



Analytical Report on GEM in CEECs (WP3.8, part I)

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The Global Entrepreneurship Monitor (GEM) project is the largest and well-recognised study of comparative international entrepreneurship worldwide (see, for example, Terjesen et al., 2010). It provides an annual evaluation of entrepreneurial activity, aspirations and attitudes of individuals across a wide range of countries (see <http://www.gemconsortium.org>). This project was launched in 1999 as a joint initiative between London Business School and Babson College. While the first study covered 10 country-members of OECD, by 2013 it has expanded to cover 70 economies worldwide, including 10 countries of Central and Eastern Europe (CEECs): Croatia, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovak Republic and Slovenia.

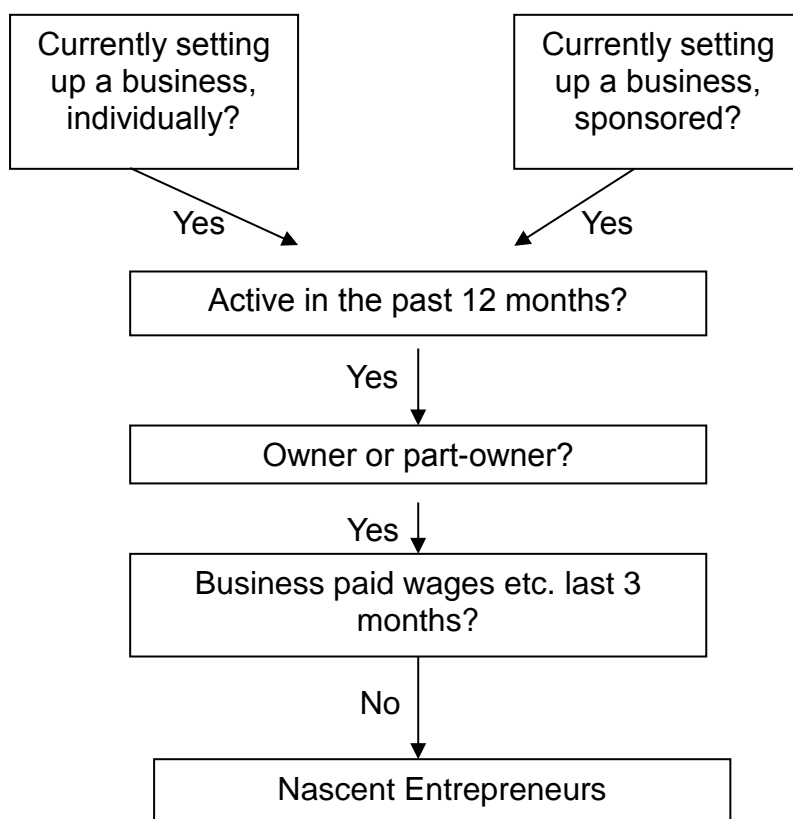
The data consists of representative samples of at least 2,000 individuals in each country, drawn from the working age population. GEM surveys were completed through phone calls and through face-to-face interviews in countries, where low density of the telephone network could create a bias. National datasets are harmonised across these countries (for a detailed discussion of the sampling procedure and GEM methodology see Reynolds et al. 2005).

GEM is unique as unlike other entrepreneurship data sets, focusing on newer and smaller firms, GEM studies the behaviour of individuals with respect to starting and managing a business (Reynolds et al. 2005).

An Overview of Global Entrepreneurship Monitor conceptual framework of operationalization of entrepreneurial process

GEM distinguishes between (i) people with the intention to start a business, (ii) nascent entrepreneurs (who are already in a process of establishing a new firm, also labelled start-ups) and (iii) currently operating young firms (under three and a half years); (iv) established businesses (beyond 3.5 years of operation). The first category describes **potential entrepreneurs**, or those who (1) believe they possess the capability to start a business, (2) see new business opportunities, and (3) would not be dissuaded from doing so for fear of failing. The second category are **start-ups** or **nascent entrepreneurs** are, according to GEM criteria, defined as individuals between 18-64 years old, showing some action towards setting up a new business whether fully or partly owned. They also must not yet have paid any wages or salaries for more than three months (Figure 1).

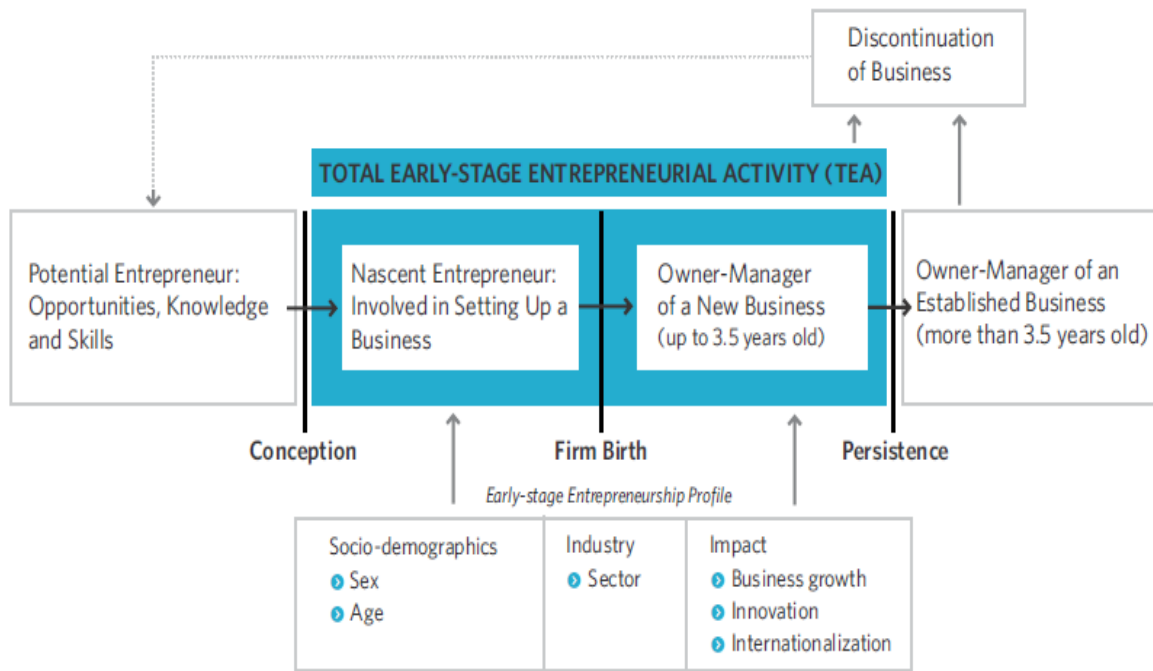
Figure 1. GEM classification of nascent entrepreneurial activity



Source: GEM 2013 Global reports

Altogether, start-ups (or nascent entrepreneurs), and young firms under three and a half years constitute **Total Entrepreneurial Activity (TEA)** (Figure 2). As one can see from Figure 2, in addition to distinguishing stages of entrepreneurial process, GEM project also provides unique information on start-up characteristics such as entrepreneurs' personal characteristics, ranging from standard socio-economic characteristics to more specific entrepreneurial traits, industrial representation, and entrepreneurs' role in economic development process, captured through their potential impact to (a) create jobs; (b) to innovate; and (c) to internationalize.

Figure 2. The Entrepreneurship process and GEM operational definitions



Source: GEM 2013 Global report

Following the World Economic Forum’s Global Competitiveness classification of countries by the level of economic development, GEM distinguishes three country groupings, namely factor-driven, efficiency driven, and innovation-driven economies (Table 1). By using such groupings, GEM allows for comparison of economies across similar development levels and geographic locations.

Table 1. GEM economies by geographic region and stage of economic development

Region	Factor-driven economies	Efficiency-driven economies	Innovation-driven economies
Latin-American and Caribbean		Argentina, Brazil, Barbados, Chile, Colombia, Ecuador, Guatemala, Jamaica, Mexico, Panama, Peru, Suriname, Uruguay	Trinidad and Tobago
Middle East & North Africa	Algeria, Iran, Libya		Israel
Sub-Saharan Africa	Angola, Botswana, Ghana, Malawi, Nigeria, Uganda, Zambia	Namibia, South Africa	
Asia Pacific & South Asia	India, Philippines, Vietnam	China, Indonesia, Malaysia, Thailand	Japan, South Korea, Singapore, Taiwan
Europe – EU28		Croatia, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovak Republic	Belgium, Czech Republic , Finland, France, Germany, Greece, Ireland Italy, Luxembourg, Netherlands, Portugal, Slovenia , Spain, Sweden, United Kingdom

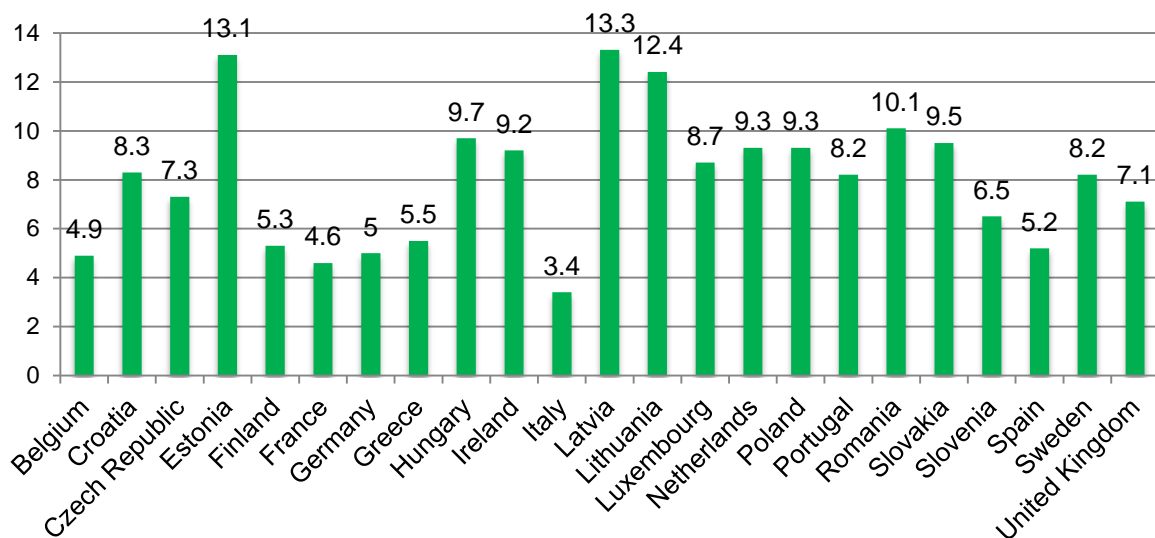
Europe – NonEU28		Bosnia and Herzegovina, Macedonia, Montenegro, Russian Federation, Turkey	Norway, Switzerland
North America			Canada, Puerto Rico, United States

Source: GEM 2013 Global reports, p. 10.

CEECs, in their majority, are placed within the efficiency-driven economies' grouping, characterised by higher level of industrialisation, economies of scale and dominance of larger businesses, although supply chain niches open up for small and medium-sized. Czech Republic and Slovenia are the only two CEECs that have made transition to a grouping of innovation-driven economies, characterised by expanding service sector, R&D and knowledge intensity, and greater potential for innovative entrepreneurial activity.

Figure 3 shows Total Entrepreneurial Activity (TEA) for EU28 nations, including CEECs whereas Table 2 shows TEA dynamics for CEECs over the period of 2000-2013, where such data are available.

Figure 3. Total Entrepreneurial Activity for EU-28 countries



Source: Global Entrepreneurship Monitor 2013

Figure 3 shows that out of EU-28 countries the top three countries scoring high in TEA rates are the Baltic States, including Estonia, Latvia and Lithuania. All three come under the grouping of efficiency-driven economies, characterised by dominance of larger businesses, and respectively expected lower TEA rates. However, this seems to be not the case here. Relatively higher TEA rates (compared to the GEM sample averages) in these economies could be attributed to the catching up process in which replicative entrepreneurship tends to play one of the central roles in promoting economic growth. The replicative entrepreneurship encompasses start-ups filling in a market niche that has not been exploited yet via replication of technologies developed elsewhere (Minniti and Levesque, 2010). This

type of innovation underlies creative imitation which is expected to contribute to technological upgrading and growth through provision of product diversity and increase in competition with no incurring of R&D.

Table 2. Total Entrepreneurial Activity dynamics over 2001-2013 in CEECs, using GEM data.

Year/ Country	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Croatia	-	2.9	2.0	3.0	4.9	7.7	6.8	6.3	5.0	4.9	6.7	8.0	8.3
Czech Republic	-	-	-	-	-	6.2	-	-	-	-	8.3	-	7.3
Estonia	-	-	-	-	-	-	-	-	-	-	-	14	13.1
Hungary	8.9	6.6	-	4.2	1.8	6.2	6.9	7.0	8.9	7.7	6.3	9.0	9.7
Latvia	-	-	-	-	6.0	5.4	4.1	6.5	10.3	9.5	11.6	13.0	13.3
Lithuania	-	-	-	-	-	-	-	-	-	-	10.8	7.0	12.4
Poland	7.1	3.8	-	8.6	-	-	-	-	-	-	10.4	9	9.3
Romania	-	-	-	-	-	-	2.5	2.9	3.2	2.7	8.4	9	10.1
Slovak Republic	-	-	-	-	-	-	-	-	-	-	14.4	-	9.5
Slovenia	-	3.9	3.3	2.2	4.2	4.6	4.8	5.7	4.9	4.2	3.4	5.0	6.5
Efficiency-driven economies' average (excluding CEECs)	10.1	9.7	11.8	17.2	10.6	13.4	12.6	12.1	12.4	13.6	14.9	14.0	15.6
All country average	6.5	6.1	6.9	6.4	6.6	7.1	7.1	8.6	7.9	10.5	11.0	14.3	13.5

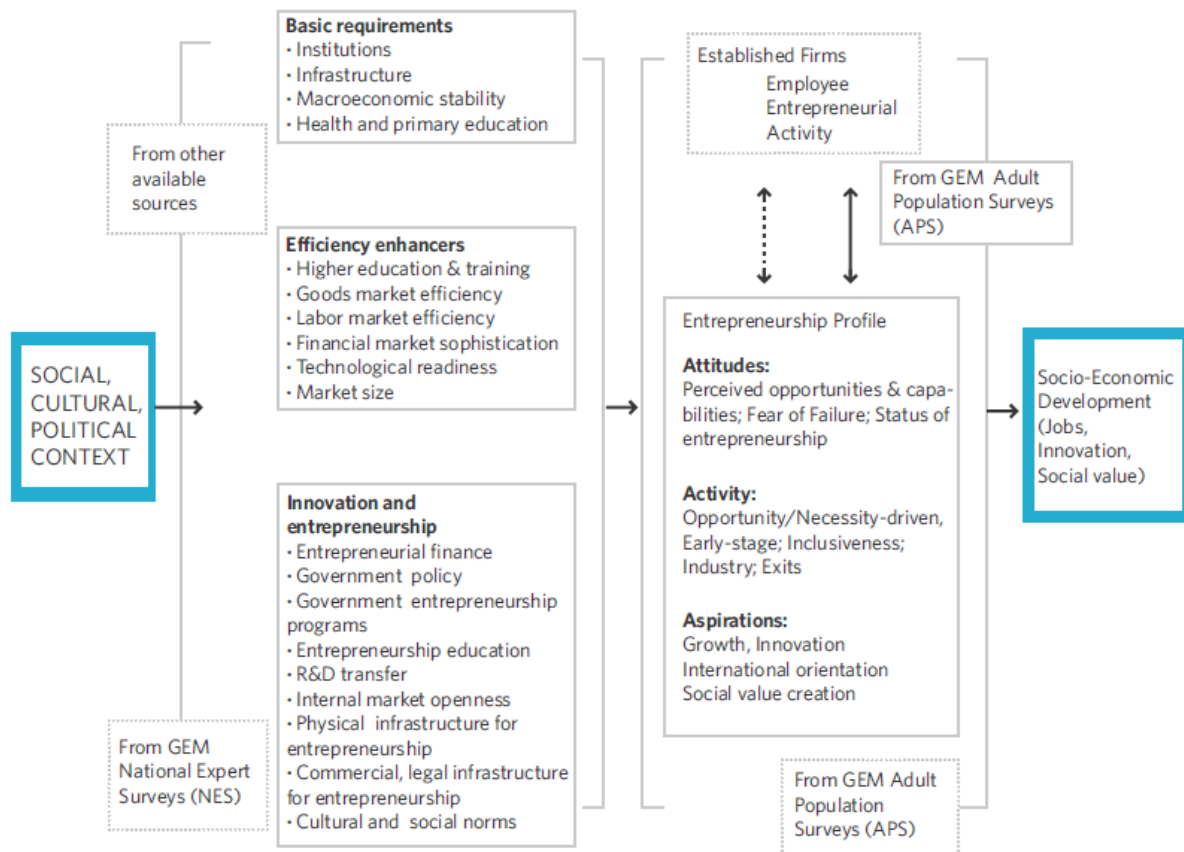
Source: Author's calculations based on the Global Entrepreneurship Monitor cross-sectional pooled data for the years 2001-2011; data for 2012-13 are obtained from the 2012 and 2013 GEM Global Reports.

GEM framework for assessing the role of entrepreneurship in national economic growth

GEM also allows to explore the role of entrepreneurship in national economic growth, unveiling detailed national features and characteristics associated with entrepreneurial activity (see Figure 4). More specifically, Figure 4 shows how entrepreneurial framework conditions and the entrepreneurship profiles, encompass entrepreneurial attitudes, activity and aspirations, relating those to national economic growth, innovation and job creation. Since Baumol (1990), a literature has emerged suggesting that entrepreneurial activity will vary by country according to the quality of institutions (Baumol and Strom 2007; Boettke and Coyne 2009). Therefore, GEM emphasizes the

importance of the institutional environment as part of entrepreneurial framework conditions, and arguing that their role in promoting entrepreneurship will vary depending on different stages of economic development.

Figure 4: GEM theoretical framework assessing the role of entrepreneurship in socio-economic development



Source: Global Entrepreneurship Monitor 2013 Global report

From the perspective of potential contribution of entrepreneurial activity to economic growth, GEM distinguishes different types of entrepreneurship, broadly following Baumol's (1990) idea of productive, unproductive and destructive entrepreneurship. GEM specifically identifies opportunity-driven, employment growth-ambitious and innovation-oriented entrepreneurship as examples of productive entrepreneurship that has higher potential to contribute to economic growth as compared to mediocre less-growth ambitious entrepreneurship. Below, we further define these different typologies of entrepreneurial activity, and explore their patterns across CEECs.

Opportunity vs. Necessity-driven entrepreneurship

First of all, GEM identifies different types of entrepreneurial activity by motivation of individuals of getting engaged either in opportunity-driven (referred in recent GEM reports as also improvement-driven) entrepreneurial activity or necessity-oriented entrepreneurship. The former is defined as the percentage of individuals involved in TEA who (i) claim to be driven by opportunity as opposed to finding no other option for work; and (ii) who indicate the main driver for being involved in this opportunity is being independent or increasing their income, rather than just maintaining their

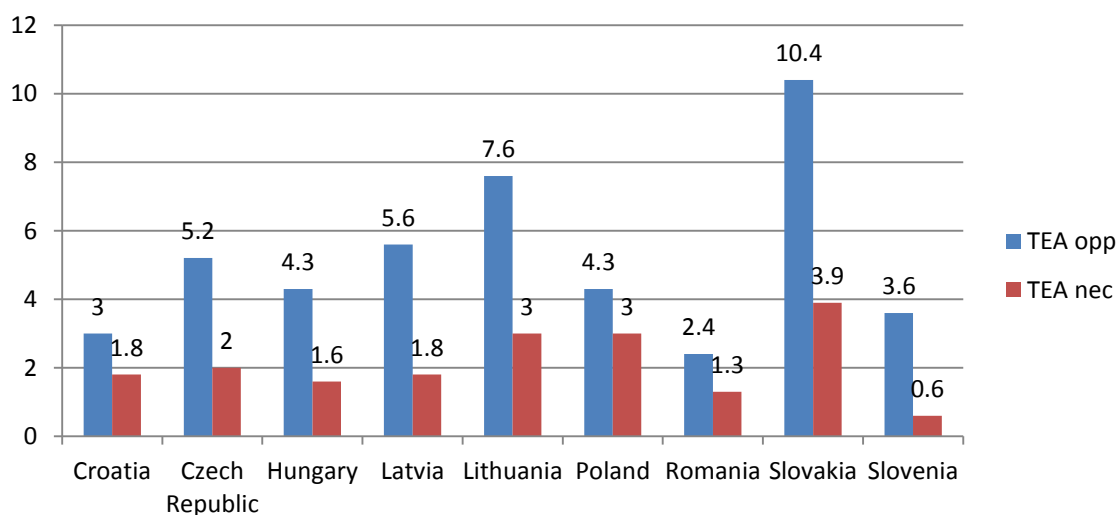
income; the latter encompasses individuals involved in entrepreneurship because they had no other option for work (see <http://www.gemconsortium.org/Measures>).

Opportunity-driven entrepreneurship is expected to foster innovation via identifying and commercially exploiting opportunities should foster greater levels of innovation, seen as main source of economic growth according to Schumpeter (1934). At the same time necessity-driven entrepreneurship is seen as mediocre entrepreneurship that adds less value to an economy, compared to opportunity-driven entrepreneurship. GEM provides some evidence that the rate of necessity-oriented entrepreneurs is higher factor-driven (less-developed) economies, whereas opportunity-motivated entrepreneurship dominates in innovation-driven (developed) economies (see GEM, various reports).

On average for the period of 2001-2011¹, the propensity of opportunity-driven TEA in CEE reaches 4.1%, whereas the GEM country sample average is equal to 5.6% over the same period. The rate of necessity-driven entrepreneurship is fairly small, accounting only for 1.6% of the CEE sample population (compared to the whole sample average of 2%). While it steadily declined over the period 2001-2007 from 2.8% in 2001 to 1% in 2007, it surged again in the aftermath of the global financial crisis reaching its 2001 level in 2011.

There is a lot of heterogeneity in the prevalence rates of opportunity- vs. necessity-driven entrepreneurship across CEE countries (see Figure 5): the Slovak Republic exhibits the highest level of opportunity-driven entrepreneurship (10%) among CEECs, although this country seems also to have the highest level of necessity-driven entrepreneurship among CEECs, reaching 3.9%. Among other leaders of opportunity-driven entrepreneurship are the Baltic States, and Czech Republic. Surprisingly, Slovenia has the relatively modest level of opportunity-driven entrepreneurship, although this is one of the two CEEs that has managed to be upgraded to the innovation-driven stage of economic development, where opportunity-motivated entrepreneurship is expected to drive economic growth.

Figure 5: Opportunity vs. Necessity-driven Total Entrepreneurial Activity, CEE country averages, 2001-2011



Source: Author's calculations based on GEM 2001-2011

¹ In this report to undertake analysis of certain entrepreneurship-related indicators for CEE not accessible via the GEM annual global reports, we primarily focus on the period of 2001-2011 given the data availability.

Entrepreneurial growth aspirations

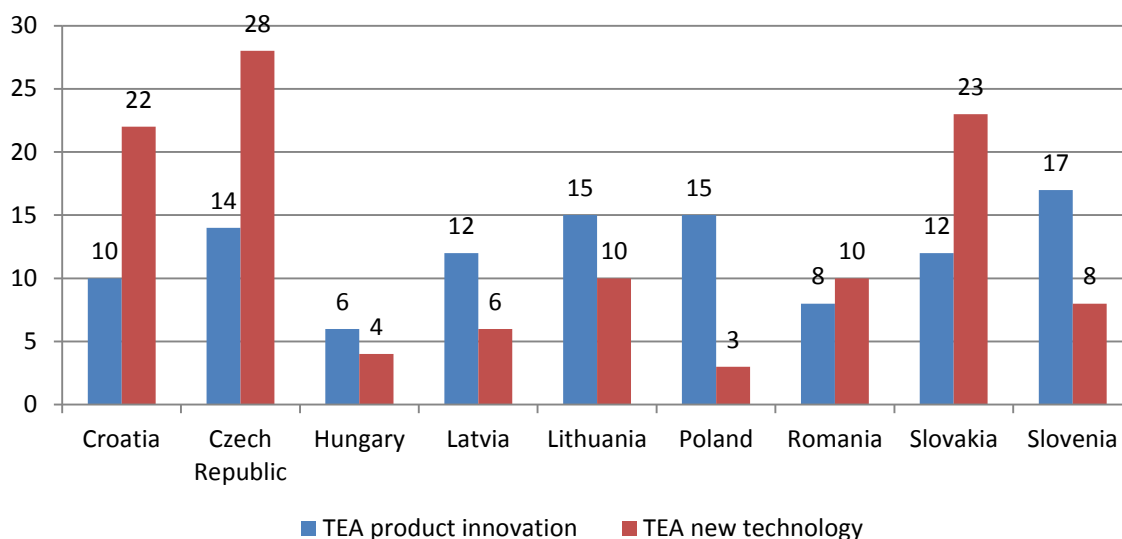
In practice, entrepreneurship denotes a multitude of activities from large scale new firm creation via developing new business models within existing firms to more flexible employment relationships for a single individual through self-employment, viewed as low-value added form of entry. In GEM growth-ambitious entrepreneurs are captured via the question of how many jobs entrepreneurs are expected to create in 5-years time period. As compared to the rest of the sample, entrepreneurs in CEECs seem to have fairly low employment growth ambitions: they expect to employ approximately one employee in a 5-year time horizon of start-up operation, compared to the sample average of 2.5 employees. Growth aspirations of entrepreneurs vary from as low as 0.64 jobs in Romania to as high as 1.9 jobs in Latvia.

Innovation orientation and internationalization of TEA

GEM also distinguishes entrepreneurs by the degree of their innovation orientation that constitutes central part of entrepreneurs' strategic orientation. By taking a strategic orientation which opens them to new processes, systems and markets, entrepreneurs 'routinize' a pattern of strategic behaviour which facilitates and reinforces growth by developing their firms' capabilities. In GEM innovation orientation is measured by using two variables, allowing to distinguish between product- and technology innovation. Thus, the notion of 'innovative product' is captured through the GEM question about whether all of customers consider a product or service as new and unfamiliar. In turn, 'innovative technology' is captured through the question whether the technologies or procedures required for producing this product or service have been available for less than a year.

The analysis of innovation-orientation of entrepreneurs (by product) reveals that on average in CEECs the prevalence rate of innovation-oriented entrepreneurship reaches 11% (compared to 17% for the whole sample). The rate of innovation-orientation of entrepreneurs (by the use of innovative technology) in CEES is similar to the one as defined by product (11%) that is generally comparable with the sample average (12%). Figure 6 shows variation of entrepreneurs' innovation orientation both by product and by technology in CEECs. Interesting enough Czech Republic, Croatia and Slovakia appear to exhibit fairly high prevalence rates of innovation-oriented entrepreneurs defined by the use of new technology.

Figure 6: TEA: innovation orientation



Source: Author's calculations based on GEM 2001-2011

Conclusions

This report presented an analysis of entrepreneurship developments in Central and Eastern Europe using Global Entrepreneurship Monitor data. GEM project is unique as it allows to undertake an international comparative analysis of entrepreneurship trends across a wide range of countries worldwide, including Central and Eastern European countries, although not all of them are observed on a regular annual basis.

The analysis presented in this report shows that the rate of total entrepreneurial activity in CEECs is relatively high, especially given their grouping within efficiency-driven stage of economic, characterised by dominance of larger businesses, and respectively expected lower TEA rates. Relatively higher TEA rates (compared to the GEM sample averages) in these economies could be attributed to the catching up process in which replicative entrepreneurship tends to play one of the central roles in promoting economic growth. This seems to be supported by the data on innovation-driven entrepreneurs, the rate of which is lower in CEECs compared to the GEM sample average with a few exceptions (e.g. Croatia, Czech Republic and Slovakia in part of innovation defined by the use of new technology). The argument regarding the dominance of replicative entrepreneurship as a driving factor for growth in the context of these economies is also supported in empirical investigation of the link between strategic orientation of entrepreneurs, their growth aspirations and knowledge intensive environment (see a WP3 working paper by Estrin, Korosteleva and Mickiewicz 2014). Finally, we also find that compared to other economies observed by GEM, entrepreneurs in CEECs demonstrate relatively low growth ambitious, suggesting that in their majority they may operate in markets with a narrow-customer base with no aspirations to capture a broader market.

Bibliography

Baumol, W. 1990. Entrepreneurship: productive, unproductive, and destructive. *Journal of Political Economy*, 98 (5, Part I), October, pp. 893-921.

Baumol, W.J., Litan, R.E., Schramm, C.J. 2007. Sustaining entrepreneurial capitalism. *Capitalism and Society* 2(2), pp. 1-36.

Boettke, P.J. Coyne C.J. 2009. Context matters: institutions and entrepreneurship. *Foundations and Trends in Entrepreneurship* 5 (3), pp. 135-209.

Levie, J. and Autio, E. 2011. Regulatory Burden, Rule of Law, and Entry of Strategic Entrepreneurs: An International Panel Study. *Journal of Management Studies*, 48, pp. 1392–1419.

Minniti, M., Lévesque, M., 2010. Entrepreneurial types and economic growth. *Journal of Business Venturing* 25, pp. 305-314.

Reynolds, P., Bosma, N., Autio, E. Hunt, S., De Bono, N., Servais, A., Lopez-Garcia, P., Chin, N., 2005 *Global Entrepreneurship Monitor: Data collection design and implementation 1998-2003*, *Small Business Economics*, 24, pp. 205-231.

Terjesen, S., J. Hessels, and D. Li, 2013. Comparative international entrepreneurship: a review and research agenda, *Journal of Management*, DOI: 10.1177/0149206313486259.