

# Attractiveness of European Countries from the view of Private Equity and its Impact to the Industry in Europe

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**Abstract**– Global financial crisis revealed possibilities of access to public and private financing and national governments started to regulate financial sector more strictly. Private equity presents a new way of debt financing, and cheap money supported massive growth of industrial sectors of individual countries. Contribution analyzes index of private equity attractiveness and risk capital, presenting the attractiveness of individual European countries. Analysis was orientated to the performance of individual industries, orientated to the relation among indexes, industries and private equity acting in industry. Results show individual private equity investments and economic value show growth in individual countries. Countries with best performance recorded high growth of PE funds in spite of economic crisis. Similar results are recorded in most European countries.

**Keywords** – country attractiveness, private equity, industry growth, risk capital, globalization, European Union.

## 1. Introduction

Globalization with its hundred year history obliged a lot of functional and structural changes in different establishments. [1] Also individual countries are trying to achieve their competitiveness and sustainable development, which belong among long

term national and international initiatives in the world. [3] But on the other hand, globalization also brought global financial crisis, which revealed possibilities of access to public and private financing during last decades. Market and national governments emitted lowly interested and multiply structured financial means with low level of liquidity to economy. Moreover some parts of such structures were more vulnerable than others in time of negative global recession.

First results of crisis proved that national governments want to regulate financial sector more strictly and it influences high risk of lowly interested financial means, necessary for investments, at which private equity, as well as growth of economies is dependent.

Private equity funds started to grow considerably in the last decades not only in the USA, but also in Europe. Private equity presents a new way of debt financing, and cheap money supported massive growth of industrial sectors of individual countries. Necessity is to find measure, how private equity contributes to the growth of various industries, as well as its acting and impact to the chosen industries in various countries.

Index of attractiveness of private equity and risk capital consists of six main factors that are presented by research of Groh et.al (2008), which are used for construction of the index. [4] Main index factors are economic activity, capital market, taxes, protection of investor and corporate management, working and social environment and business possibilities.

Economic activity belongs among the most important factors and partial components of the total index. It is obvious that in number of dynamic environment segments with private equity operation and risk capital, economy will grow rapidly, providing more possibilities. [5]


Evaluation of total conditions of economy is very important, since level of conditions from the view of capital accumulation for investments, start-up companies and their financing has considerable noticeable value of attractiveness. [4] Number of

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literature presents GDP and economic growth as considerable and directly connected indicator towards activities of private equity companies that are also presented in study of Romain (2004). [6]

Groh et.al (2008) also used method for data adaptation. [4] According presented findings it is necessary to make adaptation of the total GDP per inhabitant, total GDP annual change, measure of unemployment, emission of new shares, capitalization of share market of the country, value of the paid dividend of share market, market of acquisitions and mergers, discount rate of central bank, private capital and other financial institutions, activity of private equity and risk capital, state expenses to education, number of university students, etc. All presented data are necessary for calculation of the main index of attractiveness of private equity and risk capital. Those indicators directly correspond to the presented theory of researches, orientated to the index construction. Partial role during index construction also have education, working laws, index of bribes, corruption and crimes. From the view of business possibilities following indexes are favorable - general index of innovation, expenses on development and research, level of company restructuring, activity on share market and obstacles in the frame of new companies rising. There are three methods for calculation of individual indicators in the frame of the total index. The first method is simple, consisting of process to add the same weight to every partial indicator. The second method is orientated to the indicator analysis and the third method is orientated to the various multiplication analyses of the indicators.

The final index of country attractiveness for private equity investor presents total image of performance and attractiveness in the frame of European countries and it is calculated according to individual data and indicators that are presented in quantitative values.

The single number of individual indicators during index construction is questionable. Nicolleti et.al (2000) mentions division of used indicators to three levels of the index. [7] Such approach will enable better and easier interpretation of achieved results and provide easy identified evidence regarding weaknesses and strengths of individual countries. According to the mentioned research single process of indexes aggregation will be simpler due to the massive number of data. For example in case of the indicator, mentioning human and social environment, the indicator has four partial indexes, but according to the used methods the indicator will be presented by single value in main index.

## 2. Methodology

During the research there were used six main indexes, necessary for construction of index of private equity attractiveness and risk capital, presenting attractiveness of individual European countries from the view of investments and industries.

Single indexes, factors and tasks are covered by chosen indicators that are used for construction of presented index. All indicators will be used from the view of merits of annual time axis and they will provide qualitative base for the analysis. Data used for index calculation are commonly available data. Main methodology of the index construction was summarized by Groh et.al (2008), but certain adaptation was necessary. [4]

During the process of data obtaining we met number of problems with non-qualitative data and weak evidence reports. According to the problems we tried to use number of data sources due to the elimination of not sufficient records. Single index is consisting from 33 indicators, including activity in 15 countries during 10 years. The file collection can be rather complex, but our goal is to obtain the biggest data collection, meeting the quality of measurability. We tried to eliminate excessive number of determinants and we included those indexes that according to the theory and methodology of the research should illustrate highest positive effect of private equity at the market and presence of the companies in the frame of the market with significant appearance at the market. Our process included certain steps of analysis, but in our case we eliminated certain factors and steps of the analysis.

The most sophisticated analyses were normalization and data standardization, single weight of individual elements of the index, geometric aggregation and scaling. From the methodology of index aggregation we eliminated the analysis of index consistency. The analysis had been done rather differently in comparison to the mentioned researches due to the fact that our goals were not in accord with the goals of the researches. The number of analyzed countries, factors and years is different, but in our case we tried to maintain uniqueness of given analysis. Last step of analysis was comparing, how private equity attractiveness increased level of activity in certain countries in comparison to the analysis of private equity transactions with activity of the companies in given countries and industries. Time set of data from 1993-2008 presented annual aggregated data to the end of the year. Also we needed to make certain changes in process of data preparation for single analysis and partial indicators of index, presented either by annual base, or as

aggregated values for given period. In case of missing data we made three different processes and their alternative obtaining. We used different, but alternative data database, further we made interpolation of recorded changes of individual appearance by using of trend development and finally we tried to use most actual data before the last analyzed year.

### ***Base of index calculation***

Certain deflation was made at chosen data with aim of heterogeneity of data providing due to the removing of influence of main index by improper direction. Due to the maintaining of differences between countries and observing proportional trend view to the development of individual countries we used deflator on GDP or number of inhabitants in the country. The reason of mentioned was removing of vast difference, based on size of individual countries.

### ***Data normalization***

Primary goal of data normalization is to normalize data for further analysis and index construction, which can be done by various methods. Methods, used by Freudenberg (2003), Jacobs et.al (2004), Nardo et.al (2005) present standardization and change of scales level [8], [9]. So-called z-score standardization means conversion of normal distribution data, where mean value is given by zero or standard deviation 1.

$$z = \frac{x - \mu}{\sigma} \quad (1)$$

where:

$x$  – value of single factor,

$\mu$  - mean value of evaluated factors,

$\sigma$  - standard deviation of evaluated factors.

Due to the fact that some of the indicators were in values that had very different scales, we used methods of scales change and format of values due to the normalization by linear transformation. Further analysis showed if such methods can be used for all indicators, since time difference included massive decrease at share market in Europe, as well as in the whole world. Method of scales change and harmonization is rather not effective in case of transactions, which are presented by extreme values. In our case it is very frequent.

$$y = \frac{x - \min(x)}{\max(x) - \min(x)} \quad (2)$$

where:

$y$  – linear data normalization,

$x$  – value of single factor,

$\min(x)$  – minimal value of given factor,

$\max(x)$  – maximal value of given factor.

Z-score method is broadly used method during the analysis, orientated to the accumulation of data or indexes. We choose to use the method due to the chosen data, presenting useful data files, including significant „gap” among individual years of single crisis and since the z-score method is able to eliminate such shortages. The method of scales change and values assigning was used separately in case when data were more consistent with higher number of relaxed years among crisis and lower number of crisis. The method had been used for partial indicators, not recording such massive differences of values among individual years. Due to the avoiding of sensibility analysis we made direct redistribution of weights of individual parts and levels of the index and index aggregation for attractiveness of private equity and venture capital.

### ***Weight allocation to partial and final index***

Presented data will enable us to make statistical analysis for weight determination, used for single index construction. We decided to use in the further analysis similar weight division. This decision is due to statistically calculated weight that showed similar results of the index. According to the mentioned we can state that partial indicators will also have similar weight in the frame of their level in index merit.

The approach for similar weight using will be used for main index, as well as for partial indexes. Single indicators have been divided into three levels, when lowest level is level 3, which means bottom of the partial indicators hierarchy, middle level 2 – partial indicators are aggregated according to the group characteristics of level 3. Level 1 will be aggregated by similar weight, constructed according the recommendations of Groh et.al (2008). Level 2 will be constructed, when weights are calculated and assigned to indicators according to total variations of the analyzed data. As we mentioned, single process has its advantages and disadvantages, but main advantage is the given space for single results of the analysis, proving or refuting the used processes. Some criteria in index can have higher role of importance, but as presented by Nicoletti et.al (2000), mainly data evaluation at the level of comparison between countries must be used [7]. According to the mentioned we will process during the index construction with similar weight from the level of partial indicators to single index level.

### Indexes aggregation

Some researches mentioned different using of aggregation methods. Nardo et.al (2005) used linear aggregation methods of single indicators that are measurable similarly and geometric aggregation that attributes higher score to countries with higher values. [10]

Countries with lower values of performance make more benefit from linear aggregation. Geometric aggregation brings higher quality of analysis results and total index and when we want to compare the results of the index according character of data, process of geometric aggregation will be more convenient.

Since we have broad selection of aggregation methods of index, for example: geometric aggregation, no compensation multi criteria analysis, or other supplement methods, we decided to use geometric aggregation and due to the process we used the following calculation:

$$\bar{y} = \prod_i x_i^{w_i}, \text{ where } 0 \leq w_i \leq 1, \text{ and } \sum_i w_i = 1 \quad (3)$$

where:

$$\begin{aligned} \bar{y} &- \text{geometric aggregation,} \\ w_i &- \text{weight of individual partial indexes,} \\ \prod_i x_i^{w_i} &- \text{geometric average,} \\ \sum_i w_i &- \text{sum of individual weights.} \end{aligned}$$

### 3. Results

Our preliminary analysis were orientated to the performance of individual industries, orientated to the relation among indexes, industries and private equity acting in industry. Data availability was realized from the view of industries, countries and years, where we compared the index of relative growth of gross domestic product. Other analyzed indexes were value added, cost of employment – compensation of employee and number of employees, forming of gross fixed capital and its consumption. Also we calculated adapted measure of growth for distinction of growth among industries and private equity investors. Adapted measure of growth was calculated by growth measure of individual industry in the country for a given year minus the average measure of growth within the frame of all countries, in similar industry for given year. The average growth had enabled more simple interpretation of individual indexes and analysis parameters.

Further we adapted the process to determine if private equity is represented in individual industries or not, which presents smooth declination from method, presented by Bernstein et.al (2010), when certain exogenous indexes had been marked according which it was determined if given industry is private equity or if private equity investments lack in the industry. [11] In our case all the analyzed industries recorded activity of private equity investors in sectors, which had also been proven by the used EVCA data, where data was presented only for industries with private equity investors. Such smooth different approach did not weaken the results from the empirical view, since the goal was to evaluate if private equity presence in the frame of industries represented considerable impact to the performance of the total industry. Further, we made difference between industries with low and high measure of private equity presence. Single industry is considered as industry with low private equity participation; if total PE funds, invested in the frame of industry are divided by total production (or other key factor) in the industry, and this value is lower than the median 0, 82%. The value of median was calculated as representative value according to medians of individual industries. Consequently and analogically, industry with higher private equity participation is considered in case when the value of invested funds divided by total production is higher than median. Due to the more exact results at various levels of activity we divided the selection to four quarters, but during analysis we did not make deep analysis from the view of quarters for index of employee's number due to the insufficient volume of publicly available data. The results of the analysis are presented by following Table 1. (percentage expression for all countries and years), where private equity visibly produces higher level of growth within the frame of industries, mainly the index of production, and value added and occupational costs. First regression of production presents regression coefficient 0, 25, illustrating the index of total production in part of industry, represented by private equity investor at level higher than 25% in comparison to the industry without PE investors.

Absolute growth of part of the PE participation in industry and without PE participation is illustrated in Table 2., where simple comparing illustrates differences among aggregated data of growth with their regressions. As presented in Table 1., the average growth of total production in industries with PE is 36, 6% and 4, 25% in industries without the PE investor. Results obtained from regression analysis have yet higher informative value and show very strong average growth of industries with PE participation. Statistical importance of the regression is 0, 081.

Further, we made regression analysis where the activity of PE is at high and low level and also were given regression were done at the level of individual quarters. During such analysis we identified certain differences among the levels of PE activity, quarters, and single indexes. Results of multiple regressions of measured factors in the frame of the following industries are illustrated in Table 2.

Table 1. Comparison of industries growth [17]

Variables (industries)	Average growth without PE	Average growth with PE
Agriculture	5.80%	-0.94%
Business and industrial products	8.29%	61.22%
Business and industrial services	2.11%	44.79%
Communication	-46.84%	34.24%
IT and consumption electronics	17.31%	17.91%
Construction	13.13%	103.94%
Consumers goods and retail	8.36%	48.87%
Consumers services	7.97%	107.34%
Energetics and living environment	3.45%	23.90%
Financial services	7.21%	-7.30%
High-tech	15.27%	11.09%
Chemical and material industry	11.31%	1.67%
Research and development	3.69%	40.26%
Realitv market	5.00%	29.42%
Transport	1.72%	28.01%
Average	4.25%	36.30%

Source: own calculation according EVCA (2011) and OECD Stan (2011).

According to the further factors and results of regression, the table results speak about average growth of value added – 21, 1% and average growth of occupational costs – 11,1%. Such results are comparably lower, but it does not reflect lower value added of private equity. Effects of value added increasing and other indexes by lower level of average growth of industries is caused by the character of individual indexes, since reaction to growth is always reflected with certain time delay due to the reflection of individual positives from growth to real economy. Further analysis, evaluating low and high activity of private equity within the frame of industries and also from the view of quarters at level of value added indexes and occupational costs, present similar trend, which is also proven by regression. Specific view to quarters proves that positive effect of private equity to industries could be higher than the level of medium PE activity. Differences among high and middle PE activity in the frame of all the industries at level of evaluated three indexes show economic and statistical importance. Development of occupational costs during analyzed period was almost at growing level, but this growth was considerably slower than the growth of production or value added. Generally, other researches proved that occupational costs during 15 years were growing slowly than the number of employees, which was also presented by Groh et.al (2008). The analysis had tendency to evaluate this aspect of growth, but insufficient volume of qualitative data of employees' number in the frame of PE did not allow making such analysis.

Table 2. Results of multiple regression of factors in the frame of industries

Production (gross output)	PE	PE Low	PE High	PE K1	PE K2	PE K3	PE K4
Regression	0,25062	0,562977	0,419324	0,919718	0,329823	0,911774	0,779466
Observance	15	7	8	4	4	3	4
R-squares	0,06281	0,316943	0,175832	0,845882	0,108783	0,831331	0,607567
Value added	PE	PE Low	PE High	PE K1	PE K2	PE K3	PE K4
Regression	0,210601	0,019761	0,022547	0,371405	0,532284	0,750055	0,130652
Observance	15	7	8	4	3	4	4
R-squares	0,044353	0,000391	0,000508	0,137942	0,283326	0,562583	0,01707
Occupational costs	PE	PE Low	PE High	PE K1	PE K2	PE K3	PE K4
Regression	0,110863	0,415337	0,739301	0,708901	0,332034	0,840064	0,853785
Observance	15	7	8	4	4	3	4
R-squares	0,012291	0,172505	0,546565	0,502541	0,110247	0,705708	0,728948

Source: own calculation according EVCA (2011) and OECD Stan (2011).



The fact is that the managerial techniques private equity are more agile and strict and in this way achieved results, which support the expected results due to the lower occupational costs. Private equity companies are primarily evaluated as firms that are responsible for decreasing of employees' number. This statement is correct, but only during the first, regularly two years, which is a common period, connected with restructuring measurements. Target company increases level of employment averagely two years from taking over through private equity. This trend has stable development. Industries with different level of growth will attract individual investors differently and their growth could be in individual cases considered as asymmetric. Proper assumption is therefore, that the area of industries and the economy, in which private equity investor acts and records good growth will create more employment possibilities than in the sector without private equity investor. Following Table 3. presents indexes, as for example forming of fixed capital and its consumption, where we can see significantly different results with higher level volatility and lower level of growth, in comparison to the analysis of employment and productivity. Such results prove confirmation of the relation between analyzed indexes and industries with private equity participation, which shows considerable limitations. [17], [18]

*Table 3. Multiple regressions of results of measurable indexes in the industries (forming of gross capital and consumption of fixed capital)*

Forming of gross capital	PE	PE Low	PE High	PE K1	PE K2	PE K3
Regression	0,024726	0,576968	0,001420	0,145498	0,1488	0,957698
Observance	15	7	8	4	4	3
R-squares	0,000611	0,332892	2,01803	0,02117	0,02215	0,917185
Consumption of fixed capital	PE	PE Low	PE High	PE K1	PE K2	PE K3
Regression	0,02297	0,097156	0,23825	0,571782	0,77209	0,902761
Observance	15	7	8	3	4	3
R-squares	0,000528	0,009439	0,05676	0,326935	0,596132	0,814977

*Source: own calculation according EVCA (2011) and OECD Stan (2011).*

During the analysis we evaluated repeatedly causation of private equity presence in the frame of industries, when analysis proved private equity had beneficial impact on industries and economy. Further we searched if private equity companies have impact on industries and their growth, or if such companies are not choosing properly target industries, where growth is expected and according to such expectation

they will act as investors to given industry. In this case we will use alternative descriptive analysis that will be referring to the results from Table 3. As we can see, certain parts of industry with PE presence achieved significantly higher level of growth than the industries without PE presence, which is expressed as 32, 1% difference. But the given table mentions also that not all industries with PE presence recorded growth and some industries without PE investors presented better results than the others. But from the view of total industry performance it is obvious that main industries, such as agriculture and financial services with PE investors recorded lower or negative growth than the sectors without PE investors. This proves also the assumptions and the analysis that PE has beneficial impact on the industries and economies not only from the view of sectors selection according to expected growth of the sector. Private equity companies invest into industries, regions and countries according to profit factors. During the research, we did not find any study, proving that success of PE investors depends only on proper selection of the industry. It depends also on proper selection of target company.

The results of the basic index – the attractiveness of European countries from the view of PE investors - is made by calculation of PE attractiveness and risk capital, made according to chosen methods and the final index presents results of scale transformation, standardization and geometric aggregation. The index of attractiveness is presented by Figure 1., where all evaluated countries are included, mainly: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Luxemburg, Netherland, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden and Great Britain. Further countries as Switzerland and Norway were included. But the countries from the Baltic region and the new countries from the European Union were ignored, as for example Bulgaria and Romania. We used other techniques for distinction of important differences of individual countries with the aim to be able to construct the final index of attractiveness for private equity and risk capital and consequently only for private equity, separately with using GDP averaged index, which determines the orientation of weighted partial indexes due to the achievement of more precise results. By using the aggregated values 1-100 rather significant differences were achieved, which reflects deeply the volume of the economies, which can be seen from the Figure 1., presented index of PE attractiveness and risk capital and Figure 2., presented index of single PE attractiveness.

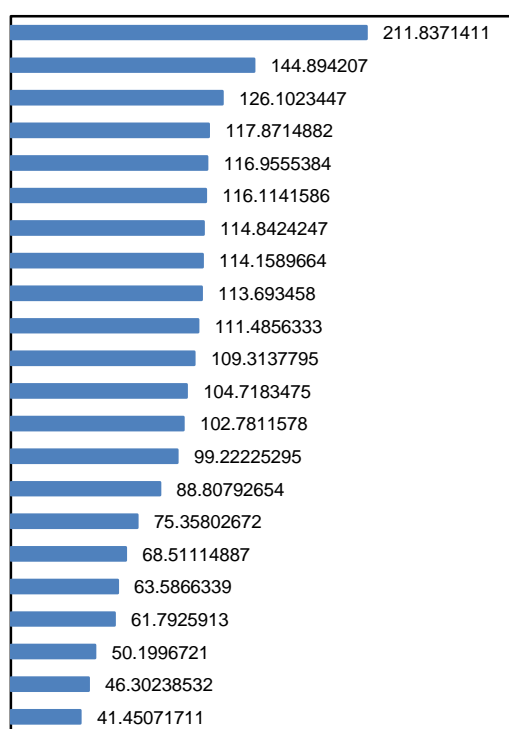


Figure 1. Index of PE attractiveness and risk capital

Source: own calculation according database EVCA (2011) and OECD Stan (2011).

The best evaluation had been in Luxembourg, Norway, Switzerland, Netherlands and Denmark. Great Britain, France and Germany achieved level in the midst of evaluation scale, which is presented by maintenance of levels and position during 15 analyzed years. V4 countries (Poland, Slovakia, Hungary and Czech Republic) are at the end of the evaluated countries, with close presence of Slovenia. Level of PE and risk capital is importantly lower in the regions and countries that are in post communists' period and also known as transformation of planned economy to capitalistic one. The transformation started 20 years ago but this is short period of development from the view of economic change in individual countries. Very interesting is the index in Portugal, Greece, Spain and Italy, which are at rather better position than V4, but all the mentioned countries have the biggest economic problems within the EU frame. The construction of the index had been done during 1993-2008, period after global financial crisis. But reaction of PE investors to the attractiveness of individual countries and industries was recorded lately than

economic change. It influenced economic performance and debt level of individual countries. This is one of the reasons why countries with possible problems in the future are evaluated more precise by PE investors. Attractiveness of these countries is more vulnerable against future economic problems.

The following Figure 2. presents the total level of all invested PE funds with average values of volume, mainly GDP per inhabitant. X axis means level of attractiveness of PE and risk capital and Y axis presents the total level of PE funds. The volume of single circle objects reflects the level for PE fund to number of inhabitants. The level is compensated by inhabitants due to the distinction between countries with lower or higher market potential.

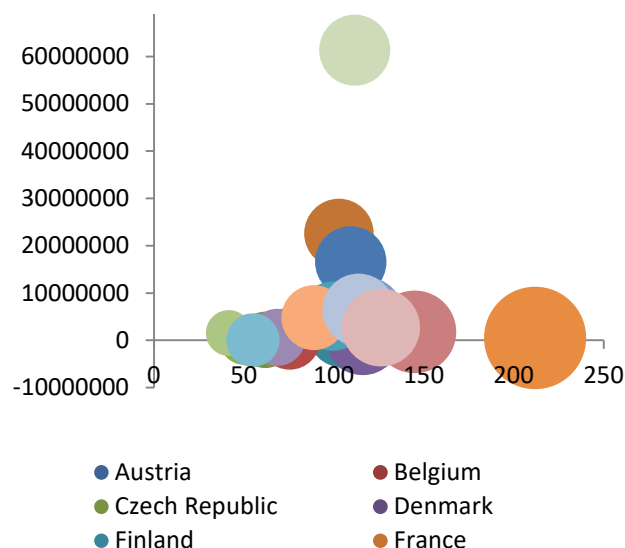


Figure 2. Index of attractiveness with volume of invested PE funds (in indexed values and funds in thousand EUR)  
Source: own calculation according database EVCA (2011) and OECD Stan (2011).

Average values of index are around 100, lower values are around 60, while the highest value is presented by Luxembourg and the highest level of PE fund is in Great Britain. It is necessary to state that the level of funds at the graph is not real value of invested means, it means only level of accumulated invested means, but part of the means is finally transformed to the investments, since number of investment projects were deferred or cancelled due to the financial instability in the world.

Table 4. Activity of private equity according countries (aggregated data) [17]

Division of countries according investments	Invested PE funds 2007-2010 (th EUR)	Number of transactions 2007-2010
Austria	1 851 670	483
Belgium	7 308 979	1 293
Czech Republic	437 273	76
Denmark	6 228 889	1 098
Finland	5 189 189	2 051
France	66 012 347	8 867
Germany	49 001 929	9 415
Greece	779 071	22
Hungary	511 215	78
Ireland	1 350 828	737
Italy	15 380 782	783
Luxemburg	1 500 440	266
Netherland	15 513 303	2 080
Norway	7 187 785	1 646
Poland	5 030 981	303
Portugal	2 371 784	607
Slovakia and Slovenia	215 190	67
Spain	16 721 636	1 199
Sweden	22 194 917	3 638
Switzerland	11 059 152	1 284
Great Britain	201 657 995	8 678
Together	437 505 356	44 671

Source: own calculation according EVCA (2011) and OECD Stan (2011).

#### 4. Discussion

It is obvious that some results and criteria, used for analysis will have higher or lower impact depending on the countries, which are on various levels of development and in some cases such criteria will be applicable to all the companies without exception.

Certain factors have comparable values and in majority cases specific differences among countries are result of significant differences between the performances of individual countries. Also, the taxes are evaluated as a factor without considerable differences. Protection of the investors, the corporate governance and the economic activity records considerable amplitudes. The economic activity is influenced greatly by the number of inhabitants. In times of bad economic periods economic activity could help small countries, for example Luxemburg or Switzerland and the countries would be able to achieve higher performance than the market benchmark and in this way to provide a more stable environment for the investors.

It is very important to evaluate the structure of economic activity and specifically partial elements of

the GDP, which are responsible for significant better growth of the economy. But the analysis is difficult from the view of the state budget influence and cheap debt financing, which is more vulnerable in times of economic crisis. The factors as human and social environment could falsely indicate that countries as for example Luxemburg, have lower level of economic activity. But reality records that such countries have high and strong level of developed capitalism and it will produce higher margin for owners of the company in comparison to the other participants (as for example the employees). The total state of environment and stimulus proves high quality of employment and social environment. Differences in business possibilities in countries that are evaluated as best are not considerable.

Attractiveness and total volume of capital market is very closely connected with legal system of every country and with „common law“, as for example in Great Britain, Belgium and Switzerland. Research presented by Roe (2006) and Djankov et.al (2005) presented that countries with developed protection legal system, are able to add certain value added to investors and shareholders. [12],[13] Other authors, as for example Black and Gilson (1998), supported the idea to develop attractiveness and volume of capital market through liquidity. [14] It is obvious that countries with more attractive and more positive capital market will attract investors more effectively, since all the revenues of investors are considerably independent of the risk of investment. It has direct influence on the level of the expected revenues and low level of legal system development will press demands of investors to expected revenues higher due to the considerable risk growth.

Madzík et.al (2016) studied the relation between energetic and mining industry towards competitiveness of the country through whole world database of thematically connected indicators. [3] There was proved that using of natural sources belongs also among sources of competitiveness. According some studies there are reports referring to negative experiences, documenting the insufficient information about PE contributions. [2]

Countries with strong level of legal system development prove higher level of attractiveness. For example in the past Ireland choose the way of excellency for investors and in this way also attracting according very positive conditions. This helped the country to increase attractiveness to highest level in the EU frame. Moreover, companies must improve innovations through quality management systems standards, affecting the industry as a whole. [1] TQM has been widely accepted as management model that provides a competitive advantage, if implemented successfully. [15]



As a whole, private equity could bring comparative advantages. For example Hadzhiev (2014) summarized in this area the divergent expression of comparative advantages by commodity groups and countries, exploring the potential of the approach in different conditions. [15] On the other hand it could contribute also to the sustainable economic development in the EU. This view had been considered by Zvirblis et.al (2012), concerning the complex assessment principles of the country's knowledge economy advancement. [16]

## 5. Conclusion

The contribution analyzed private equity common existence in the frame of industries with certain impact to the economy. The analysis made consequent evaluation of PE influence in industries, to single evaluation of attractiveness of PE and risk capital from the view of various countries. Level of individual PE investments in the frame of single countries show growth of PE and economic value for given countries. None of the available databases did provide data for PE according countries before 2006, which enabled us to evaluate the level of investment funds for every country only on four-year basis. Industries and total PE growth in the frame of economies is presented from 1993. In spite of the short evaluated period from the view of smooth growth of PE investments there was created certain data base for comparing of results of two independent researches and analysis. Results show that countries with the best performance record high growth of PE funds also during time of economic turbulence, which is evidently visible and logical, since such countries offer rather stable environment and attractive alternative for investors. Most attractive country is Luxemburg, achieving the highest growth of investment funds during the analyzed period. On the other hand comparing of performance in Poland achieved negative growth of invested means during the analyzed period and level of PE invested funds was at the level of the worst countries. Germany, as the biggest economy in Europe achieved rather better values, maintaining positive growth of invested funds, which corresponds with other researches and fact that from long term view PE development in Germany records leading European position. The presented analysis also proved that PE growth through short time evaluation record more or less similar evaluation as index of attractiveness of private equity and risk capital. According to this comparison in marginal situation (data available for shorter period) the similar results are recorded in most cases from the view of private equity activity within the frame of European countries.

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