive and unproductive entrepreneurship, such as small scale self-employment, often in the informal economy, and even destructive entrepreneurship that uses up resources in rent-seeking activities and corruption (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.

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<sup>3</sup> The Global Competitiveness Report refers to economies as being resource driven (growth from infusion of unskilled labor, land, and relatively primitive capital), efficiency driven (growth from using resources more productively through investment in both physical and human capital), and innovation driven (growth from new products or new production processes). See Schwab and Sala-i-Martin (2013).

Based on the literature we expect that the developed countries have better performance both in the overall individual and the institutional components as compared to the transition countries. Yet, we anticipate that the overall institutional development of the transition economies is higher than the other efficiency-driven economies after more 20 years of transition. At the same time, we believe that the overall individual development of the transition countries is below to that of the efficiency-driven economies.

*Hypothesis 5a: The transition countries will lag behind the European developed economies both in the individual and the institutional components of entrepreneurship.*

*Hypothesis 5b: The transition countries will lag behind efficiency-driven economies in the individual components but they will be more advanced in the institutional components.*

For hypothesis testing we use the Global Entrepreneurship and Development Index (GEDI) data sets (Acs *et al.*, 2013; Acs *et al.*, 2014). In the cases of hypotheses 2-5 the 2012 data set is used (Acs *et al.*, 2014). We have data on 83 countries. For the analysis, we apply the 14 transition countries, including the former market socialist countries, Bosnia and Herzegovina, Croatia, Macedonia, Montenegro, Serbia, and Slovenia, and the former planned economies, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Russia, and the Slovak Republic. We report the summary results for the transition group as well as independently for the former market socialist and the former planned economies. There seems to be no real differences between the two transition country groups other than that which could be explained by economic development. The European non-transition country group consists of 17 developed European countries, including Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, and the United Kingdom. Out of the efficiency-driven country group we removed China, another Asian transition country, ending with 21 countries, including Argentina, Barbados, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, Jordan, Lebanon, Malaysia, Mexico, Panama, Peru, South Africa, Taiwan, Thailand, Trinidad and Tobago, Tunisia, Turkey, and Uruguay.



For testing hypothesis 1, the change of entrepreneurship over time, we also use the GEDI 2011 version (Acs and Szerb 2011) that has data from the previous time period. In fact, the GEDI 2011 edition uses a pooled 2002-2008 data for 79 countries. For this comparison, we have fewer countries available. For the transition group we have ten countries, including Bosnia and Herzegovina, Croatia, Macedonia, Slovenia, Czech Republic, Hungary, Latvia, Poland, Romania, and Russia. In the case of the European non-transition group we had to exclude only Austria. For the efficiency-driven countries, there are 14 countries left, including Argentina, Brazil, Chile, Colombia, Dominican Republic, Malaysia, Mexico, Panama, Peru, South Africa, Thailand, Tunisia, Turkey, and Uruguay. The calculation of the yearly GEDI scores goes back to 2006. For comparing the change of the GEDI scores over time we calculate the average GEDI scores for 2006-2009 and for 2010-2012 for each of the country groups.

The detailed description of the Global Entrepreneurship Monitor (GEM) based individual and the various sources institutional data can be found in the Appendix. .

## **Results and analysis**

While our order of the hypotheses in the previous section started with the change of entrepreneurship over time (Hypothesis 1) here we start the analysis with the other three hypotheses and deal with Hypothesis 1 last.

For testing Hypothesis 2 we rely on Table 1 and Figure 1. Table 1 shows the rank of the countries' overall GEDI scores and also includes the World Economic Forum's (WEF) Global Competitiveness Index classification (the column labelled Dev.), where the classification 1 indicates the lowest developed resource-driven countries, 2 indicates the medium developed efficiency-driven countries, and 3 indicates the highest developed innovation-driven countries (Schwab and Sala-i-Martin 2013). The most developed countries, which include the US, Nordic countries, and other Anglo-Saxon nations, have economies in which the major engine of growth is innovation, while the next tier have economies in which growth comes primarily from achieving greater efficiencies in the allocation of resources. Note that only three of the transition economies we study here, the Czech Republic, the Slovak Republic, and Slovenia, are classified in the top group as innovation-driven economies. The rest are classified as efficiency driven.

**Table 1 The position of the examined transition countries in Global Entrepreneurship and Development Index Rank of the Countries, 2012**

Rank	Country	GDP	GEDI	Dev.	Rank	Country	GDP	GEDI	Dev.
1	United States	42486	79,4	3	43	Italy	27072	41,3	3
2	Denmark	32582	77,1	3	44	Barbados	17564	40,7	2
3	Australia*	34396	74,3	3	45	Montenegro**	10469	40,7	2
4	Sweden	35170	71,5	3	46	South Africa	9678	39,6	2
5	Taiwan	n.d	68,4	3	47	Greece	22301	39,5	3
6	France	29819	68,2	3	48	China	7418	39,5	2
7	United Kingdom	32863	67,8	3	49	Tunisia	8258	39,2	2
						Dominican			
8	Switzerland	39412	67,3	3	50	Republic***	8651	39,0	2
9	Netherlands	37112	66,1	3	51	Argentina	15501	38,9	2
10	Iceland**	33516	66,0	3	52	Costa Rica	10735	38,0	2
11	Finland	32027	65,7	3	53	Macedonia	9451	38,0	2
12	Singapore	53591	65,1	3	54	Mexico	12814	37,9	2
13	Norway	46982	65,1	3	55	Jordan***	5268	36,2	2
14	Belgium	33127	64,1	3	56	Serbia***	9830	35,6	2
15	Germany	34603	63,1	3	57	Botswana	13021	35,4	1
16	Chile	15251	62,5	2	58	Namibia	5986	34,5	2
17	Ireland	36145	61,6	3	59	Panama	13766	34,4	2
18	Austria	36139	61,5	3	60	Thailand	7635	34,2	2
19	Israel	26720	58,0	3	61	Russia	14821	33,6	2
20	Estonia	18129	57,8	2	62	Nigeria	2237	33,3	1
21	Slovenia	24967	52,8	3	63	Trinidad & Tobago	22142	32,6	2
22	Korea	27541	52,2	3	64	Morocco***	4373	32,4	2
23	Saudi Arabia**	21430	51,1	1	65	Jamaica*	n.d	32,3	2
24	Poland	18087	50,5	2	66	El Salvador	6032	31,9	2
25	Colombia	8860	50,0	2	67	Bolivia**	4503	31,6	1
26	Lithuania	16877	49,8	2	68	Algeria	7643	31,3	1
27	Turkey	13468	49,7	2	69	Egypt	5547	30,8	1
	United Arab					Bosnia and			
28	Emirates*	42293	48,7	3	70	Herzegovina	7607	30,4	2
29	Latvia	13773	48,7	2	71	Ecuador	7655	29,7	2
30	Spain	26917	47,8	3	72	Brazil	10279	29,6	2
31	Japan	30660	47,7	3	73	Zambia	1431	28,9	1
32	Hong Kong**	44640	47,0	3	74	Angola	5227	28,0	1
33	Czech Republic*	24011	46,9	3	75	Venezuela*	11258	28,0	1
34	Slovak Republic	20757	46,8	3	76	Iran	10462	27,3	1
35	Portugal	21304	46,4	3	77	Ghana	1652	26,7	1
36	Romania	10905	45,7	2	78	Pakistan	2424	24,2	1
37	Uruguay	13315	45,1	2	79	Guatemala*	4351	22,9	1
38	Hungary	17295	43,3	2	80	Malawi	789	21,3	1
39	Malaysia	14174	43,3	2	81	Ethiopia	979	21,1	1
40	Lebanon***	12900	42,6	2	82	Uganda	1188	20,1	1
41	Peru	9037	42,4	2	83	Bangladesh*	1569	18,6	1
42	Croatia	15954	41,5	2					

Legend: GDP: 2011 per capita GDP in Purchasing Power Parity, in constant 2005 \$ International, World Bank ; Dev = level of development: 1: resource-driven country, 2: efficiency-driven country, 3: innovation-driven country.

\*Country individual data are from 2011, \*\*Country individual data are from 2010,

\*\*\*Country individual data are from 2009,

The examined European former planned economy transition countries are denoted with light grey and the European former market socialist countries with dark grey color

We highlight the transition countries with light grey, indicating the former planned-socialist countries, and dark grey, indicating the former market-socialist countries. There are 15 transition countries. The Baltic country Estonia leads the rank of transition countries followed by the most developed country Slovenia and the emerging Poland with over 50.0 GEDI points. Lithuania and Latvia, the other two Baltic States, are also in favourable positions. The three innovation-driven economies, Slovenia, the Czech Republic, and the Slovak Republic, have lower GEDI points than the development implied trend line (46.9-46.8). These countries are followed by Romania, Hungary, Croatia, and Montenegro with GEDI scores clustered in the range 45.7-40.7. Macedonia, Serbia, Russia, and Bosnia and Herzegovina follow with much lower GEDI scores reflecting their lower level of development.

We get significant differences comparing group averages of the European transition countries and the European non-transition: While the transition group has an average GEDI value of 44.1 the non-transition group's GEDI score is 61.2, a 28% difference. Even the best transition country, Estonia, with a high 57.8 GEDI score, does not reach the average non-transitional group GEDI score. The Man Whitney U test also reinforces significant differences ( $p < 0.000$ ). These findings are consistent with Hypothesis 2.

To explore our Hypothesis 3, we use a different approach to control for development. In Table 2 we report the deviations from the development implied trend-line (GEDI trend deviation). The European transition country average trend deviation is 1.6 and the efficiency country average is 1.5, both slightly above the trend line. In the transition country group, eight countries are below and seven countries are above the trend line. However, variations are substantial. Viewing the variation in GEDI score in the efficiency-driven country group, similar differences can be noticed. The nonparametric Man and Whitney U-test also reinforces that there are no significant differences between the transition and the non-transition country medium GEDI scores ( $p = 0.87$ ). In sum, we can see that GEDI points are mainly explained by the level of development and

nothing in our results concerning entrepreneurship distinguishes the transition and the efficiency-driven economies, thus supporting Hypothesis 3.

**Table 2** *The GEDI deviations from the development implied trend line in the case of the four country groups*

Country	GEDI	GEDI trend deviation	Country	GEDI	GEDI trend deviation
Czech Republic	46.9	-5.0	Bosnia and Herzegovina	30.4	-3.4
Estonia	57.8	12.4	Croatia	41.5	-1.5
Hungary	43.3	-1.2	Macedonia	38.0	2.2
Latvia	48.7	8.2	Montenegro	40.7	3.8
Lithuania	49.8	5.8	Serbia	35.6	-0.6
Poland	50.5	5.2	Slovenia	52.8	-0.1
Romania	45.7	8.3	<b>Former market socialist countries</b>	<b>39.8</b>	<b>0.1</b>
Russia	33.6	-8.1	<b>European transition average</b>	<b>44.1</b>	<b>1.6</b>
Slovak Republic	46.8	-1.6	<b>European non-transition average</b>	<b>61.2</b>	<b>1.5</b>
<b>Former planned socialist countries</b>	<b>47.0</b>	<b>2.7</b>	<b>Efficiency-driven average</b>	<b>39.0</b>	<b>2.1</b>

Table 3 serves to test hypotheses 4 and 5. As can be expected, there are much greater differences in the components of entrepreneurship than in the overall GEDI scores. In all but three of the fourteen pillars—Opportunity Perception, High Growth, and Internationalization—European non-transition countries lead. Of course, the non-transition countries of Europe are all classified as innovation-driven economies while all but three of the transition countries are efficiency driven. If we compare the transition countries to non-transition efficiency-driven countries, we get a very different picture. Transition countries seem to be particularly weak in the attitude related factors especially in Opportunity Perception and Cultural Support. At the same time, transition countries are better in four out of the five aspiration-related pillars. Note that Russia, again, seems to be an outlier by having low scores in the aspiration pillars. Altogether, there are certainly differences between the transition- and the efficiency-driven countries, but there does not appear to be a pattern of the transition countries somehow lagging behind. Rather, these differences seem more consistent with the varieties-of-capitalism theme (see *e.g.*, Dee and Jackson, 2007; Schmidt, 2002).<sup>4</sup> Thus, we reject Hypothesis 4.

<sup>4</sup> This finding is also supported by calculated but not reported cluster analysis results.

**Table 3: The normalized score values of the 14 pillars of entrepreneurship in the European transition countries compared to the other country groups**

Country	1	2	3	4	5	6	7	8	9	10	11	12	13	14	Institutional Average	Individual Average	GEDI
Czech Republic	0.34	0.53	0.21	0.49	0.34	0.45	0.56	0.24	0.52	0.68	0.79	0.89	1.00	0.53	0.68	0.64	46.9
Estonia	0.38	0.59	0.48	0.78	0.54	0.60	0.75	0.51	0.65	0.63	0.62	0.73	0.90	0.38	0.70	0.68	57.8
Hungary	0.18	0.52	0.28	0.46	0.49	0.50	0.66	0.41	0.46	0.46	0.44	0.72	0.81	0.36	0.64	0.58	43.3
Latvia	0.26	0.58	0.30	0.60	0.42	0.52	0.53	0.57	0.54	0.55	0.37	1.00	0.78	0.42	0.60	0.66	48.7
Lithuania	0.27	0.59	0.37	0.55	0.47	0.53	0.53	0.83	0.43	0.40	0.43	0.94	0.75	0.46	0.65	0.65	49.8
Poland	0.38	0.82	0.38	0.71	0.55	0.32	0.42	0.33	0.54	0.82	0.41	0.67	0.86	0.52	0.69	0.62	50.5
Romania	0.38	0.50	0.29	0.37	0.45	0.45	0.43	0.43	0.50	0.44	0.42	0.88	0.81	0.43	0.54	0.68	45.7
Russia	0.44	0.46	0.29	0.49	0.26	0.44	0.31	0.83	0.31	0.27	0.36	0.49	0.08	0.33	0.60	0.49	33.6
Slovak Republic	0.21	0.60	0.46	0.91	0.41	0.46	0.52	0.31	0.40	0.50	0.43	0.59	0.87	0.81	0.64	0.66	46.8
Bosnia and Herzegovina	0.15	0.40	0.11	0.49	0.47	0.20	0.43	0.24	0.41	0.23	0.26	0.44	0.47	0.41	0.48	0.54	30.4
Croatia	0.18	0.54	0.28	0.48	0.36	0.39	0.58	0.31	0.49	0.35	0.48	0.64	0.83	0.54	0.57	0.64	41.5
Macedonia	0.23	0.45	0.19	0.49	0.42	0.36	0.39	0.37	0.46	0.36	0.36	0.46	0.70	0.43	0.50	0.65	38.0
Montenegro	0.22	0.72	0.20	0.66	0.44	0.43	0.29	0.33	0.32	0.35	0.66	0.46	0.86	0.43	0.52	0.67	40.7
Serbia	0.37	0.73	0.25	0.61	0.37	0.33	0.29	0.23	0.35	0.29	0.57	0.35	0.24	0.34	0.48	0.59	35.6
Slovenia	0.16	1.00	0.51	0.75	0.55	0.66	1.00	0.60	0.53	0.61	0.71	0.63	0.77	0.44	0.70	0.70	52.8
Former planned socialist countries	0.32	0.58	0.34	0.60	0.44	0.47	0.52	0.50	0.48	0.53	0.47	0.77	0.76	0.47	0.64	0.63	47.0
Former market socialist countries	0.22	0.64	0.26	0.58	0.44	0.40	0.50	0.35	0.43	0.37	0.51	0.50	0.65	0.43	0.54	0.63	39.8
European transition average	0.28	0.60	0.31	0.59	0.44	0.44	0.51	0.44	0.46	0.46	0.49	0.66	0.72	0.46	0.60	0.63	44.1
European non-transition average	0.59	0.62	0.51	0.72	0.69	0.69	0.80	0.68	0.69	0.71	0.71	0.51	0.69	0.66	0.82	0.65	61.2
Efficiency-driven average	0.59	0.50	0.46	0.46	0.47	0.46	0.33	0.35	0.45	0.49	0.35	0.42	0.35	0.37	0.58	0.59	39.0

Legend: 1. Opportunity Perception (ATT), 2. Start-up Skills (ATT), 3. Risk Acceptance (ATT), 4. Networking (ATT), 5. Cultural Support (ATT), 6. Opportunity Startup (ABT), 7. Tech Sector (ABT), 8. Quality of Human Resources (ABT), 9. Competition (ABT), 10. Product Innovation (ASP), 11. Process Innovation (ASP), 12. High Growth (ASP), 13. Internationalization (ASP), 14. Risk Capital (ASP)

GEDI: Global Entrepreneurship and Development Index scores

ABE: Average Bottleneck Efficiency measure

For hypothesis 5 we focus on the Individual variable and the Institutional variable average columns (Table 4). Contrary to our expectations, when we compare the transition and efficiency-driven groups of countries, we find little difference in GEDI scores and individual and institutional variable averages. On the other hand, when we compare the transition countries of Europe to the (generally more highly developed, innovation-driven) non-transition countries of Europe, we find substantial differences. Specifically, the average GEDI score for the non-transition countries is substantially higher, as are the average scores of the institutional variables. Interestingly, though, there is very little difference in the average of the individual variables, which seems consistent with Baumol's (1990) view of the determinant role of institutions in entrepreneurship. The exception is, again, Russia with an average performance in the institutional setup but second lowest individual development after Bosnia and Herzegovina. In any event, the results here do indicate that the transition countries lag behind the non-transition countries of Europe, but that this lag is pretty much explained by differences in economic development as opposed to any possible lack of progress in transition. While Hypothesis 5a is supported, Hypothesis 5b is rejected. It is important to note that the support of Hypothesis 5b would be key evidence about the incomplete phase of transition.

Finally, in Hypothesis 1 we reason that, if transition is ongoing, we should see the transition countries converging on the non-transition European countries in regards to entrepreneurship. Viewing Table 4, three notable trends emerge. First, former planned transition countries and former market socialist transition countries were about equally hit by the crisis with the exception of Hungary. Second, European non-transition countries lost the most in GEDI scores from 63.0 (2006-2009) to 61.2 (2010-2011). Third, at the same time, efficiency-driven countries improved their GEDI scores by 1.4, which is the largest improvement among the four country groups. We conducted a Wilcoxon Signed-Rank Test for the nine transitional countries to examine the potential increase of the GEDI scores: We found no significant difference ( $p=0.68$ ). Examining the changes in the three sub-indexes, it was clear that the decline was the most significant in attitudes followed by abilities and aspirations. However, we can notice considerable variations among the countries as well as among the country groups.

**Table 4 The change of GEDI and the three sub-indexes from 2006-2009 to 2010-2012**

Country	2006-2009	2010-2012	2006-2009	2010-2012	2006-2009	2010-2012	2006-2009	2010-2012	Change from 2006-2009 to 2010-2012			
	GEDI		ATT		ABT		ASP		GEDI	ATT	ABT	ASP
Czech Republic	51.0	50.2	42.4	42.8	43.1	42.8	67.4	64.9	-0.8	0.4	-0.3	-2.5
Hungary	37.4	46.0	41.1	42.1	40.6	48.7	30.4	47.1	8.6	1.0	8.1	16.7
Latvia	49.6	47.5	45.7	44.3	52.6	47.6	50.6	50.6	-2.2	-1.4	-5.0	-0.1
Romania	40.3	42.3	33.4	36.9	42.2	41.5	45.2	48.3	2.0	3.5	-0.7	3.1
Russia	34.6	32.6	27.1	31.2	43.3	38.4	33.4	28.1	-2.0	4.1	-4.9	-5.3
Bosnia and Herzegovina	30.3	30.5	31.5	31.2	25.0	28.5	34.2	32.0	0.3	-0.3	3.4	-2.2
Croatia	43.3	43.9	44.8	38.5	34.9	44.1	50.3	49.1	0.6	-6.3	9.2	-1.2
Macedonia	38.9	38.7	39.7	36.0	36.1	36.7	40.8	43.5	-0.1	-3.7	0.6	2.6
Slovenia	58.0	53.9	58.6	52.5	58.4	55.6	57.1	53.6	-4.1	-6.2	-2.8	-3.4
Former planned socialist countries	42.6	43.7	37.9	39.5	44.4	43.8	45.4	47.8	1.1	1.5	-0.6	2.4
Former market socialist countries	42.6	42.2	42.5	39.5	39.8	41.8	45.6	45.2	-0.5	-3.0	2.0	-0.4
European transition average	42.6	42.8	40.5	39.5	41.8	42.7	45.5	46.4	0.2	-1.0	0.9	0.9
European non- transition average	63.0	61.2	62.5	60.6	64.8	63.2	61.6	59.8	-1.8	-1.9	-1.6	-1.8
Efficiency-driven average	39.5	40.9	41.6	45.5	38.5	38.7	38.2	38.7	1.4	3.8	0.2	0.4

Just comparing the transition countries to the developed non-transition countries, Hypothesis 1 is supported, since the difference in the GEDI scores decreased from 20.4 to 17.5, on average. According to the Wilcoxon Signed-Rank Test there are no differences between the pre and the post crisis entrepreneurial performance of the European non-transitional countries ( $p=0.18$ ). At the same time, other non-transition efficiency-driven countries were able to increase their GEDI scores (Wilcoxon Signed-Rank Test  $p=0.035$ ).

## **6. Summary and 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. If development is measured by per capita GDP, then a judgment about the progress of transition depends on the selected benchmark. Examined on the basis of per capita GDP alone, by now almost all former socialist countries have already surpassed their per capita GDP as compared to the beginning of transition. However, comparing the per capita GDP of the former socialist countries to other country groups, the development gap between the transitioning countries and OECD countries has decreased.

Using the GEDI dataset from the years of 2006-2012 we developed five hypotheses to examine the progress of transition of nine former planned socialist countries and six former market socialist countries as compared to a group of European innovation-driven, and a sample of non-European efficiency-driven economies.

Summarizing our results, we partially met our initial expectations. What we found was unexpected, for we were very much of the opinion that transition is an ongoing affair. We anticipated some kinds of characteristic differences between the former socialist and the efficiency-driven countries that would reveal that transition has not been completed. However, our results are more consistent with the conclusions that, while the post-socialist economies were qualitatively different twenty some years ago, those



differences have vanished today with the exception of only one of the countries included in our analysis: Russia. Thus, these post-socialist countries (excepting Russia) are on a normal capitalist path with any differences being due to different levels of economic development rather than to having a different economic system.

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