“Dynamics of high growth enterprises – „gazelles“– in Czech Republic”

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Dynamics of high growth enterprises – "gazelles"– in Czech Republic

Abstract

This article researches existence of young, high growth enterprises, "gazelles", in the context of high growth enterprises in Czech Republic. For this purpose the authors have analyzed dynamics of growth of enterprise subjects referred to as "gazelles" in a population of high growth enterprises and all enterprise subjects in a given economy. Two following criteria were taken into consideration: turnover and employment growth. Research of relevant data respects the sector criterion and monitors a 6-year growth period. It is stated that young, high growth enterprises – "gazelles" – in Czech Republic and in other compared countries are represented by enterprises which, even during the crisis period, by their development generate increase in new working positions as well as increase in annual turnover. They make up an important part of enterprises of all compared countries, and they contribute significantly to competitiveness of given economies. During the observed period the prevalence of gazelles was higher in the service sector in all compared countries, and there is an obvious transfer of gazelle enterprises from the manufacturing sector to the service sector.

Keywords: gazelles, high growth enterprises, dynamic growth.
JEL Classification: L25, M13, M16.

Introduction

In the free market economy based on a principle of competitiveness and free price formation, the small and medium-sized enterprises fulfill an important economic function. These enterprises are more flexible when it comes to adapting to the market changes; they constantly produce and innovate in order to survive in the strong competition battle. They play a significant role in total employment, they fulfill an important task in the course of generation of potential jobs, and they directly contribute to the unemployment reduction. Important elements of small and medium-sized enterprises are high growth enterprises. Young, high growth enterprises called "gazelles" are their significant part. Criterion of the "gazelle" determination is the function period of the enterprise (a period from its establishment) which is determined to be a maximum of 5 years.

1. Methodology

The goal of submitted article is to identify function of gazelles and dynamics of their development in the context of high growth enterprises in Czech Republic (further on as "CZ") economy, as well as to prove their significance in employment in the given economy. Article gives a detailed growth and dynamics analysis of young, high growth enterprises gazelles in CZ in the context of high growth enterprises (further on as "HGE"). Article provides evaluation of competitiveness of relevant subjects from a viewpoint of performance indicators (turnover and employment) in CZ, and subsequently compares position and progress of gazelles according to employment criterion within selected countries. Further on, it identifies differences of their growth in given economies in correlation to the crisis period course. Several methods were used to reach the appointed goal. During the adaptation of starting-point theoretical-methodological basis we have used a method of content analysis of secondary knowledge sources in domestic and foreign literature. Comparison method and quantitative methods are covered by statistical research based on secondary quantitative data. We have used these to identify dynamics of performance indicators of gazelle representation in HGE in CZ and to compare given EU market and CZ. Main sources of statistical data that we have used for this purpose were statistical databases of Eurostat and OECD. Source data from the Eurostat and the OECD, are the latest in 2014 (published data for 2011). In order to provide a comprendious representation of comparative analysis outputs we have applied method of graphical overview completed by tables. By systemizing gained knowledge we are forming a complex data base for deduction of competitiveness of given sector of enterprise subjects in CZ and consequently in selected EU countries.

2. Literature review

Since the decade of the 30s, a wide range of literature has been developed about the phenomenon of company growth (Storey, 1994). The idea that small businesses create most of the new employment was first mentioned by economist David Birch in his publication The Job Generation Process (1979). He elaborated this theory into the following quote: "Small percentage of firms generates most of the new employment" (Birch, 1992). In 1994, however, Birch revised his thesis, isolating job-creating companies he

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called "gazelles", characterized less by size than rapid expansion. Birch defined the species as enterprises whose sales doubled every four years. According to his estimates, these firms, roughly 4% of all U.S. companies were responsible for 70% of all new jobs (Zumbrun, 2009). The term "gazelle" is used to nominate those companies that are capable to experience a high rate of growth in a very short time (Birch et al., 1997; Moreno, Casillas, 2007, 2010). Some authors suggest characteristics of gazelle firms according the followings criteria: these are companies that experience a strong growth in their size, and simultaneously this strong growth happens in a very short period of time (Storey, 1994, 2010; Barkham et al., 1996). According to Barkham et al. (1996), Henrekson and Johansson (2008, 2010) and Mote (2012), gazelle companies are very important and interesting for business and society, because they create a great number of all new jobs, they are important for economic competitiveness and development (Mitusch, Schimke, 2011), and they also are the main creators of revenue growth and vibrant, competitive economy (Pšenicný et al., 2014). According to Frederick's research (2004) they play a significant role in regional restructuring and regional dynamism.

"Gazelles" create a significant source of economic growth and prosperity, their antipoles are "elephants" (like Wal-Mart) (Zumbrun, 2009). Elephants are gigantic companies with thousands employees; however, these companies do not create any significant number of new jobs (Autiu et al., 2000). Opposites are "mice" (corner barbershops) – businesses with slow growth, or stagnant small enterprises (Birch, 1987; St-Jean et al., 2008).

Gazelles bring new products on the market, and they search for new markets. They focus on production effectiveness and company processes, while using information technology and employing experienced workers (Barnard et al., 1998). Mostly we are talking about companies that are pioneers in structural changes in their field. Moreover, they have a fully developed company culture, based mostly on innovations and search for new opportunities to succeed on the market, or for growth within their market share. This means that they are oriented mainly on knowledge economy, science and research (OECD, 2013). They implement mainly new ideas and innovations into their processes – we can assume that these enterprises could be the biggest innovators on the market (Stone and Badawy, 2011). So called "gazelle" has its own critical size ensured by its turnover, which presents several million EUR (Autiu et al., 2000). Successful "gazelles", according to Canadian publication: Elusive Gazelles – Finding Them and Helping Them Grow, have significant experience with foreign trade and they have experienced management (Barnard, P. et al., 1998). According to Stone and Badawy (2011) a combination of a start-up business and a gazelle is possible, since the company filling a gap on the market through their innovations has an enormous predisposition for further growth.

From an aspect of activity of these companies in individual economy sectors (Autio et al., 2000; Henrekson and Johansson, 2008) "gazelles" do not have natural territory. We can find them in any economy sector or region. Parker et al. (2010) point out that foreign authors dealing with this theme have different opinions on function of young, high growth enterprises in economy sectors. Birch and his colleagues (1997) found out that growing companies are not necessarily found only in growing sectors. They do not seem to be overrepresented in high-tech industries, but there is some evidence that they are overrepresented in services (Henrekson and Johansson, 2008; 2010). Overall, though, close to 30% of all gazelles are in wholesale and retail trade (Birch et al., 1997). Koehler and Moller (1998), on the other hand, state in their analysis that, for example, manufacturing and wholesale were among the slower growing sectors during the observed period, yet they produced the largest proportion of high growth enterprises, and service sector was one of the fastest growing industry sectors, yet produced the fewest high growth enterprises. According to Finish study (Autio et al., 2000) the highest representation of gazelles is in the industry sector, followed by a significant representation in sector of motor vehicles manufacturing. More detailed analysis carried out in the USA (Birch et al., 1997) found that only two of the top twenty national gazelle growth sectors were in "high-tech" industries (electronics and instruments) and concluded that most gazelles were located in average or slow growing industrial sectors such as textiles, paper products, heavy construction, and stone, clay and glass products.

3. Definitions

This paper investigates the growth and employment in CZ and selected countries' thresholds used by the OECD and Eurostat in developing definitions for high growth enterprises and gazelles for the Eurostat-OECD Manual on Business Demography Statistics.

Authors Petersen and Ahmad (2007) recommend defining high growth enterprises as all enterprises with average annualized growth greater than 20% per annum, over a three year period. According to European Commission definition (2007) growth can be measured by the number of employees or by turnover. Gazelles form a subset of the group of high growth enterprises, they are high growth enterprises born five years or less before the end of the three-year observation period (OECD, 2012). The rate of

high growth enterprises and rate of gazelles measure, respectively, the number of high growth enterprises and the number of gazelle enterprises as a percentage of the population of enterprises with ten or more employees (OECD, 2011). To avoid the small size class bias that such definitions inevitably contain, the definitions include the further qualification stating that enterprises should have at least 10 employees at the start of any observation period and this threshold applies to both the employment and turnover based measures (Petersen and Ahmad, 2007).

3.1. Dynamics of growth of HGE and gazelles in Czech Republic. Key indicator of HGE and gazelles' position in economy is their share in number of small and medium-sized enterprises (with more than 10 employees). Two following evaluation criteria are respected:

- employment increase;
- turnover increase.

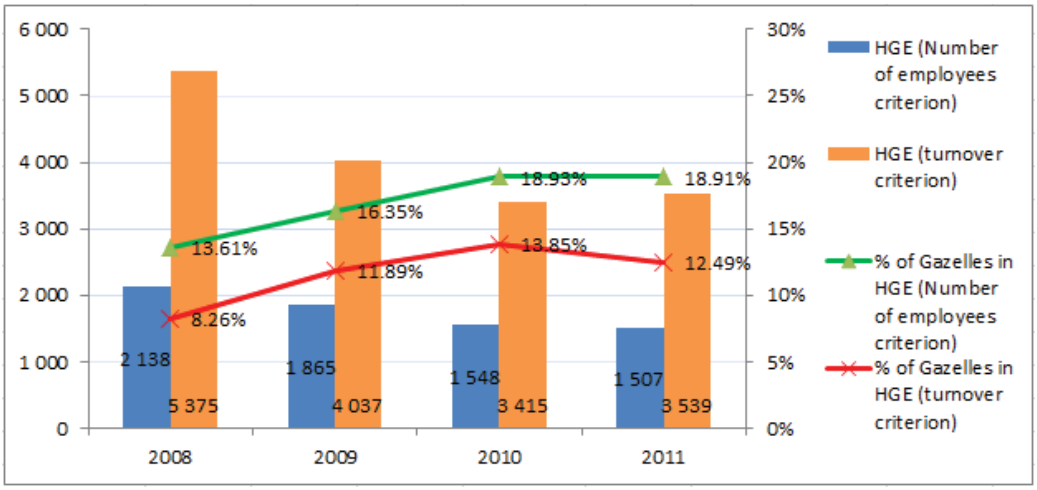
In 2011, based on the number of employees growth criterion, gazelle companies accounted for a small share of total companies with 10 or more employees 0.66% (measured in employment) corresponding, however, to 3.48% (measured in turnover) of total companies with 10 or more employees in CZ. In the year of 2011, representation of HGE in Czech economy, based on employment criterion, was 3.48% and share of young HGE "gazelles" was 0.66%. If we evaluate this state based on the turnover criterion, the representation share of HGE is 8.16% and the share of young high growth enterprises gazelles is 1.02%, therefore based on this criterion subjected enterprises reach double values in comparison with the employment criterion.

Table 1. Number and share of HGC and Gazelles in the population of active enterprises measured in employment and turnover in CZ 2008-2011

	Number of high growth eEnterprises				Gazelles			
	Measured in employment		Measured in turnover		Measured in employment		Measured in turnover	
	N	%	N	%	N	%	N	%
2011	1 507	3.48% ↓	3 539	8.16% ↓	285	0.66% ↑	442	1.02% ↑
2010	1 548	3.51% ↓	3 415	7.75% ↓	293	0.66% ↑	473	1.07% ↑
2009	1 865	4.15% ↓	4 037	8.99% ↓	305	0.68% ↑	480	1.07% ↑
2008	2 138	4.62%	5 375	11.62%	291	0.63%	444	0.96%

Note: own processing according to Eurostat, 2014.

Based on both evaluation criteria, representation of gazelles was increasing in spite of a decrease of HGE during the observation period. Given the same conditions and measurement, the turnover criterion reaches double values as compared to evaluation of both types of HGE based on number of enterprises measured by employment. It could be caused by a fact that if HGE and gazelles function in areas where there is high value added per one employee, then such companies are able to generate higher outcome without employing new workers. To prove dynamics of gazelles' growth in CZ we have created a chart, based on data from Eurostat database (2014), where there are presented value indicators for HGE (in number of enterprises based on employment and turnover criteria) and share indicators for gazelles. This way we have documented representation of gazelles in HGE.



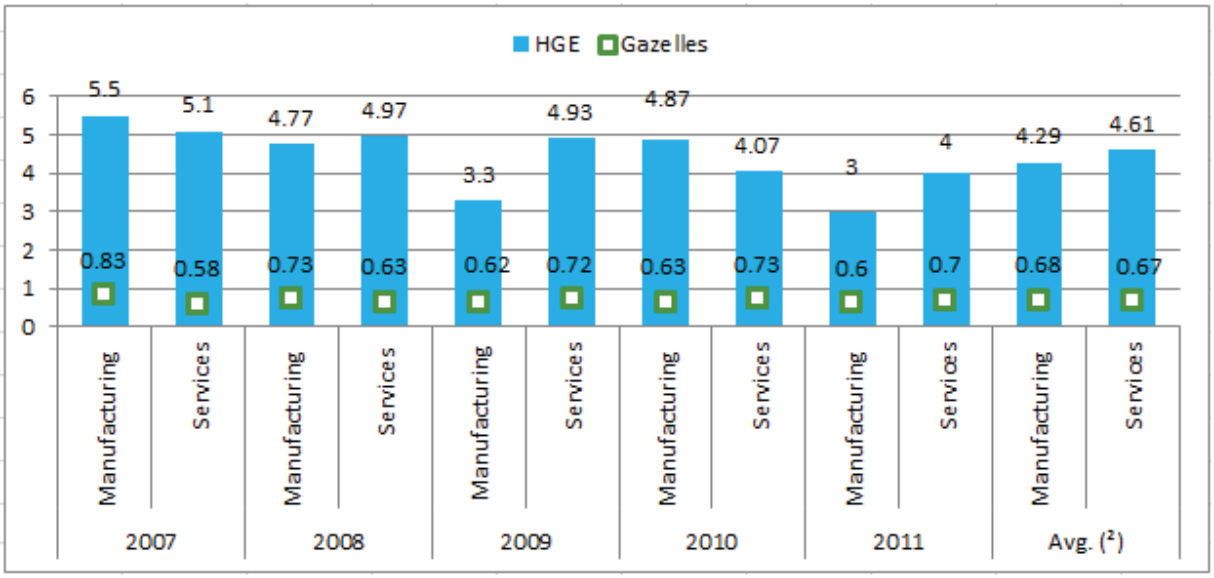
Note: own processing according to Eurostat, 2014.

Fig. 1. Number of high growth enterprises and share of Gazelles in HGE (2008-2011), Czech Republic

The number of young, high growth enterprises (gazelles) has also increased over the given period, yet their share on the total HGE has increased to 18.91% in 2011, 5.3 p.p. higher than in the initial year 2008 on the employment basis. The number of high growth enterprises decreased significantly between 2008 and 2011, in line with the slowing down of economic activity during the crisis. When the criterion used was turnover growth, the importance of high growth enterprises has decreased between 2008 and 2011, however, gazelles' share until 2010 has increased by 4.2%, followed by a mild interannual decrease in 2011, when subjected enterprises could not keep up marked acceleration from 2010 but still were achieving more significant position in HGE group than in 2008. It is obvious that during the crisis period of 2008-2009 HGE noted decrease within number of enterprise subjects. However, share of gazelles in HGE interannually accelerates and gazelles are achieving more significant position in this group year-over-year.

According to representation of gazelles in individual economy sectors (manufacturing and services) it is clear that monitored parameter of employment growth decreased in the HGE group (Figure 2). However, gazelles as a subgroup of HGE document a stabile position, mainly in the service sector. In 2011 gazelles and also HGE are more represented in the services than in the manufacturing – that is a notable change in comparison with the initial year of 2006, when these enterprises reached higher values in manufacturing. This fact could be caused by transfer of economy focus from manufacturing to services and to knowledge economy as well. Decrease in level of dynamics of work positions' growth can be caused by the crisis and optimization effort and effort for increasing the jobs' effectiveness. This causes employer pressure on the increased value added generation per one employee.

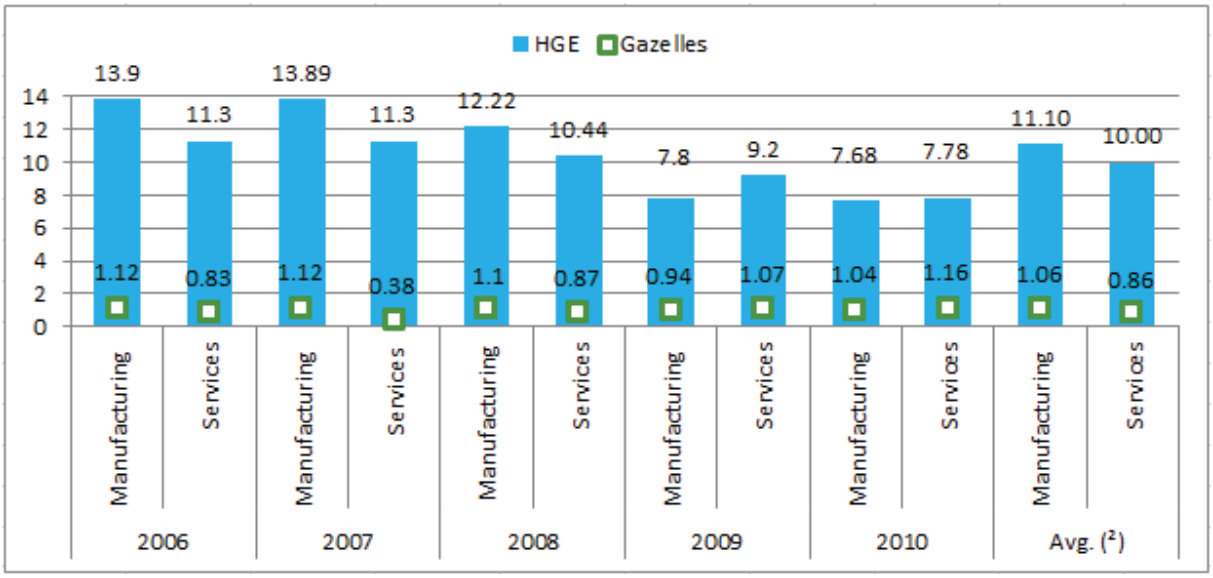
Employment increase development in HGE and gazelles in CZ oscillated around average in observed economy sectors and after overcoming crisis in 2009 both segments, HGE and gazelles, moved from manufacturing into the service sector. In services gazelles annually gain shares higher than average for observation period, and these shares are also higher in comparison with the period before crisis.



Note: own processing according to OECD, 2011, OECD, 2012, OECD, 2013 and OECD, 2014.

Fig. 2. Share of HGE and Gazelles in Czech Republic by industry, 2007-2011 (employment definition)

From the viewpoint of gazelles in CZ, measured in turnover, this range moves from 13.9% in HGE manufacturing, based on data from 2006, with a dropping tendency with the lowest values in manufacturing in 2011. Observed values note a significant drop in HGE shares in both economy sectors; during the observed period these values did neither reach average values nor average from the before-crisis period. In the gazelles' group, on the other hand, observed values increased as compared to the initial year and that happened even in spite of the crisis. Once more we have recorded transfer of gazelles from manufacturing to services, in similarity with findings based on the employment increase criterion. Detailed results are provided in the following chart.



Note: own processing according to OECD, 2011, OECD, 2012 and OECD, 2013.

Fig. 3. Share of HGE and Gazelles in Czech Republic by industry, 2006-2010 (turnover definition)

Prevalence of high growth companies in CZ in the service sector (measured based on employment and turnover criteria) was higher than in the manufacturing. Comparison of our findings with claims of several authors (stated in the References) points out a specific definition. This definition is related to the following facts:

- authors used older statistical data presenting representation of gazelles per economy sectors (before 2008);
- strengthening of services economy;
- particularity of Czech Republic.

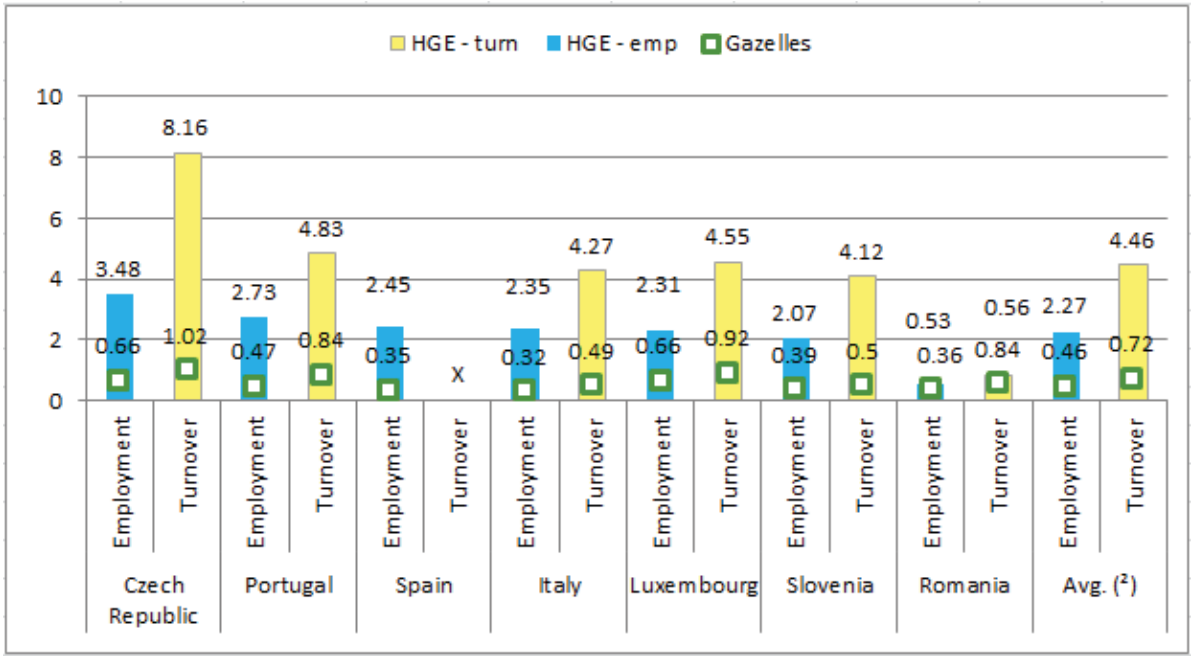
Current observations demonstrate a more significant representation of gazelles in services, and according to these facts we can predict a continuing trend of gazelles' transfer into the service sector also in the future.

3.2. International comparison. Gazelles and HGE are increasingly recognized by policy-makers. With the increasing recognition of high growth companies as drivers of economic and regional development, European Commission has launched many policies and initiatives to support existing high growth enterprises as well as to enhance their emergence. Policies that are designed in a SME-friendly issue might be especially applied for gazelles (Mitusch and Schimke, 2011).

Based on observations of foreign authors referred to in the introduction of this article, and based on our observation of importance of HGE and gazelles in CZ, we have decided to record HGE and gazelles' representation according to employment and turnover criteria in international context of selected countries.

Within countries whose complete data by OECD was available and which fulfilled given criteria, the central thresholds of 10 employees and 20% per annum, the growth dynamics was in the following rates: between 0.53%-6.04% for high growth enterprises on the employment basis, and between 0.36% and 0.66% for gazelles. Only for countries where information was available, gazelles corresponded to less than 0.5% of the total enterprises with 10 or more employees in 2011, based on the employment criterion. Countries such as Portugal, Spain and Italy have reached above-average values (over 2.27%) in the share representation of HGE in all enterprises with more than 10 employees in the year of 2011; the highest share, however, was recorded by Czech Republic (3.5%).

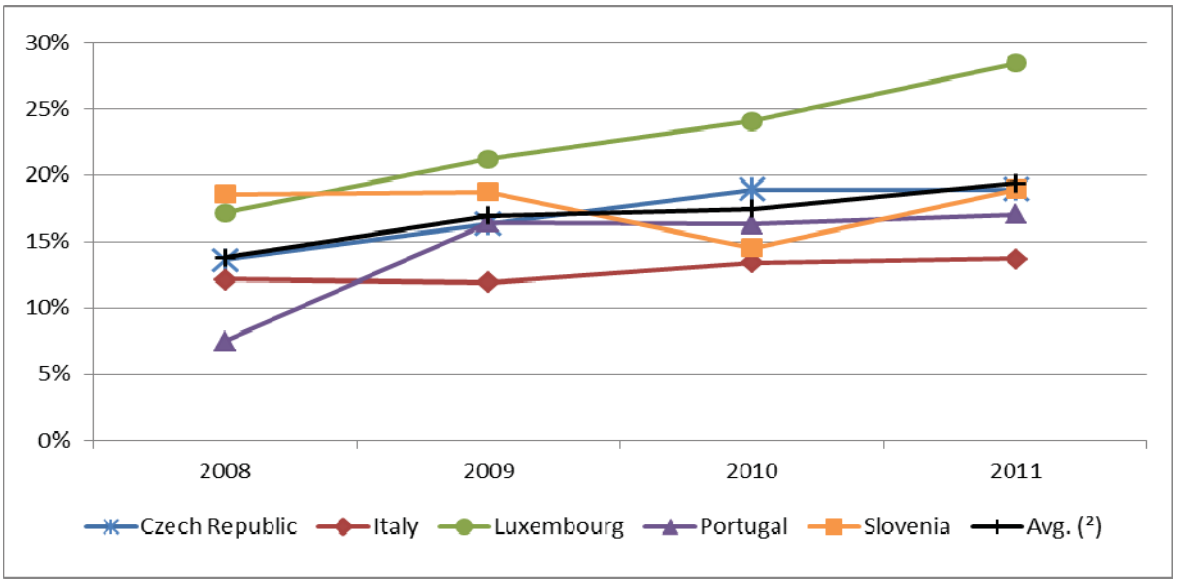
When comparing representation of HGE and gazelles based on the criterion of generated turnover increase, these values reach approximately double shares as compared with values reached by high growth companies with 10 and more employees based on the employee increase. HGE generate a span of 0.84% from the lowest values recorded in Italy, to CZ with 8.16% share in all enterprises. If we evaluate gazelles' share in all enterprises, double values are reached again in comparison with values reached by using generated employee increase criterion.



Note: own processing according to OECD, 2014.

Fig. 4. Share of HGE and Gazelles in the total companies with 10 or more employees in 2011 in selected countries, measured in employment and turnover

Documentation of dynamics of gazelles' position in economy of selected countries required use and processing of data from Enterpeneurship at Galace annual publications 2011-2014, which present representation of HGE and gazelles in enterprise population (employment criterion, because turnover criterion data were not available). Representation of gazelles in HGE is 15% on average and it showed a mild annual increase, which proves growth of dynamics of these indicators in observed economies. All countries oscillate around average values of gazelles' representation in HGE in observed countries (ranging from 14% in 2008 to around 20% in 2010) excluding Luxembourg, where the share of gazelles in HGE is higher than 25%.

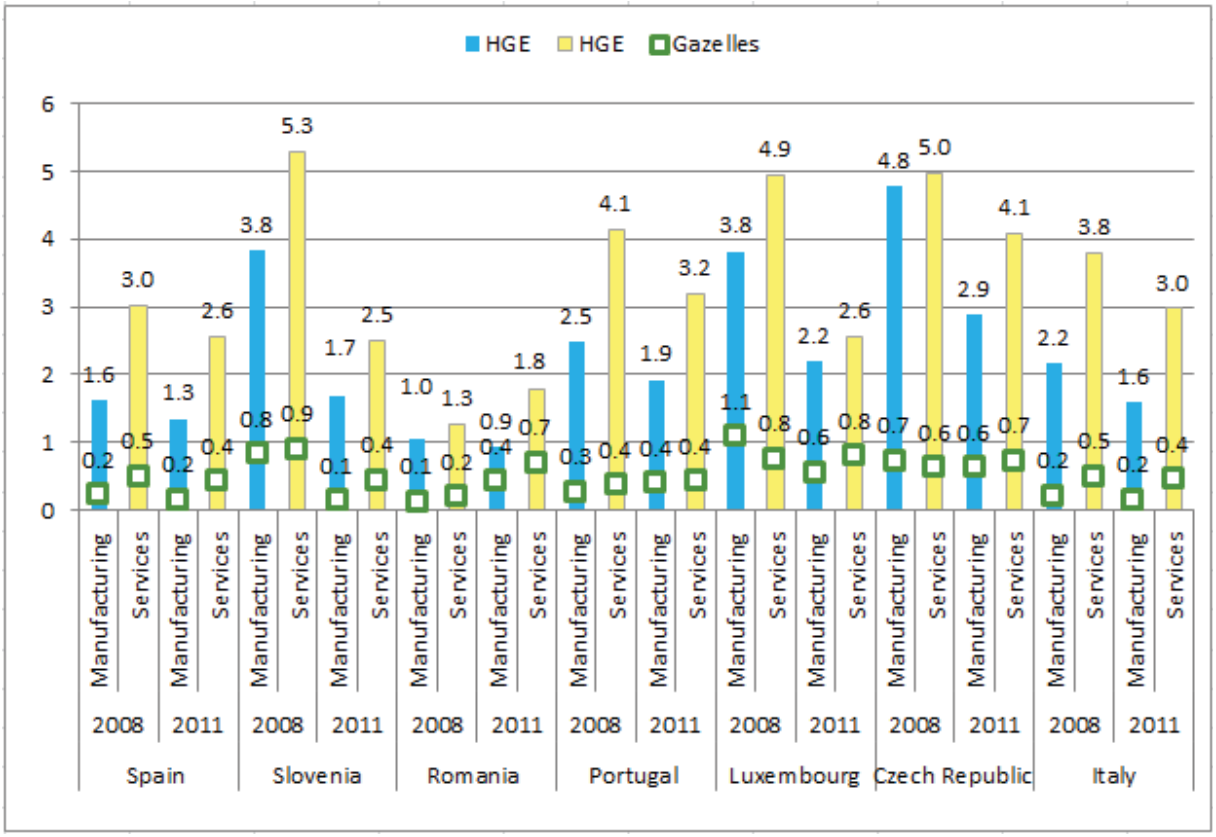


Note: own processing according to OECD, 2011, OECD, 2012, OECD, 2013 and OECD, 2014.

Fig. 5. Dynamics of Gazelles rate in HGE (number of employees criterion), selected countries, 2008-2011

One can state that dynamics of gazelles' increase is obvious in all countries that we have analyzed. In comparison with other countries, Luxembourg and CZ have experienced the most prominent increase of gazelles. Higher dynamics of new jobs in gazelles' entrepreneurship segment in CZ, during the observed period of time, was sufficient for CZ to reach a comparable level with other countries, which is shown

by their comparison. While observing sector representation of HGE and gazelles in chosen countries based on employment criterion, we can state that Czech high growth enterprises and a subgroup of gazelles show above-average values of their share in all enterprises with 10 or more employees in the service sector. Other compared countries have recorded relevant values as well (Fig. 6).



Note: own processing according to OECD, 2011, OECD, 2012, OECD, 2013 and OECD, 2014.

Fig. 6. Share of HGE and Gazelles in selected countries by industry 2008 and 2011 (employment definition)

The number of high growth companies decreased significantly between 2008 and 2011, in line with the slowing down of economic activity. In spite of the decrease in the HGE group, generally gazelles' share in all enterprises with 10 or more employees has increased as compared to the initial year of 2008. Actually in service sector this increase was higher than in manufacturing, where, on the contrary, gazelles' representation experienced a mild decrease during the observed period. Also in other observed countries gazelles, just like in CZ, currently function mostly in the service sector.

Conclusion

High growth companies and young high growth companies, gazelles, are quite rare in the most economies. Gazelles, as an important subgroup of HGE, make up only approximately 0.5%-1% of all newly established companies with 10 or more employees and with a growth higher than 20%. In CZ gazelles have experienced a significant dynamics of growth with a gradual transfer from manufacturing into service sector. Even though gazelles reach higher values based on the turnover criterion, when it comes to a percentual share in HGE, gazelles reach more notable values in increase in number of enterprises based on the criterion of generated employee increase.

Even though the growth of HGE was influenced during the observed period by the crisis and the recession and it was dropping in CZ and other compared countries, the subgroup of gazelles recorded a continual growth during the observed period of 2006-2011. One can say that during the crisis this segment of enterprise subjects was reaching higher representation in HGE as well as in all enterprises. Gazelles behave in an anti-cyclical way and do not react to rising recession by a drop in monitored indicators.

When it comes to the most compared countries, we have arrived at the same conclusions as regarding CZ. Less than 1% of enterprises with 10 or more employees are gazelles based on both evaluated criteria (turnover and employment). These values more-or-less correspond with values reached in CZ, and based on the observation results we can state that dynamics of gazelles' growth is significant in

all subjected countries, even though it is still the most outstanding in CZ. It was confirmed that during the overcoming of the crisis all observed countries experienced more notable prevalence of gazelles' growth in the service sector than in the manufacturing.

We recommend to individual economies to consider HGE and gazelles a cardinal subject of political and economic interest, because mainly gazelles are viewed as potential employers of relevant number of free working forces, and as providers of prosperity and competitiveness of individual economies.

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