



EURÓPSKE PRIVATE EQUITY: VÝKONNOSŤ A PSYCHOLOGICKÉ ASPEKTY

THE EUROPEAN PRIVATE EQUITY: PERFORMANCE AND PSYCHOLOGICAL ASPECTS

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Abstract

The previous two decades have provided undoubted evidence about private equity sector growth and the questions such as: Does the private equity attractiveness vary on the countries level? Have the private equity investments arisen some psychological aspects? The following analyses were performed to evaluate the private equity attractiveness among European countries, as well as its effect on corporate social responsibility.

Key words

Private equity, Psychological aspects, Corporate social responsibility, Management, Target company, Attractiveness.

Introduction

The global financial crises showed us vestiges of our actions over last decades, when the markets and national governments pumped low-cost structured liquid cash into economies, and certain parts of those structures were more vulnerable than others in adverse global downturns. In this article and especially in its analytical part we focus our analyses solely on the private equity impact on industries. Our evaluation and analyses have been performed on 11 years time series (1999-2010), on six main variables¹, 15 industries, and 22 countries².

In general literatures are presented two main cornerstones for improvement of the private equity attractiveness. The first one is professional community; which can help to establish the capital supply, as well as its embranchment. Second one considers the other side for supply, which is demand for aggregated capital. Cornerstones were lastly presented by Groh et al. (2008). In this part of article, we calculated attractiveness³ of 22 European countries⁴ using data series consisted of 33 drivers within 6 key drivers groups.

The corporate social responsibility is one of the psychological aspect which has to be consider by investor, because it's clear that certain factors positively motivates to allocate capital to socially responsible private equity investments. The issue of corporate responsibility is nevertheless important for investors' capital allocation, as well as for private equity companies.

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¹ Production – gross output, value added, labour costs – compensation of employees, number of employees, gross fixed capital formation and consumption of fixed capital.

² Slovak Republic and Slovenia with merged values.

³ The analysis of the private equity attractiveness index started with aggregation of sub-drivers into the European attractiveness index, which can be considered as certain benchmark.

⁴ Members of the European Union, omitting the Baltic countries, and new members such as Bulgaria and Romania. Additionally considering Norway and Switzerland, as well.



Related Literature

The private equity investors are considered as financial investors mainly because they don't involve synergies during transaction, which is vice versa to the strategic investor. As presented in The European Private Equity Market Outlook (2010), the private equity companies are managed much more efficiently than other known type of company and the European private equity market presents evidence which shows that increase in the private equity investments by 0.1% of GDP is followed by 0.3% growth of real GDP. One of the main reasons why private equity companies are more effective, productive and successful then the other types of companies is, that their understanding of the different time-terms of goals and management practice implementations such as continuous improvement, lean management, documentation processes, etc. is entirely discrepant.

We have focused our attention on private equity presence within industries and our hypothesis is focus on the question, whether private equity has influenced on industry performance. Our anticipation is based on Jensen (1989) hypothesis that private equity positively improves operational performance of companies. Furthermore, the study of Bloom et al. (2009) has been focused on management contribution to this factor, and investigates private equity benefits from management point of view. The results showed that private equity management is much more successful than other corporate managements. The private equity investors are considered as financial investors mainly because they don't involve synergies during transaction, which is vice versa to the strategic investor.

The main index considers the major six determinants⁵ as presented by Groh et al. (2008) which have been used for construction of the private equity index of attractiveness. The economy itself affects the private equity, and vice versa, and factors as economic size and growth will indicate the levels of capital demand, as well as deal circulations, as presented in work of Gompers et al. (1998). The one of the investment stages within private equity is “exit” from investment. Capital markets offer possibility to realize the exit and this prospect is called IPO. The literature presented by Black and Gilson (1998) expressed the benefits for private equity companies within well developed capital market. The private equity investments are in general affected by two different taxes, such as tax which is related to the capital gains and second one is regular corporate tax. Based on the work of Cullen and Gordon (2002), we can confirm that taxes are mainly affecting the companies at the beginning stage and at the exit stage. The legal issues are one of the most important factors which need to be considered within market evaluation. The capital market amidst that every country is attractive base on the strength of the legal rights and whole legal environment, mentioned by La Porta et al. (1998). The number of authors, such as: Black and Gilson (1998), Lee and Peterson (2000), and Baughn and Neupert (2003) quoted following; “national cultures shape both individual orientation and environmental conditions, which lead to different levels of entrepreneurial activity in particular countries”. The rate of investments is very much connected with the R&D and research performed by universities, and many studies confirmed that there is positive correlation between the R&D and countries economic performance.

As we can see in note (which refers to six determinants), the one of the considered factors is human and social environment and evaluation of this factor and consideration it within index show us inevitability and influence of psychological aspects within performance, as well as attractiveness of private equity.

⁵ Economic activity, capital market, taxation, investor protection and corporate governance, human and social environment and entrepreneurial opportunities.



Research methodology

The final sample contains all private equity deals which considered all possible transactions⁶ and levels of investments at the different stages. The selection of the countries was primary focused on OECD countries (evidence from STAN OECD database) and final selection considered 22 European countries. Afterwards, we gathered all data concerning the private equity transactions and the industry data which we needed for mapping⁷ activities to perform comparability for future analyses.

The main methodology was summarized by Groh et al. (2008), but certain customizations were necessary in means to achieve the results which could support or reject our hypothesis. The data which had been used for index calculation cover 33 indicators⁸ for more than 15 countries over the 10 years period. We have considered as significant following analysis: normalization and standardization, weighting index items, geometrical aggregation, rescaling and index consistency analysis. For the missing data we performed three different processes to gather them and for aggregation and customization of indicators were used arithmetic average and logarithms of arithmetic.

As presented by Nicoletti et al. (2000) we spread all indicators into three levels of index and we expected that all of them will correlate with each other. The research of Groh et al. (2008) presented three methods for weights determining processes which can be used for index composition purposes; where in our analysis we selected first type which refers to equal weights. The primer use of normalization is to normalized data for further analyses and indexes aggregations, various methods applied - used by Freudenberg (2003), Jacobs et al. (2004), and Groh et al. (2008). The standardization (z-scores):

$$z = \frac{x - \bar{x}}{s}$$

Due to the fact that some of the indicators are from very different ranges we used rescaling method to normalize them by linear transformation. The calculation formula of the rescaling method is defined as:

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

We used z-score method, because selected data in gathered data arrays are with considerably high gaps between years of crises and the z-score method is more appropriate for this analysis. The rescaling method⁹ we would use if our data would be much closely to each other. Concurrently, we used rescaling method for sub-indicators which aren't presenting such discrepancies between year's values. For further index aggregation were used methods proposed by Nardo et al. (2005) and Groh et al. (2008). We have decided to focus on the geometric aggregation, an additive method – geometric aggregation:

$$\bar{x} = \prod_i x_i^{w_i}, \text{ where } 0 \leq w_i \leq 1, \text{ and } \sum_i w_i = 1$$

⁶ The whole selection contains of 115.086 transactions (with no distinction based on deal sizes).

⁷ The final mapping left us with 33.660 data appearances.

⁸ All those indicators are measured on yearly basis and will provide solid ground for our analyses.

⁹ The rescaling is on the scale 1 to 100 points.



Empirical results

We used data approach of industry-country-year and comparable variable the relative growth of production – gross output along with other variables¹⁰. We calculated adjusted rate¹¹ to distinguish the growths of industries and private equity within industries. Furthermore, we employed approach of differentiation between industries with Low or High¹² presents of private equity. For more precise results on different activity levels we had spread our selection between four quartiles based on activity levels. The following table presents that private equity investments produce the higher growth rate of their deals within industries then production, value added a labor costs. The first regression of the production presents the regression coefficient of 0.25 which shows that total production of the private equity industry growths at the pace of 25% higher than a non-private equity industry.

Table 1 – Multiple regression results of measured factors over industries

| Production (gross output) | PE | PE Low | PE High | PE Q1 | PE Q2 | PE Q3 | PE Q4 |
|--------------------------------------|-----------|---------------|----------------|--------------|--------------|--------------|--------------|
| Regression | 0.25062 | 0.412977 | 0.569324 | 0.919718 | 0.329823 | 0.911774 | 0.779466 |
| Observations | 15 | 7 | 8 | 4 | 4 | 3 | 4 |
| R-squared | 0.06281 | 0.316943 | 0.175832 | 0.845882 | 0.108783 | 0.831331 | 0.607567 |
| Value added | PE | PE Low | PE High | PE Q1 | PE Q2 | PE Q3 | PE Q4 |
| Regression | 0.210601 | 0.019761 | 0.022547 | 0.371405 | 0.532284 | 0.750055 | 0.130652 |
| Observations | 15 | 7 | 8 | 4 | 3 | 4 | 4 |
| R-squared | 0.044353 | 0.000391 | 0.000508 | 0.137942 | 0.283326 | 0.562583 | 0.01707 |
| Labor costs | PE | PE Low | PE High | PE Q1 | PE Q2 | PE Q3 | PE Q4 |
| Regression | 0.110863 | 0.415337 | 0.739301 | 0.708901 | 0.332034 | 0.840064 | 0.853785 |
| Observations | 15 | 7 | 8 | 4 | 4 | 3 | 4 |
| R-squared | 0.012291 | 0.172505 | 0.546565 | 0.502541 | 0.110247 | 0.705708 | 0.728948 |

Source: Calculations based on databases of EVCA (2011) and OECD Stan (2011).

The average growth of the total production of private equity industry is 36.6% and non-private equity industry is 3.75%, which implies that result delivered by regression analysis is much stronger and refers to very strong mean growth of private equity industries. The statistical significance of the performed regression is 0.081, which is considered as sufficient level. As we can see on following table, the part of industries with private equity presents significantly outperformed part of industries without private equity, where the difference between private equity industries mean and non-private equity industries is represented by 32.1%.

¹⁰ Such as value added, labour costs – compensation of employees, number of employees, gross fixed capital formation and consumption of fixed capital.

¹¹ The adjusted rate of growth was calculated by subtracting the growth rate in the appropriate industry within each country for each year from the average growth rate over all countries considering the same industry and year as for rate of growth.

¹² The industry is considered as Low private equity industry when a fraction of the total private equity funds invest within industry divided by the total production (or other key factor) within industry is lower than median with value of 0.82%. Concurrently, the High private equity industry will be considered if values of funds invested divided by the total production will be higher than median.



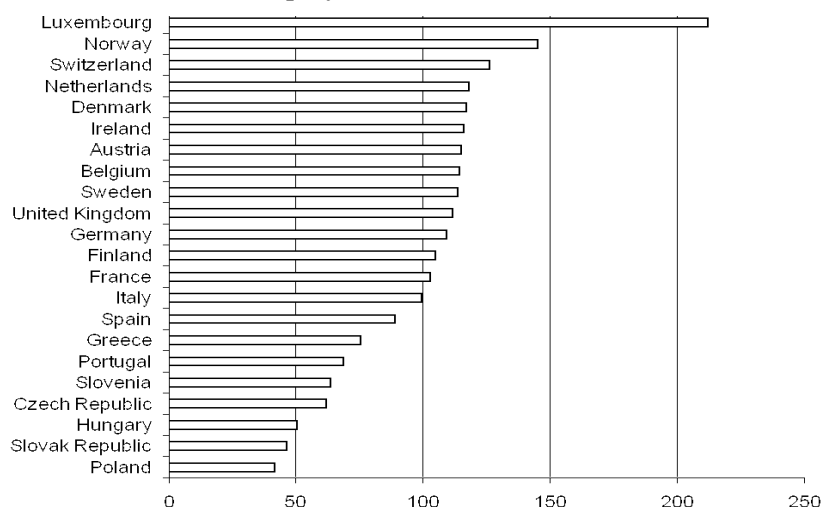
Table 2 – Comparison of industries growth (% average growth)

| Variable | Non-PE | PE |
|-----------------------------------|--------------|---------------|
| Agriculture | 5.80% | -0.94% |
| Business and industrial products | 8.29% | 61.22% |
| Business and industrial services | 2.11% | 44.79% |
| Communications | -46.84% | 34.24% |
| Computer and consumer electronics | 17.31% | 17.91% |
| Construction | 13.13% | 103.94% |
| Consumer goods and retail | 8.36% | 48.87% |
| Consumer services | 7.97% | 107.34% |
| Energy and environment | 3.45% | 23.90% |
| Financial services | 7.21% | -7.30% |
| High-tech | 15.27% | 11.09% |
| Chemicals and materials | 11.31% | 1.67% |
| Life sciences | 3.69% | 40.26% |
| Real estate | 5.00% | 29.42% |
| Transportation | 1.72% | 28.01% |
| Mean | 4.25% | 36.30% |

Source: Calculations based on databases of EVCA (2011) and OECD Stan (2011).

The attractiveness index is presented by Chart 1 where are included all considered countries and additionally to the mentioned methods; we have used another techniques to distinguish among countries differences' more markedly; hence, we construct final attractiveness index for the private equity by using GDP-weighted average index values which drivers equally weighted sub-indexes results with more precise direction. Using the aggregated weight of 1 or 100 we have achieved the different rescaled results which considered more deeply the size of each economy.

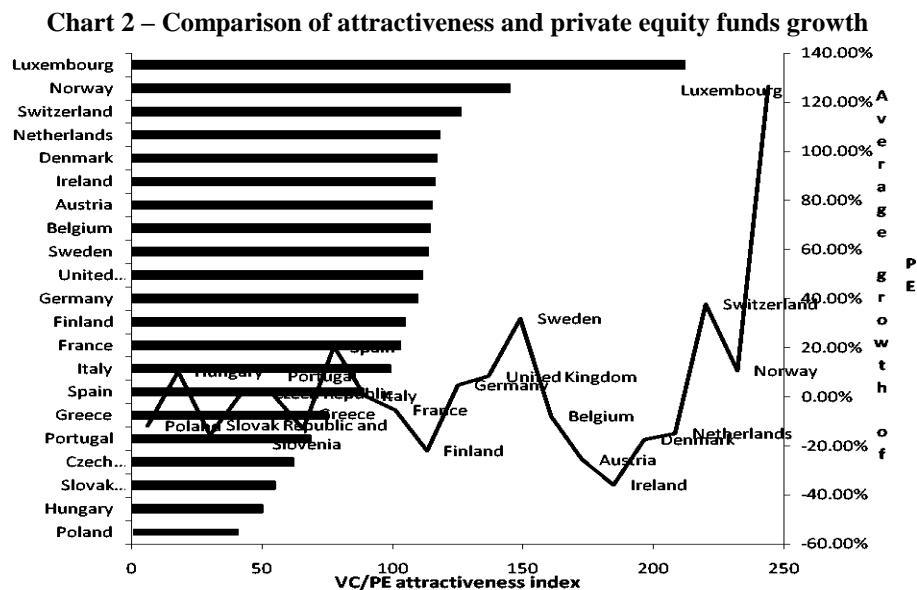
Chart 1 – Private equity attractiveness index (in index scores)



Source: Calculations based on databases of EVCA (2011) and OECD Stan (2011).



As we can see on the Chart 2 below, we have merged two graphs representing the private equity attractiveness index with the average growth of private equity on country levels.



Source: Calculations based on databases of EVCA (2011) and OECD Stan (2011).

Above Chart 2, shows us that countries evaluated as the top attractive, showed in turbulent times the huge growth of private equity activity, which is reasonable, because those countries offer much stable and at the end more attractive investment alternatives.

Conclusion

In this article, we analyze the private equity impact on industries performance as well as national economies. Our analysis provides evidence about some differences between industries with limited private equity presents and with high level of private equity appearance. Overall findings can be shortly quoted as: private equity provides higher added value to backed companies, private equity improves employment, and backed companies didn't show to be more vulnerable or incoherent to the cyclical changes of industries, moreover, in some cases their resistance were much stronger total production.

Further analyses considering the private equity attractiveness index analyzed provided theoretical and empirical evidence on the private equity investors' attitude to invest within selected European countries. The most attractive country was Luxembourg, followed by Norway and Switzerland. The biggest European economy Germany ended up in middle of analyzed array of countries. The countries as Italy, Spain, Greece and Portugal already between the period of 1993 and 2008, especially at the end of 2008 showed that their attractiveness to high leverage financing asset class is considerably low and their activity had decreasing trend. The countries as Slovenia, Czech Republic, Hungary, Slovak Republic and Poland are countries with the lowest private equity attractiveness and their transition process from planned economy started in early nineties, so the considered time series, especially its beginning had been heavily influenced. The comparison between the private equity influence on industries and the private equity attractiveness index showed that both researches have strong statistical and informational value. The statistical strength of the results was boost also by the factor that both approaches used different factors for evaluating the influence and the attractiveness.



The corporate social responsibility based on research of Cumming (2006) is more frequent amongst the institutional investors which invest more internationally, compare to the local investors. Concurrently, the data showed that institutional investors which are more vulnerable and sensitive to the International Financial Reporting Standards are more socially responsible to the target companies and its future existence. From private equity point of view, we can conclude that investments and overall corporate social responsibility is more obvious within investments where majority of decisions is executed by chief investment officer instead of much wider investment team. Overall results of our article stated fact that private equity investments and companies have positive effect on economy, industry and social environment. All three different parts of research concluded that private equity can bring and create added value from all measureable aspects of business.

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