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The Development of Entrepreneurship in the European Transition Countries

Is Transition Complete?

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Abstract

Abstract:
This paper aims to examine the transition process from the development and state of entrepreneurship in 15 former European socialist countries over the 2006-2012 time period. 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 incorporating the individual and institutional factors of entrepreneurship, intend to explain the role of entrepreneurship in economic development. The GEDI, with its three sub-indexes and fourteen pillars, is particularly suitable tool for examining the level, the components and the configuration of the National System of Entrepreneurship. 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. 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.

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I. Introduction

1989, the fall of the Berlin Wall clearly indicated an end of the era of Soviet type socialist system. The previously untapped phenomenon, a peaceful transition from the planned to a market economy challenged many scientists in the 1990s. Early research was characterized by the identification of the phases, the necessary steps as well as the order and the speed issues of transition (Aghion and Blanchard 1994, Blanchard 1998, Frot et al 1994, Kornai 1990, Sachs 1996). After the first experiences the interest turned towards the refinement of the market economy conform institutional setup and the microeconomic issues of firm performances (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). It was believed that the efficiency and the performance of entrepreneurship depended mainly on the institutional development and incentive structure of the country (Baumol 1990, Acemoglu and Robinson 2010). Examining five former socialist countries, important entrepreneurship fostering institutions were identified as macroeconomic stability, clear property rights, and developed financial institutions in Johnson *et al.* (2004). Some important institutions, such as role models, begin to play role in the later phases of transition when a new generation of young entrepreneurs begins to emerge (Lafuente and Vaillant 2013).

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: For many transitional experts the EU accession also meant the end of the research in this field. However, an important question of transition has not been reassuringly answered: Has transition completely finished? Several years ago, Kornai (2006) took the perspective that transition was complete, at least in the eight countries making up the Visegrád region (the Czech Republic, Hungary, Poland, and Slovakia), the Baltics, and Slovenia, when he assessed the successes and disappointments of transition in a historical analysis: "The transformation took place with *incredible speed*, within a time frame of 10 to 15 years."(Kornai (2006): 218.) On the other hand, "the elimination of the socialist system continues to proceed in areas to the south and to the east of the eight countries under scrutiny."(Kornai (2006): 220).

In the line of Kornai, Gros and Steinherr (2004) and Döhrn and Heilemann (2005) claimed that transition in the CEE countries is nearly over. Kitov (2009) also concludes that "the transition has practically finished in many Central and Eastern European countries and their economic evolution is driven by forces associated with [the] capitalist system."(Kitov (2009):526 (abstract). His model is purely mechanical and relies completely on observations of

per capita GDP as each country undergoes its transformation contraction and then recovers).[1] In a recent summary study Sonin (2013) also argued that transition had finished.

Other researchers took a less definite statement about the completion of transition (Thiessen and Gregory 2005) and most recently Pistor (2013). Refining Kornai's argument and providing various measures of transition Havrylyshyn (2009) argued that transition is over for the Central Eastern European and the Baltic countries. South Eastern, former socialist Balkan, and CIS countries were still lag behind in the reform process. Although, even for the most advanced countries "…there remains a significant transition policy task: completing the various institutional reforms relating to regulations in the financial sector, competition policy, minority shareholder rights, legal institutions etc." (Havrylyshyn (2009): 42).

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."[2] 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 behavioral dimensions. We will, of course, develop this argument more fully in what follows.

We turn in the next section to our comparison of the transition countries using macro-level measures, such as per capita GDP and measures of economic and political freedom, and corruption.[3] This analysis is based on the Global Entrepreneurship Monitor (GEM) data collection, which measures individual-level characteristics of economies. Specifically, the GEDI combines institutional-level measures with the individual-level measures of the GEM (Section II). The next section sets out five hypotheses about the entrepreneurial level and the

[1] One might wonder how such a methodology would account for China, which did not suffer a transformation contraction. Kitov does not explain, only asserting that "…all FSC [former socialist countries] have demonstrated the J-curve behavior with a varying depth of the downturn." (Kitov, 2009: 527)
[2] Nikolova (2012): 1. See also Berkowitz and DeJong (2005).
[3] Similar to Leeson and Trumbull (2006).

change of entrepreneurship over the 2006-2012 time period benchmarking two country groups. The following section presents the results of our analysis, followed by our summary and concluding remarks.

I. How far has transition progressed?

The transition countries included in our analysis are those included in the GEDI database[4]. 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.

The first two columns of table 1 shows per capita GDP, measured on a PPP basis using 2005 dollars, in the former planned-socialist and market-socialist countries respectively at the time of the start of the transition and in 2011. The start of the transition is not the same for each country. For some, like Poland, it is 1989, the year the Berlin Wall fell, as these countries launched their transitions very quickly. For the former republics of the Soviet Union, the starting year is the last year of the Union, 1991. We follow Roland (2000) in dating the beginnings of transition for the former planned countries. All of the former republics of Yugoslavia began their transition in 1991, with the exception of Montenegro, which was loosely tied to Serbia until 1997.

Note first the considerable variation of per capita GDP at the launch of transition. Among the former planned-socialist countries, the Czech Republic (or what was then the Czech part of Czechoslovakia) was the richest, with a per capita GDP of $16,516, and Romania was the poorest, with a per capita GDP of only $8,333. Not far above Romania were Latvia and Poland. At the end of the period, Poland has climbed into the higher-income half, while Russia has fallen from the upper half to the lower.

[4] 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.

Table 1: Per Capita GDP (PPP in 2005 constant dollars) from start of transition to 2011 in former socialist countries between the year of transition and 2011

Countries (Index base year)	GDP at the start of transition	GDP in 2011	Year when start year GDP surpassed	Index in 1998 Based on Year Transition Begins	Index in 2011 Based on 1998	GDP share of OECD average 1989	GDP share of OECD average 2011
Former planned socialist economies							
Czech Republic (0=1990)	16516	23967	1999	99,0	146,7	74,5	79,1
Estonia (0=1991)	10039	17885	1998	114,3	172,0	45,3	59,0
Hungary (0=1989)	13455	17295	2000	87,2	136,8	60,7	57,1
Latvia (0=1991)	10965	13773	2001	84,5	183,6	49,5	45,5
Lithuania (0=1991)	12500	16877	2003	78,1	183,7	56,4	55,7
Poland (0=1989)	9091	18087	1996	105,1	168,6	41,0	59,7
Romania (0=1989)	8333	10905	2004	90,3	161,3	37,6	36,0
Russia (0=1991)	13066	14808	2006	61,3	202,1	59,0	48,9
Slovakia (0=1990)	13098	20757	2006	94,8	165,4	59,1	68,5
Average	11896	17151	-	90,5	168,9	53,7	56,6
Former market socialist economies							
Bosnia and Herzegovina (0=1991)	2083	7398	1996	214,6	165,4	9,4	24,4
Croatia (0=1991)	10698	16425	1996	110,8	138,6	48,3	54,2
Macedonia, FYR (0=1991)	7616	9356	2005	88,8	138,4	34,4	30,9
Montenegro (0=1997)	n.a.	10665	-	n.a.	135,6		35,2
Serbia (0=1991)	10454	9803	not reached yet	66,0	142,0	47,2	32,4
Slovenia (0=1991)	14981	24957	1994	120,6	138,2	67,6	82,4
Average	9166	13101	-	120,2	143,1	41,4	43,2

Source: World Development Indicators, World Bank, 2012. Poland's value for 1989, Bosnia and Herzegovina Macedonia, and Croatia for 1991 to 1993 extrapolated back using a growth rate calculated from Maddison (2010).

If we consider the end transition to be the year when per capita GDP exceeds that of the start of transition, then all examined countries but Serbia had completed transition by 2006 (Table 1 column 3). The quickest was Slovenia (1994), which was not affected by the Yugoslavian civil war in the 1990s. It was followed by Poland with its shock therapy and two other former Yugoslavian countries, Bosnia and Herzegovina and Croatia. In the case of the later two countries the reason for the quick recovery was probably associated with the previous stagnation of Yugoslavia; i.e. GDP was falling even before the start of the transition. The slowest country was Russia, which surpassed its initial per capita GDP only in 2006. By 1998 the average GDP of the former planned economies was only 90.5% of GDP at the start of transition, and 120.2% in the case of the former market socialist countries (Table 1 column 4). However, Macedonia and Serbia were still far behind the 1991 year per capita GDP in 1998. The gap of GDP growth between the planned economies and market socialist economies decreased between 1998 and 2011 when former planned economies grew faster than the former Yugoslavian countries (Table 1 column 5).

The last two columns of Table 1 compare our group of transition countries to the OECD countries in 1989 and in 2011 to determine whether there has been any convergence with the developed, capitalist world. The picture is mixed. On average, there has been convergence for both the former planned and the former market-socialist countries, but the convergence has been very small: only 2.9 percentage points for the former and 1.8 for the latter. Some have been catching up very rapidly. Poland, for instance, had a per capita GDP of 41.0 percent of the OECD average in 1989 and by 2011 had 59.7 percent, a gain of 18.7 percentage points. Slovenia had a gain of 14.8 percentage points and, at 82.4 percent of the OECD average, is the wealthiest of our transition countries. Others have fallen behind, some alarmingly so. Russia, for instance, started at 59.0 percent of the OECD average and slipped to 48.9 percent by 2011, a loss of 10.1 percentage points. Serbia slipped from 47.2 percent to 32.4 percent, a loss of 14.8 points. Of the ten former planned economies, five lost ground. Of the five former market-socialist countries that existed in 1989, two lost ground.

Table 2 presents the Bertelsmann-Stiftung Transformation Index (BTI) and the Democratic Status and Market Status Indexes. The BTI Rank orders the countries by overall BTI score. The Democratic Index measures the status of human rights, freedom of expression, rule of law, free elections, etc., while the Market Status Index measures a country's status in terms of level of economic development, level of market competition, anti-monopoly regulation, liberalization of foreign trade, property rights, macro stability, the development of its banking structure, etc. In other words, it is an index of the country as a market economy. Values range from 0 (least developed institutions) to 10 (most developed institutions). Note that, perhaps unsurprisingly, there is a high correlation between scores for Democratic Status and Market Status.

Among the former planned economies in Table 2 there is not a lot of variation with the exception of Russia. The Czech Republic has the highest values on both indexes (9.7 and 9.6), indicating that it is comparable to a fully developed democratic, market economy. In fact, among the BTI's 128 emerging countries, the Czech Republic ranks number 1 and is only one of five with a Market Status index exceeding 9.0. Lithuania, Poland, and Slovakia are the only other former planned economies that have a democracy score equal to or exceeding 9.0 and each of these plus Hungary have both Democratic and Market Status scores exceeding 8.0. Latvia and Romania have market scores somewhat lower at 7.8, indicating some distance remaining before fully developing institutions of a market economy. Then there is Russia, which clearly has a very long way to go to fully develop its institutions of democracy and a market economy. Its democracy score of 5.4 is extraordinarily low, as is its market score of 6.1, which is only a little higher.

Among the former market-socialist countries, Slovenia ties the Czech Republic on the democracy index with a score of 9.7. Its market score is only a little lower at 9.3. Croatia is the only other in this group with both democracy (8.4) and market (8.1) scores exceeding 8.0. In fact, none of the other countries have either score exceeding 8.0. Macedonia (7.6 and 7.1) and Montenegro (7.6 and 7.0) have nearly identical scores. Bosnia-Herzegovina comes in last with both scores well below 7.0 indicating substantial progress needed to develop its political and market institutions.

Table 2. Bertelsmann-Stiftung Transformation Index of Democratic Status, Market Economy Status and Political Management Status for the CEE and other selected countries

.Country	BTI Rank	BTI Score	Democratic Status	Market Economy Status
Former planned economy countries				
Czech Republic	1	9,6	9,7	9,6
Estonia	5	9,3	9,6	9,0
Hungary	12	8,5	8,4	8,6
Latvia	13	8,3	8,8	7,8
Lithuania	7	9,0	9,4	8,7
Poland	6	9,0	9,2	8,9
Romania	16	8,2	8,6	7,8
Russia	60	5,7	5,4	6,1
Slovakia	8	8,9	9,0	8,8
Former market economy countries				
Bosnia and Herzegovina	39	6,4	6,4	6,4
Croatia	15	8,3	8,4	8,1
Macedonia	25	7,4	7,6	7,1
Montenegro	27	7,3	7,6	7,0
Serbia	21	7,5	8,1	7,0

Slovenia	3	9,5	9,7	9,3
Other benchmarking countries				
Argentina	33	7,0	7,6	6,4
Brazil	18	8,1	8,2	8,0
Chile	9	8,9	9,2	8,5
China	84	4,9	3,3	6,6
India	24	7,4	8,2	6,5
Malaysia	49	6,1	5,0	7,3
Mexico	35	6,9	7,0	6,9
Singapore	29	7,2	5,3	9,2
South Africa	26	7,3	7,8	6,9
South Korea	11	8,7	8,7	8,8
Taiwan	2	9,5	9,7	9,4
Thailand	64	5,6	4,9	6,4
Uruguay	4	9,3	10,0	8,6
Vietnam	86	4,8	3,5	6,2

BTI: Bertelsmann-Stiftung Transformation Index
Source: Bertelsmann Stiftung(ed) (2014)

The impression one gets from the profiles shown here is that some countries, in particular Estonia, the Czech Republic, and Slovenia, come very close to having fully developed market economies, as well as fully democratic political systems. Other countries perhaps have some tasks remaining to fully develop into market economies. And others, especially Russia and Bosnia-Herzegovina, have a long way to go.

Comparing the former socialist countries to other developing countries in the BTI database we cannot see significant differences. In fact, CEE countries score even better than the leading Asian and South American countries like Taiwan (2), Uruguay (4), Chile (9), South Korea (11) or Singapore (29). Some other important competitor countries like Argentina (33), Brazil (19), China (84), India (24), Malaysia (49), Mexico (35), South Africa (26), Thailand (64) or Vietnam (86) almost all rank behind our former socialist country group with two notable exception, Bosnia-Herzegovina and Russia. The ranking is only marginally different if we examine only the Market Economy Status, where Singapore and South Korea are amongst the best ten countries, but there is no change in the first three country ranking of Czech Republic, Taiwan and Slovenia.

II. Defining and measuring entrepreneurship

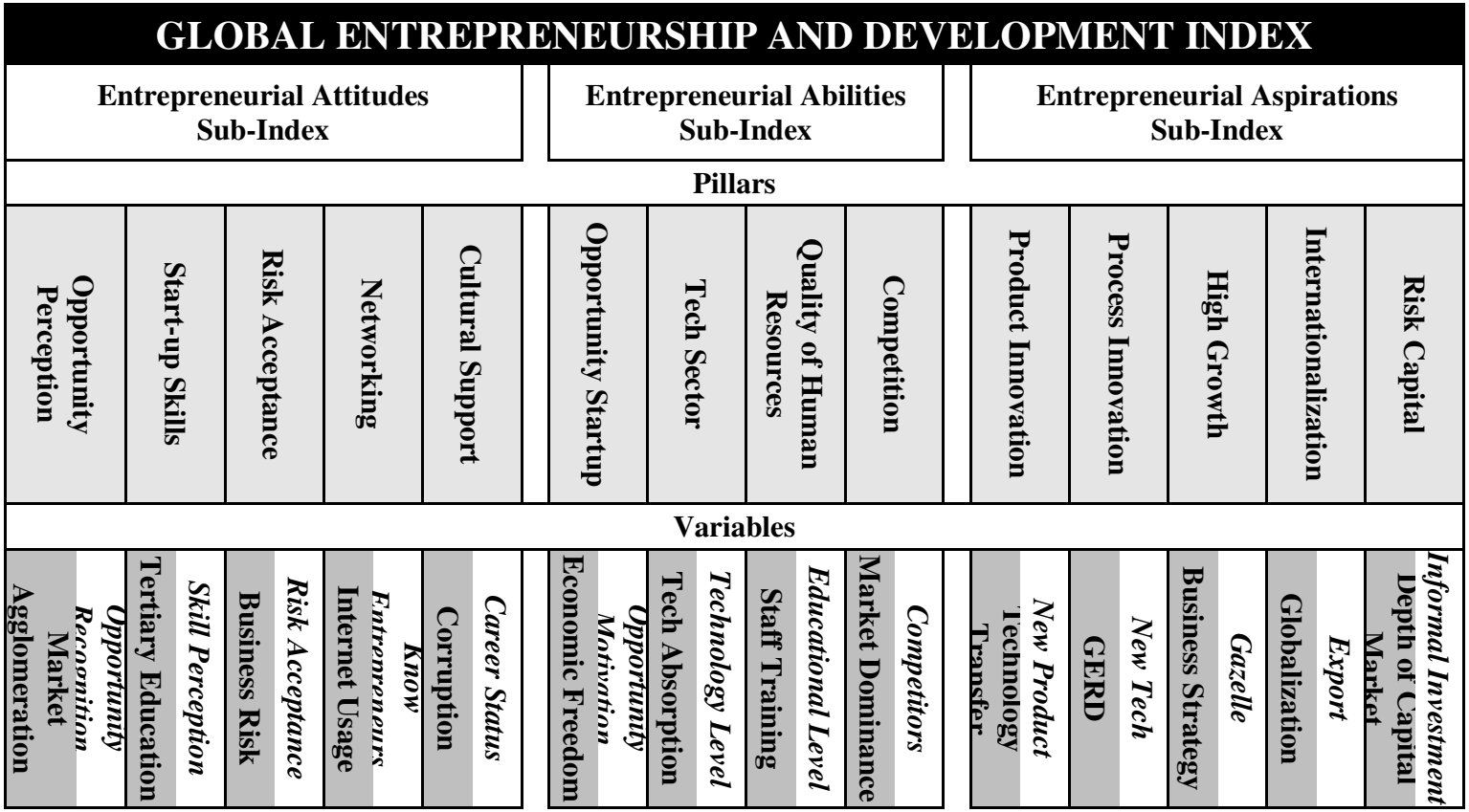
While entrepreneurship has become an emerging field in business and economic research over the last decades, there is still no agreement on the definition and the conceptualization of entrepreneurship (Low and Macmillan 1988, Shane and Ventakamaran 2000, Ucbasaran et al

2001). 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). At the same time, most empirical researchers use a single measure to quantify entrepreneurship. Self employment preferences, business ownership rate, business densities, or the Global Entrepreneurship Monitor's (GEM) total early-phase entrepreneurial activity index (TEA), which are all quantity measures, evaluate only the activity aspect of entrepreneurship (Acs and Szerb 2014). This approach equates a Silicon Valley entrepreneur with a new Ugandan shepherd or with a recently opened grocery shop in Thailand. A large number of businesses do not necessarily mean higher productivity. On the contrary, fostering the number of start-ups could lead to decrease in the quality of the businesses (Shane 2009, Fritsch and Schröter 2009, Vivarelli 2013).

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 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.

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 as (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. Figure 1 portrays the structure of GEDI and Table 3 defines the content of the fourteen pillars.



Source: Acs et al 2013 p.217

Figure 1: The structure of the Global Entrepreneurship and Development Index

Table 3: The description of the GEDI index pillars

Pillar name	Description
Opportunity Perception	Opportunity Perception refers to the entrepreneurial opportunity perception potential of the population weighted with the size and the level of agglomeration of that country reflecting the potential size of the market.
Start-up Skills	Start-up Skill captures the perception of start-up skills in the population and weights this aspect with the quality of human resources available for entrepreneurial processes in the country.
Risk Acceptance	Risk Acceptance captures the inhibiting effect of fear of failure of the population on entrepreneurial action combined with a measure of the country's business risk.
Networking	This pillar combines two aspects of Networking: (1) a proxy of the ability of potential and active entrepreneurs to access and mobilize opportunities and resources and (2) the possible use of the internet.
Cultural Support	The Cultural Support pillar combines how positively a given country's inhabitants view entrepreneurs in terms of status and career choice and how the level of corruption in that country affects this view.
Opportunity Startup	The Opportunity Startup pillar captures the prevalence of individuals who pursue potentially better quality opportunity-driven start-ups (as opposed to necessity-driven start-ups) and weights this against regulatory constraints.
Tech Sector	The Technology Sector pillar reflects the technology-intensity of a country's start-up activity combined with a country's capacity for firm-level technology absorption.
Quality of Human Resources	The Quality of Human Resources pillar captures the quality of entrepreneurs as weighing the percentage of start-ups founded by individuals with higher than secondary education with a qualitative measure of the propensity of firms in a given country to train their staff.
Competition	The Competition pillar measures the level of the product or market uniqueness of start-ups combined with the market power of existing businesses and business groups.
Product Innovation	The Product Innovation pillar captures the tendency of entrepreneurial firms to create new products. This pillar was created by weighting the percentage of firms that offer products that are new to at least some of their customers with a complex measure of innovation.
Process Innovation	The Process Innovation pillar captures the use of new technologies by start-ups combined with the Gross Domestic Expenditure on Research and Development (GERD). GERD serves as measurement of the systematic research activity as opposed to easy to copy technological improvements.
High Growth	The High Growth pillar is a combined measure of (1) the percentage of high-growth businesses that intend to employ at least ten people and plan to grow more than 50 percent in five years and (2) business strategy sophistication.
Internationalization	The Internationalization pillar captures the degree to which a country's entrepreneurs are internationalized, as measured by businesses' exporting potential weighted by the level of economic globalization of the country.
Risk Capital	The Risk Capital pillar combines two measures of finance: informal investment in start-ups (Reynolds et al., 2005) and a measure of the availability of finance. The Depth of Capital Market is one of the six sub-indices of the Venture Capital and Private Equity Index (Groh et al., 2012).

Source: Adopted from Autio et al (2012) pp. 29-30

While the abilities and aspiration sub-indices (outlined below) capture actual entrepreneurship abilities and aspiration as they relate to nascent and startup business activities, the entrepreneurial attitude (ATT) sub-index aims to identify the attitudes of a country's population as they relate to entrepreneurship. For example, the pillar known as opportunity perception potential is essential to recognizing and exploring novel business opportunities. It is also critical to have the proper startup skills and personal networks to exploit these opportunities. Moreover, fear of failure to start a business can have a negative effect on entrepreneurial attitudes, even when opportunity recognition and startup skills exist.

Entrepreneurial attitudes are believed to be influenced by the crucial institutional factors of market size, level of education, the level of risk in a country, the population's rate of Internet use, and culture, all of which are interaction variables of the indicator.

The entrepreneurial abilities (ABT) sub-index is principally concerned with measuring some important characteristics of the entrepreneur and the startup with high growth potential. This high growth potential is approached by quality measures, including opportunity motivation for startups that belong to a technology-intensive sector, the entrepreneur's level of education, and the level of competition. The country level institutional variables include the freedom to do business, the technology adsorption capability, the extent of staff training, and the dominance of powerful business groups.

The entrepreneurial aspiration (ASP) sub-index refers to the distinctive, qualitative, strategy-related nature of entrepreneurial activity. Entrepreneurial businesses are different from regularly managed businesses, thus it is particularly important to be able to identify the most relevant institutional and other quality-related interaction variables. The newness of a product and of a technology, internationalization, high growth ambitions, and informal finance variables are included in this sub-index. The institutional variables measure the technology transfer and R&D potential, the sophistication of a business strategy, the level of globalization, and the availability of venture capital.[5]

A unique feature of the GEDI approach is the system view of entrepreneurship. The Bottleneck Penalty (PFB) methodology has been developed to quantify the interaction effect of the 14 pillars of entrepreneurship. According to the PFB the entrepreneurial performance of a particular country depends more on the harmonization of the pillars on the strength of some individual pillars themselves. Consequently, the optimal entrepreneurial performance can be reached by equalizing the normalized values of the 14 pillars. The most important feature of the PFB methodology is the assumption that the performance of the system is determined by the lowest-value pillar that constitutes a bottleneck and hinders all the better performing pillars. Therefore, the advantages of the better performing pillars cannot be fully capitalized because of the unbalance. The size of the penalty depends on the magnitude of the bottleneck: The larger the difference between a particular pillar and the bottleneck pillar the larger the penalty is. [6]

There are some important policy related consequences of the PFB methodology. First, the different pillars cannot be fully substituted with each other. In other words, the performance of the better performing pillar just only partially compensates for the bad performance of the bottleneck pillar. Second, the whole GEDI index can be improved the most by increasing the bottleneck pillar. The magnitude of the enhancement depends on the relative size of the bottleneck as compared to the other pillars. Third, for policy makers it means that the enhancement of the worst performing bottleneck pillar is the most important priority for entrepreneurship policy.

III. Entrepreneurship in transition countries

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

[5] This description of the index structure is based on Acs et al 2013, Chapter 6.
[6] For more information about the methodology Acs et al (2014).

business ownership was basically banned or at the best tolerated for a long time. Larger scale private business activity or the employment over a few persons was forbidden because it would have endangered the planning principle as well as the egalitarian idea of the ruling communist parties by causing unaccepted wealth differences. While the shortage economy provided plenty of good opportunities for potential entrepreneurs, resources to exploit these opportunities were restricted. The socialist system also strongly discouraged private capital accumulation, thus limiting further business growth and private sector development (Rona-Tas 1994). Consequently, many important aspects of productive entrepreneurship like innovation, strategy creation, customer orientation, or risk taking could not evolve. Instead of individual initiative and solutions, the state sector dominated almost all productive activity. There remains today an attraction for state involvement, a legacy of the former system that populist politicians exploit.

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 Report 1996) due to both pent up entrepreneurial desire and pent up demand for consumer goods services. There were two major source of private sector development. First, the privatization of the state owned businesses and the creation of the de novo new businesses. After removing the artificial institutional barriers of business start-ups, millions of private businesses started to flourish (Kornai 1992). Shortages disappeared quickly and new businesses played an important market supplementation role in the early years of economic transition (Tyson et al. 1994). Small scale privatization also contributed to the further strengthening of private ownership. The growth dynamics and efficiency of these newly established de novo firms exceeded that of the state owned firms and the privatized firms (Earle et al 1996, Bilsen and Konings 1997, Johnson and Loveman 1995 Winiecki 2003). By examining the performance of the transition countries Ovaska and Sobel (2004) found that private enterprises and new venture creation was a major determinant of economic growth after 1995.

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 most of the transition countries, requiring a further opening of their economies. Under the pressure of foreign competition and increased saturation of domestic markets, new venture creation slowed down and less competitive firms failed. 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.

After more than ten years of transition, Grilo and Thurik (2006) find no differences between the transition and non-transition countries EU countries in terms of the impact of perceived institutional barriers, implying a convergence of the transition countries to the advanced nations. Examining the long term changes in business ownership rates, similar convergence has been noticed by Cieslik and van Stel (2012). However, in a summary article, Aidis (2005a) reports increasing divergences. The latest report of the European Bank of Restructuring and Development also show continual differences between the transition and the developed countries, in particular in the financing environment, the motivation of start-ups, and the long term persistence of the ventures (Nikolova et al 2012).

The evidence on convergence in the conditions of entrepreneurship between transition and developed countries is mixed. 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 tree sub-indexes and the fourteen pillars of entrepreneurship should be different for the transition and the other non-transition countries. Particularly, we suppose 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 nations.

Hypothesis 4: The configuration of the three sub-indexes and the 14 pillars is different, reflecting to 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). 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 behaviors 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.

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. However, we anticipate that the overall institutional development of the transition

economies is higher than the other efficiently 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 efficiently 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 at 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 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 that 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 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. .

IV. 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 at last.

For testing Hypothesis 2 we rely on Table 4 and Figure 2. Table 4 shows the rank of the countries' overall GEDI scores and also includes the World Economic Forum's (WEF) Global Competitiveness Index classification (the column labeled 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 2011). 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, Slovak Republic and Slovenia, are classified in the top group as innovation-driven economies. The rest are classified as efficiency driven.

Table 4 The position of the examined transition countries in Global Entrepreneurship and Development Index Rank of the Countries, 2012

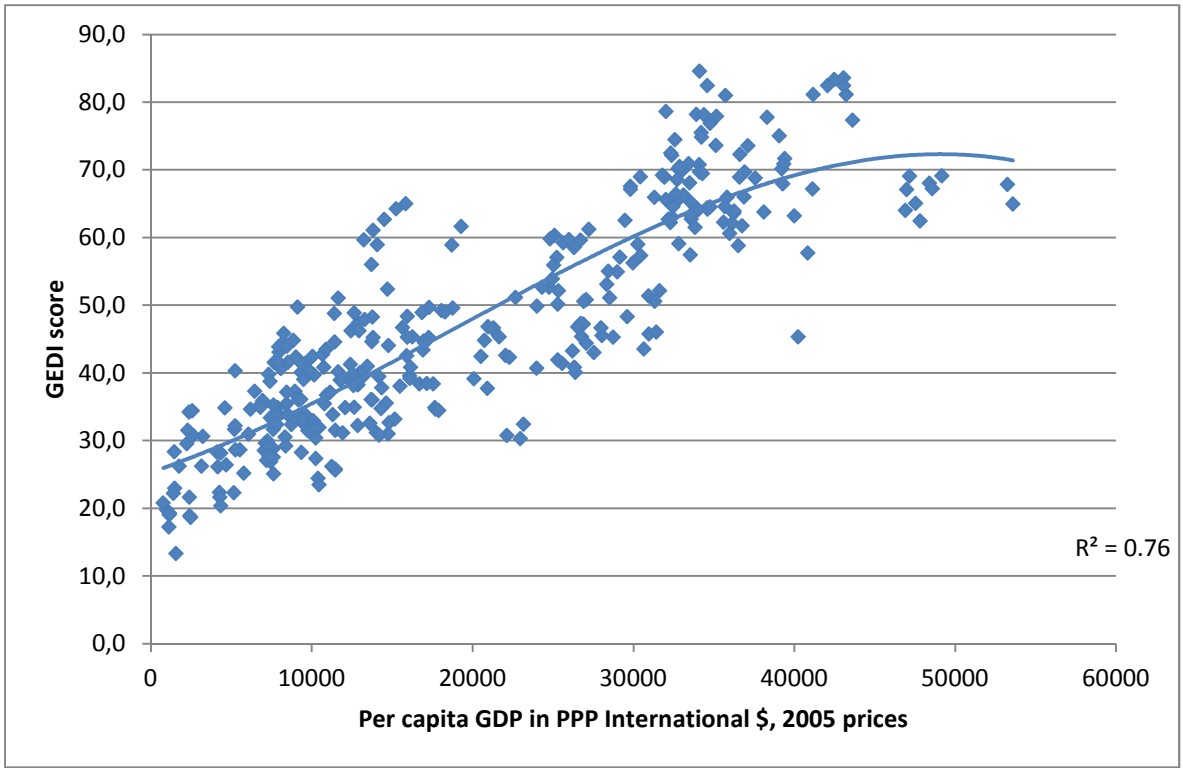
Rank	Country	GDP	GEDI	Dev.	Rank	Country	GDP	GEDI	Dev.
1	United States	42486	79,4	3	43	Italy	27072	41,3	3
2	Denmark	32582	77,1	3	44	Barbados	17564	40,7	2
3	Australia*	34396	74,3	3	45	Montenegro**	10469	40,7	2
4	Sweden	35170	71,5	3	46	South Africa	9678	39,6	2
5	Taiwan	n.d	68,4	3	47	Greece	22301	39,5	3
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
8	Switzerland	39412	67,3	3	50	Dominican 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
28	United Arab Emirates*	42293	48,7	3	70	Bosnia and 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, indication 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 favorable positions. The three innovation-driven economies, Slovenia the Czech Republic, and 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.

While Table 4 seems to support Hypothesis 2, a more precise picture is emerging by investigation the connection between the per capita GDP and GEDI scores. The GEDI scores correlate highly with the level of development as measured by the per capita GDP (correlation coefficient = 0.88). Figure 2 present the third degree polimonial trend line between the per capita GDP and GEDI scores. It is clear that higher developed countries, on average, have higher GEDI scores that explain 76 percent of variations.



Number of observation=349

Figure 2: The connection between GEDI scores and the development of the country (2006-2012 data) (trend line is calculated as the third-degree polynomial adjustment)

By comparing European transition country and the European non-transition country group averages the differences are significant: 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 with p=0.000 also reinforces significant differences. These findings are consistent with Hypothesis 2.

For a more accurate testing of Hypothesis 3, we use a different approach to control for development. In Table 5 we report the deviations from the development implied trend-line (GEDI trend deviation).

Table 5 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	**Former market socialist countries**	**39.8**	**0.1**
Russia	33.6	-8.1	**European transition average**	**44.1**	**1.6**

Slovak Republic	46.8	-1.6	**European non-transition average**	**61.2**	**1.5**
Former planned socialist countries	**47.0**	**2.7**	**Efficiency-driven average**	**39.0**	**2.1**

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: The best Baltic state, Estonia is more than twelve percent and Romania is more than eight percent over the development implied trend-line. At the same time Russia is 8.1 percent below the trend line that is consistent with Russia's slow transition with respect to other aspect of transition. Viewing the variation in GEDI score in the efficiency driven country group, similar differences can be noticed: For example, Trinidad and Tobago is 20.6 percent below and Chile is 15.2 percentages above the trend line. The nonparametric Man and Whitney U-test also reinforces that there are no significant differences between the transitional and the non-transitional 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 6 serves to test hypotheses 4 and 5.

Table 6: 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

As can be expected, there are much greater differences in the components of entrepreneurship than in the overall GEDI scores. In three but all the fourteen pillars – Opportunity Perception, High Growth and Internationalization -- European non-transitional 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. The transition countries, on average, are better in Startup Skills, Networking, Tech Sector, Quality of Human Resources, Process Innovation, High Growth, Internationalization and Risk Capital. The efficiency-driven economies are better in Opportunity Perception, Risk Acceptance, Cultural Support, Opportunity Startup, and Product Innovation. These two groups are about the same in the Competition pillar. Transition countries seem to be particularly weak in the attitude related factors. The weakest pillar of the transition countries is Opportunity Perception, which is consistent with the heritage of socialism, where personal economic initiative is discouraged. There is also lower Cultural Support and more people feel a fear of failure to establish a business than in the efficiency-driven country group. At the same time, transition countries are better in four out of the five aspiration related pillars. Note that Russia, again, seems to be outlier by having low scores in the aspiration pillars. In particular, the extreme low value of Internationalization implies that Russian new businesses are less globalized than any other transitional country startups.

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).[7] Thus, Hypothesis 4 is rejected.

For hypothesis 5 we focus on the Individual variable and the Institutional variable average columns (Table 6). 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 a 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 a 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.

[7] This finding is also supported by calculated but not reported cluster analysis results.

Table 7 illustrates the change of the GEDI scores only for the transition countries. It is evident that there is no general pattern. Even the crisis emerging in 2007-2008 had different effects on different countries' level of entrepreneurship. For example, Slovenia's GEDI score declined while Romania's entrepreneurship has improved since 2010 after a three year decline. Croatia's GEDI wavered over the 2006-2012 period between 41.0 and 45.9 GEDI points. Hungary shows a remarkable improvement in the 2008-2011 time period, but its GEDI score decreased by more than ten percent from 2011 to 2012.

Table 7 The change of the GEDI points over the 2006-2012 time period in the European transitional countries

Country/GEDI points	2006	2007	2008	2009	2010	2011	2012
Former planned socialist countries							
Czech Republic	51.0					50.2	
Estonia							57.8
Hungary	36.8	38.0	36.2	38.3	44.7	50.0	44.8
Lithuania						48.8	49.8
Latvia	52.5	49.1	49.7	47.3	45.8	48.0	48.7
Poland						51.8	50.5
Romania		42.7	41.0	37.2	37.5	43.6	45.7
Russia	35.8	34.8	33.8	34.0	31.4	32.7	33.6
Slovakia						45.0	46.8
Former market socialist countries							
Bosnia and Herzegovina			30.7	29.9	29.6	31.6	30.4
Croatia	41.7	45.2	45.5	41.0	44.3	45.9	41.5
Macedonia			38.9		39.5		38.0
Slovenia	54.7	58.8	59.7	58.9	55.6	53.4	52.8
Serbia		30.9	33.4	34.8			

Table 8 provides a more detailed picture of the change of GEDI as well as its three sub-indexes in the case of the transition countries as well as in all the four country groups. Viewing Table 8, 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 that improved it GEDI scores by 8.6. 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 8 The change of GEDI and the three sub-indexes from 2006-2009 to 2010-2012

	2006-2009	2010-2012	2006-2009	2010-2012	2006-2009	2010-2012	2006-2009	2010-2012	Change from 2006-2009 to 2010-2012			
Country	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

Legend: GEDI: Global Entrepreneurship and Development Index; ATT: Entrepreneurial Attitudes Sub-index; ABT: Entrepreneurial Abilities Sub-index; ASP: Entrepreneurial Aspirations Sub-index

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. However, 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 ($p=0.18$). However, other non-transition efficiency-driven countries were able to increase their GEDI scores (Wilcoxon Signed-Rank Test $p=0.035$). A possible explanation of this finding is probably the mix of transition and the effect of crisis that later hit the European countries more than the non-European efficiency-driven economies. Another likely reason is the examination of the transition of entrepreneurship in a relatively short time period, 2006-2012. In sum, we can neither support nor reject Hypothesis 1. Changes in entrepreneurship may be more viewable on a longer time period. The validation of our results and the evaluation are also limited by the fact that we have full time series data for only a few countries

V. 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 been 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. The situation is not as straightforward in the case of the development of the countries. If development is measured by the per capita GDP, then the 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 have decreased.

The Bertelsmann-Stiftung Transformation Index (Berstelmann Stiftung 2014) provides a good opportunity to compare the different countries in terms of institutions as well as in political development. Most former socialist countries are in the front of the ranking, implying that there are no real differences between the transition and other developing countries. In this sense transition seems to be complete.

But what about individual development? According to Ralf Dahrendorf's famous saying, it takes six month to replace a political system, six years to transform an economic system, and 60 years to alter the society (Dahrendorf 1990). The examination of the individually oriented entrepreneurship provides a good opportunity to study the change of the society and people's minds in the former socialist countries. Measuring country-level entrepreneurship as a business ownership rate, Cieslik and van Stel (2012) find that, up to 2008, the ownership rate of four transition countries, the Czech Republic, Hungary, Poland, and the Slovak Republic, was quickly converging to the developed countries, most notably to the Western European nations. The Global Entrepreneurship and Development Index (GEDI) methodology, applied in this paper, takes a different view about country level entrepreneurship as measured by a composite index

rather than by a single indicator. In addition, the GEDI provides a unique opportunity to look at the pillar configuration, the individual and institutional components of entrepreneurship.

Using the GEDI dataset from the years of 2006-2012 we developed five hypotheses to examine the progress of transition of nine former planned economy socialist countries and six former market socialist countries as compared to a group of European innovation-driven, and a branch of efficiency-driven economies. We have found that the GEDI scores, the overall measurement of country-level entrepreneurship, are lower for the former socialist countries than for the developed European innovation-driven countries and slightly higher than for the efficiency-driven economies. Filtering out the development effect and benchmarking the development implied trend line, we found no differences between the former socialist countries and the efficiency-driven economies. Examining the components of the GEDI and comparing them to the other efficiency-driven economies we have found that transition countries seem to lag behind efficiency-driven economies in the attitude related factors. Opportunity perception is particularly weak in the former socialist countries, which is consistent with the low support of the personal initiatives in the socialist system. On the contrary, transitional countries outperformed the efficiency-driven economies in four out of the five aspirations related pillars. Altogether, the comparison of the pillar configuration of the transitional and that of efficiency-driven countries prevail some differences, but these differences are marginal, on the average. Our hypothesis about the speculated differences in the individual and the institutional components of GEDI between the efficiency-driven and the former socialist countries did not fulfill: Former socialist countries were somewhat better both in the institutional and the individual components than the similarly developed efficiency-driven economies. No particular pattern of convergence seems emerge after examining and comparing the change of the GEDI scores from 2006-2009 to the 2010-2012 time periods.

Summarizing our results, we partially met our initial expectations. What we found 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 pretty much 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.

Potential policy application is a frequent outcome of scientific papers. In our case it is hard to provide useful transition-specific entrepreneurship policy suggestions. European transition countries should focus on improving the attitude related pillars of opportunity perception, networking and cultural support. Especially the attitude related individual components seem to be weak while the institutional factors do not show major deficiencies as compared to other similarly developed countries. Improving the individual opportunity perception potential, creativeness, and positive attitudes toward entrepreneurs requires a time consuming long exercise via the development of the education system from the lowest to the highest levels. However, good benchmarking experiences about the improvement of entrepreneurship education are still sporadic (Fayole *et al* 2006, Mwasalwiba 2010, Von Graevenitz et al 2010). Overall, transition countries do not differ significantly from other efficiently driven economies. Therefore

entrepreneurship policy in transition countries should focus on improving individual country level weaknesses rather than aiming to relieve marginal transition paucities. The GEDI methodology provides a useful tool for such tailor-made policy recommendation (Szerb *et al* 2013).

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