

# The Determinants and Role of Venture Capital and Private Equity Development in Sustainable Development

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## Abstract

The newest trend of venture capital and private equity development shows that there is a significant growth of VC and PE investment as percent of GDP in developed countries, and more recently also in emerging economies. As in Serbia, the percentage of VC and PE investments are at a very low level, economic trends impose the necessity of the development and increasing of venture capital and private equity activity in order to achieve a sustainable development of the economic system. The aim of this paper to determinate by literature review all the influencing determinants of venture capital and private equity activity in the region and to highlight the main determinants of them which have the strongest influence on the development of the venture capital and private equity market. As the problem is solved and the influencing factors are defined, it can be a strategy of improvement created with the aim of bettering the market and institutional environment to encourage the venture capital and private equity investment.

## Keywords

Venture capital, private equity, determinants, sustainable development.

## Introduction

Developed countries lead in investing venture capital and private equity in comparison with emerging countries. In the USA, venture capital and private equity have been a significant source of financing for small and medium sized enterprises. Since the 1970s and 80s, financing by means of venture capital and private equity has started to permeate the flows of capital of Western European countries. The regions of developed countries worldwide leading both in investment of venture capital and private equity and in conditions for investors are: (1) North America (the US and Canada), (2) Western Europe (Australia, Belgium, Cyprus, Denmark, Finland, France, Germany, Greece, Ireland, Iceland, Italy, Luxembourg, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, the UK) and (3) Australasia

(Australia and New Zealand). Among the above regions, North America as a continent is the most developed one, with the longest history of venture capital and private equity investment.

However, worldwide trends of the past few decades point out the growth in attractiveness of the emerging economies (Asia, the Middle East, Central and Eastern Europe, South America and Africa) as the potential market for investing venture capital and private equity. This trend is primarily promoted by institutional investors based in the United States of America. There are two crucial reasons for emerging countries becoming increasingly attractive for investing venture capital and private equity. The first reason is the fact that the transition of these countries to market economy has created acceptable conditions in which investors are willing to invest their capital.

The second reason for growth in activity is the saturation of markets in developed countries, and the investors' search for new growth potentials offered by emerging markets.

The great contribution of investment of venture capital and private equity, as pointed out by Vunjak and Birovljev (2013), "contributes to accelerated breakthrough of technological progress, so that they can be regarded as a higher form of economic cooperation with foreign (primarily developed) countries, at the root of which is opting to invest foreign capital into national business flows." Vunjak states that this is the principal reason for developing countries featuring as a potential market, as the foreign investor's motive stems from at least two assumptions, "first, that the technological knowledge in the country of investment is relatively low, and second, that the country suffers from permanent shortage of capital."

Reforms are the first precondition for the transfer of investors to the markets of transition and post-transition countries. The information that emerging markets have opened to foreign investors and relaxed their regulatory and tax framework has been used by investors as the possibility to earn profit on emerging markets. One of the prominent reforms was, by all means, reduction in the capital earnings tax rate, thus encouraging the investment of capital and capital market development, which was very low in these countries. Many limitations that existed related to investment by foreign investors into certain industries, that is, branches of industry, were abolished, as well as abolishing and loosening the legal limitations related to redistribution of profit into the investors' home countries. Reduction and write-off of public debt in some countries contributed to improvements in the economic environment for investors in emerging countries. With the reform of accounting and reporting standards, many emerging countries contributed to the reduction in investment costs and asymmetry of information that foreign investors face in emerging countries, especially due to lack of harmony of standards. In addition to reforms, a significant reason for attractiveness of these countries is improvement in information and communication technologies, used by investors to improve the monitoring of invested capital.

The second mentioned reason for growth in the activity of venture capital and private equity funds on the markets of emerging countries is the saturation of markets in developed countries and

the resulting fall in profit rates. A large number of investors, willing to invest in funds of venture capital and private equity, have contributed to the development of the size of funds, in the sense of increased amount of committed capital. With the growth in the size of venture capital and private equity funds, gains have remained unchanged, but given that the number of investors has increased, reimbursements for fund managers have become a significant source of income. This may result in opportunism of fund management, so that investors fear that share in profit becomes a less effective control and motivational mechanism of fund management (Cumming, 2006). For this reason, they turn to investing in funds that are active on "newly opened" markets. In cases when there are a large number of investors ready to invest in venture capital and private equity funds, the fund management may negotiate the contractual provisions, and thus reduce the number of provision protecting investors from fund managers' opportunism and hazardous moral. This is another reason for investors to look to unsaturated markets, where demand for capital is great and where better contractual terms and conditions can be achieved. The most important reason for investors' orientation to developing markets is higher growth rate and opportunity for earning profit, for emerging markets have high growth potentials, which developed countries have already used.

As the amount of venture capital and private equity in the past two decades has also grown outside North America and Western Europe, research has been oriented to analysing the key indicators of attracting investors in developing regions. This is confirmed by the fact that 2004 saw the establishment of the Emerging Market Private Equity Association (EMPEA), which encourages investment in developing countries by organising forums where investors and enterprises establish contacts.

## 1. Systematic literature overview

The scientific research methodology in the area of finance does not distinguish a particular methodology for a systematic literature overview in this area. In such cases, the scientific milieu uses methods applied in other scientific disciplines. The best known methodology of systematisation of theoretical opinions, used in medical disciplines, is that of Cochrane. Lacking their own, many scientific disciplines take over the principles of Cochrane's methodology to systematize literature in a certain area. Using analogy, this paper will

use elements of Cochrane’s literature systematisation to make an overview of predominant opinions.

Browsing academic articles by means of academic network, one finds articles grouped by key areas that the authors elaborated, and can conclude that literature related to the area of venture capital and private equity is divided into three large groups, presented in the table below.

**Table 1** Division of literature dealing with the issue of venture capital and private equity

<b>Justifiability of investment and effects</b> - Innovation, R&D, value added - Output strategies	<b>Functioning of funds and state of market</b> - Bank loans vs. venture capital and private equity - Contracts (the agency problem and asymmetry of information) - Public vs. private funds - Developed vs. emerging countries	<b>Influential determinants</b> - Investor’s aspect - Enterprise’s aspect - Environment
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Source: The authors

Bearing in mind that the first two groups of theoretical opinions are not the research subject of this paper, and due to limitations in paper size, the third group of theoretical opinions will be considered, but due to integral literature overview according to it, the methodology needs to be presented. Given that the issue of venture capital and private equity is a relatively young area, literature on this subject is a dynamic category under continuous development and supplemented by new scientific knowledge.

The following section is a systematic overview of literature related to influential determinants of venture capital and private equity. It is important to note that the research was conducted on samples of European developed countries and emerging countries worldwide. The reason for such a choice is that investment and market conditions in the US are greatly different than the conditions in European countries, and taking under consideration the literature that deals with investment in the USA would lead to a wrong conclusion on the determinants of investing venture capital and private equity. Among the research conducted on the territory of the US, one, most cited, taken was that of Gompers and Lerner (1999), due to its significance.

The volume of literature related to determinants conditioning investment of venture capital and private equity is fairly narrow. Among the relatively small number of authors who elaborated on the issues of determinants of venture capital and private equity, it can be established that that they took under consideration different analysis criteria. The table below gives an overview of

analysed determinant of authors who considered this issue.

**Table 1** Overview of the venture capital and private equity literature considering the determinants of the same

Literature Determinants	1	2	3	4	5	6	7*	8
GDP growth	√	√	√	√	√	√	√	√
Interest rates	√	√	√		√			√
Unemployment	√	√	√		√			
Development of the financial market	√	√	√	√	√		√	√
Expenditure on R&D	√	√	√					
Initial public offerings	√	√	√		√	√		√
M&A	√	√	√			√		
Freedom index	√							
TEA index		√						
P/B ratio		√						
Investor protection			√	√			√	
Property rights			√	√			√	
Human factor / labour market			√	√	√			
Entrepreneurial culture			√					
Taxes			√			√	√	√
Private pension funds					√	√		√
Reporting standards						√		
Government programmes					√			
Returns						√		√
Culturological differences, unionisation				√				

Note: 1 - (Cherif & Gazdar, 2011); 2 - (Félix, Pires, & Gulamhussen, 2014); 3 - (Groh, von Liechtenstein, & Lieser, 2010); 4 - (Hazarika, Rajarishi, & Kishore, 2014); 5 - (Jeng & Wells, 2000); 6 - (Martí & Balboa, 2001); 7\* - (Scherler & Tykiová, 2011); 8 - (Gompers & Lerner, 1999).

\*in this study, the independent variables also include the size of investment and degree of innovation, which are otherwise treated as dependent variables (for which reason they are not included among influential determinants.

Source: The authors

The table above shows summary research conducted so far in connection with the issue of influential factors on the level of investing venture capital and private equity up to 2014. When analysing literature, a limitation was set that only articles published in leading periodicals were to be considered, having undergone the procedure of peer review and research validation.

Cherif & Gazdar (2011) analyse investment in 21 European countries in the period 1997-2006. In addition to thus far analysed macroeconomic indi-

cators, the authors include institutional investors in the analysis. For the first time in the analysis, the authors include the economic freedom index. The authors' dependent variables include early-stage investment and capital fundraising. The results of the study show that *growth in GDP, market capitalisation and expenditure on research and development* feature as significant determinants influencing the European venture capital and private equity market. The study concludes that institutional factor differently influence early-stage investment and capital fundraising. While the economic freedom index makes a significant and positive impact on capital fundraising, there is no significant influence on early-stage investment.

Félix et al. (2014) analyse a panel of data of 23 European countries in the period 1998-2003, considering the following determinants: GDP growth, interest rates, unemployment rate, market capitalisation, TEA (total entrepreneurial activity) index, IPO (initial public offering), M&A (mergers and acquisitions) P/B (price-to-book) ratio, and expenditure on research and development. This study is the first of its kind taking into account the impact of the exit environment<sup>1</sup> on the activity of investing venture capital and private equity. The results of this study have shown that the activities of *initial public offering* and *mergers and acquisitions* influence positively the activity of investing venture capital and private equity, whereas the *unemployment rate* stands in negative correlation with it. Also, the study results have shown that *P/B ratio*, as a measure of symmetry of information, has a relevant impact on the activity of investing venture capital and private equity. What is surprising is the study results showing that the entrepreneurial activity index stands in negative correlation with the activity of investing venture capital and private equity.

Groh et al. (2010) analysed the attractiveness of 27 European countries and took into consideration the most comprehensive range of factor dealing with the issue of determinants of attraction for investing venture capital and private equity. Actually, the author constituted the research different than earlier, as they did not use regression analysis, but conceived an attraction index taking into account 42 different parameters (factors) on which they performed data aggregation. Based on linear and geometric data aggregation, they formed ranks of countries. Finally, to get a valida-

tion of index, they compared it with the activities of venture capital and private equity, and, using sensitivity analysis, established index deviation, which is within the borders of acceptable. With this study, they confirmed the consistency and explanatory power of the index.

In the next research, conducted by Hazarika et al. (2014), the authors consider both developed and emerging countries. The analysed sample includes twenty developed and twelve emerging countries. In this process, the authors consider the extent to which institutional and cultural differences influence the success of investing venture capital. As a result of their research, the authors argue that *high-quality legal regulations and their appropriate application* make a positive impact on the success of venture capital. Also, the conducted research shows that the success of investment depends to a great extent on the development of the financial market, both in developed and emerging countries. The third conclusion following from the conducted research is that cultural differences influence the success of investment to a great extent. Actually, great cultural differences may have a negative influence on the level of trust, nature of the contract and the company's performance portfolio. It is therefore desirable for the investor to be informed about the cultural details of the countries where they invest their capital, for the purpose of maximum possible performance of the enterprise and success of investment.

The next study, carried out by Jeng and Wells (2000), considers the determinants based on the analysis of 21 countries over the period 1986-1995, taking into account the importance of initial public offering, gross domestic product, market capitalisation, rigidity of the labour market, reporting standards, activities of private investment funds and national programmes for activities of investing venture capital and private equity. The research results have showed that *initial public offerings* make the strongest impact on the activity of investing venture capital and private equity. *The activities of private pension funds* make a significant impact on activity over time, but not between the analysed countries. In the sample in which the study was carried out, *growth in GDP* and *capital market capitalisation* do not have a significant impact on venture capital and private equity investment activities, whereas *government programmes* significantly influence venture capital and private equity investment activities. The authors of the research separated the influence

<sup>1</sup> Factors influencing and conditioning the enterprise's output strategy

ranks of determinants into venture capital and private equity respectively. The research results showed differences in the case of labour market rigidity and initial public offerings. Actually, labour market rigidity influenced the investment of venture capital negatively, unlike that of private equity. Initial public offering had no influence on investment of venture capital, whereas private equity investments are a significant determinant.

Research carried out by Martí and Balboa (2001) is based on studying how variables related to the immediate investment process influence the investment of venture capital and private equity. The study was researched on a sample of 16 countries over the period 1991-1999, with the aim of demonstrating that invested and divested amounts represent the key factor influences new inflow of venture capital and private equity. In their research, the authors proved that previous investment amounts make a significant impact on new investment in analysed countries. This leads to the research conclusion that new investment of venture capital and private equity depend to a great extent on the success of previous investment.

Schertler and Tykvová (2011) from the German Institute for European Economic Research carried out a study observing the influence of investors' experience, investment volume, expected growth, market capitalisation, innovation levels, legal regulation on investment activities, company portfolio, the country of the portfolio company and bilateral relations between countries. This study is specific by the fact that it takes into account territorially dislocated countries in the period 2000-2008, and studies the internationalisation of venture capital and private equity. Research results have showed that investors with experience are more capable of using the advantages of internationalisation of venture capital and private equity, that companies in information sector, engineering and biotechnological sector are more willing to accept financing from foreign investors. Countries with higher growth levels, market capitalisation and greater innovation are more successful in attracting venture capital and private equity. When the investor's aspect is viewed, those located in countries with developed capital markets tend to invest into countries with weaker market capitalisation. Furthermore, the research authors concluded that high individual taxes influence the individuals' initiative to start their own business, which results in potentially higher demand for venture capital and private equity.

Last but not least is the research conducted by Gompers and Lerner (1999) on the territory of the United States of America in the period 1972-1994, considering how macroeconomic factors influence the industry of venture capital and private equity investment and individual funds of venture capital and private equity. The conducted research showed that regulatory changes in pension funds (deregulation related to investing pension funds), profit tax (reduction in the rate), economic growth, growth in expenditure on research and development, and also the goodwill and performance of portfolio companies that received this form of financing earlier influence significantly and positively on the growth in the raised funds of venture capital and private equity. The authors' research confirmed that growth in demand for capital has a positive influence on the growth in new funds of venture capital and private equity.

## 2. Determinants of supply of venture capital and private equity

Based on the systematic overview of literature and reducing the volume, that is, searching the literature according to the criterion of determinants, it was confirmed that authors mostly consider two or more aspects of determinants of venture capital and private equity. The following section is an overview of the most important and most considered determinants. Classification and grouping of determinants is based on the research by Groh et al. (2010), with some modifications. The factors are grouped according to the framework given in the research, but the structure of determinants differs from that in the study by Alexander Groh et al.

### Level of economic activity

Indicators of economic activity include macroeconomic indicators showing the level of economic development of a particular country. This group of indicators include *gross domestic product*, *unemployment rate* and *amount of foreign direct investment* in the given country. Justification of the inclusion of gross domestic product, unemployment rate and amount of foreign direct investment as determinants of the attraction of venture capital and private equity is founded on many studies. Martí and Balboa (2001), Cherif and Gazdar (2011), Félix et al. (2014), Groh et al. (2010), Jeng and Wells (2000) state that growth in gross domestic product and foreign direct investment, and also decrease in unemployment rate, re-



sult in opening new companies, and consequently, greater demand for venture capital and private equity. In view of previous studies, one tends to expect a positive impact of economic activity levels on the activity of venture capital and private equity.

Viewing the indicator of *gross domestic product per capita*, a negative correlation to economic growth can be expected. Actually, countries with a lower gross domestic product per capita have a greater potential for growth. For this reason, when making decisions on investment of funds, investors invest in emerging economies.

(Un)employment indicators reflect the overall health of an economy or an economic system. To gain insight in the condition of a certain national economy, it is important to know how many jobs are being opened or closed, what percentage of workforce is actively employed and what the unemployment rate is. As regards the *unemployment rate* (the total number of the unemployed expressed as the percentage in the total number of employable population) it is to be expected that it makes a positive impact on demand for venture capital and private equity, and negative on supply of venture capital and private equity, whereas a negative correlation to supply of capital supply is to be expected.

The level of *foreign direct investment* is to be expected to give a positive sign to investors of venture capital and private equity. On the one hand, a rise in the level of foreign direct investment leads to growth in the level of economic activities, and on the other it signals other investors that the country's risk is at an acceptable level. A positive correlation is therefore expected regarding the side of supply of venture capital and private equity.

*Expenditure on research and development* (ratio of expenditure on research and development in the GDP) as an indicator features as a significant determinant, influencing the activity of venture capital and private equity. This indicator is expected to stand in positive correlation with activity, i.e. supply of venture capital and private equity, bearing in mind that investment of venture capital and private equity influence the growth in innovation and result in an increase in recorded patents and licenses.

### Capital market

Capital market includes determinants used for measuring the development of capital market. Based on the earlier overview of literature and

earlier conducted research, this group can include the amount of annual market capitalisation, activities of initial public offering, activities of mergers and acquisitions and movements of interest rates.

*The amount of annual market capitalisation* is an indicator of growth of the financial market. The daily capitalisation indicator is obtained as the result of the total number of securities traded on the given day and its price. A common indicator of market development is the market capitalisation to GDP ratio. This indicator is used for comparing the development of individual countries' capital market. If this indicator is higher than 0.5, the observed country is rated as developed the market capitalisation ratio is expected to stand in positive correlation with the supply of venture capital and private equity.

*Initial public offering* activity (IPO) and *mergers and acquisitions* (M&A) activity are of great importance for the activity of venture capital and private equity, as these are two most common ways of exiting investment and returning the investors' invested funds. If a given economy shows a satisfactory activity of capital market in terms of initial public offerings and mergers and acquisitions, it is to be expected that investors will be encouraged to invest in this economy, as it offers a possibility of successful return on investment. Bearing the same in mind, one is to expect significant and positive impact of indicators on the offer of venture capital and private equity. The importance of the activity is also seen in the fact that almost all research into determinants of venture capital and private equity have emphasised the activity of initial public offerings and mergers and acquisitions. To normalise data and make them comparable at national levels, the amount of absolute amount of IPO and M&A will be normalised by dividing by the amount of gross domestic product.

The *interest rate level* was emphasised by many authors in their research (Cherif & Gazdar, 2011; Félix et al., 2014; Cherif & Gazdar, 2011; Félix et al., 2014; Gompers & Lerner, 1999; Groh et al., 2010; Jeng & Wells, 2000). The results of these studies have shown that different impact of interest rates on the demand and supply of venture capital and private equity is to be expected. Actually, it can be expected that the growth in interest rate influences the growth in demand for venture capital and private equity, whereas it influences the supply in inverse proportion. This is to be expected for the reason that a growth in interest rates reduces the attractiveness of loans and increases

demand for venture capital and private equity. In the case of supply of venture capital and private equity it is opposite, so that the growth in interest rates encourages investment of investment funds in bonds, and thus reduces the supply of venture capital and private equity.

### Tax regulations

Tax regulations feature as one of significant macroeconomic factors influencing, first and foremost, the supply of venture capital and private equity. The *tax rate* on acquired capital gains presents one of the essential factors influencing investors' decision whether they will invest their funds in a given country. A lower tax rate should influence the growth in investing venture capital and private equity in a given countries. Emerging countries use tax regulations as an instrument to attract investment, as the tax rates in emerging countries are twice, and sometimes three times lower than those in developed countries. The countries of Central and Eastern Europe have taken significant steps in terms of interest rates to make the region more attractive for investment.

In addition to the size of tax rates in the countries of Central and Eastern Europe, tax benefits and tax exemptions could also result in the growth in investors' interest in investing in the region, one of the possible solutions would be introducing tax benefits or exemptions for a period for start-up companies in high-tech sectors, so as to initiate investments, opening new jobs, and encourage entrepreneurship.

### Investor protection and corporate governance

Investor protection and corporate governance refers to the *quality and implementation of legal regulations* aimed at protecting investment and high-quality corporate governance. This factor is of great significance, being one of the ways to reduce information asymmetry and remove hazardous moral. Defining detailed contractual provisions on the relation investor – fund – company portfolio contributes to reducing possible conflicting situations in the relations between the above mentioned parties. If there is no support in the legal sense and if there is no high-quality court system and judicial procedures for efficient resolution of possible disputes between contracting parties, the investors will give up the investment.

As regards legal regulations related to shareholders' right, it is especially important to exercise and protect the rights of minority sharehold-

ers, as funds in portfolio companies become minority shareholders. Furthermore, as regards the quality of corporate governance, standardisation of accounting and reporting standards represents and imperative for countries to attract investors. Therefore, quality and implementation of legal regulations should contribute to greater investor protection, so that accordingly, positive influence is expected on the investment of venture capital and private equity.

### The human and social business setting

According to many authors, (Botazzi, Darin & Hellmann, 2008); Groh et al., 2010; Megginson, 2004; Zarutskie, 2010) *the human and social business setting* is of great importance for the success of investing venture capital and private equity. For this reason, this factor is inevitably placed among determinants influencing the level of investing venture capital and private equity. The numeric indicator of educated workforce serves as an indicator of the quality of workforce. The assumption according to this research is that the larger the number of high-quality, educated workforce, the greater the possibility for them to initiate their own business. Accordingly, workforce quality influences both the supply side and the demand side of venture capital and private equity. The other aspect of human and social setting refers to workforce cost and quality of working conditions (the Labour Law).

Bearing the above in mind, a positive correlation is expected between workforce quality, working conditions and the amount of investment of venture capital and private equity. The advantage of Central and Eastern Europe region lies in the fact that the price of labour, especially in emerging countries, is far lower than the prices of labour in developed countries, which, by all means represents as stimulus for attracting investors.

### Entrepreneurial culture and business opportunities

Entrepreneurial culture and business opportunities represent one of the most significant factors at the level of the investment process (the company portfolio level), influencing the amount of investment of venture capital and private equity. This factor is of utmost importance, as in cases where there exist all institutional and macroeconomic conditions for investment, but there are no ideas or business opportunities, no investment of venture capital and private equity can take place. This factor is connected with both institutional

and legal regulations related to the ease of opening companies and starting up entrepreneurial activity, with the amount of start-up capital and costs of initiating a certain activity. The simpler these procedures and the lower the costs, the higher is the possibility to attract investors. Therefore, relation between this determinant and the amount of invested venture capital and private equity is inversely proportional.

Viewing separately the impact of the determinant of entrepreneurial culture and business opportunities (in the segment of starting up business activity) on venture capital, and especially private equity, one would notice different influence. One can, actually, expect that it has a significant influence on venture capital, whereas it has no significant influence on private equity. Such a conclusion can be formed based on the fact that investment of venture capital refers to investment in companies in the start-up and early stages of development, whereas private equity investments imply capital placement in later stages of company development, and regulations pertaining to start-up business activities should not influence it.

### State programmes

Governments of many countries have understood the significance of venture capital and private equity for national economies, so that they took a whole range of measures and introduced assistance programmes, primarily to starting up business activities. The first and the oldest programme is the programme of the American Government known as the Small Business Investment Company (SBIC) established in order to encourage investment in technological innovation for economic recovery in the post-war years. They were established in the 1960s by Small Business Administration (SBA), governmental agency for support to small business. Individuals able to provide private equity (make it available, i.e. invest) received certain amounts of funds or credit warranties from the state. Many countries later undertook assistance measures and changed the models of implication of the state on the activity of venture capital and private equity. At the European Union level, the European Union is also carrying out a programme aimed at encouraging the investment of venture capital and private equity. The programme is conceived by analogy with the programme of the American Congress. The joint programme of the European Commission and the European Investment Fund was named JEREMIE (Joint European Resources for Micro to Medium

Enterprises). The programme was established with the aim to facilitate access to venture capital loans, guarantees and funds for EU members.

Opinions of theoreticians and practitioners differ when it comes to the involvement of the state in investment of private equity whether in early or late stages of company development. State influence in the activities of venture capital and private equity can be direct or indirect. Direct influence is through public (state) funds of venture capital and private equity, whereas indirect influence is through benefits approved to venture capital and private equity funds or portfolio companies that received funding through venture capital and private equity funds.

The issue of state involvement in private sector has both its advantages and disadvantages. Advantages consist of encouraging activities and stimulating the operating of the private sector, opening new jobs and creating a favourable investment climate for venture capital and private equity funds. Disadvantages of state involvement are related to criteria of allocation of state capital. In particular, many opponents of state involvement state as an argument against state intervention the disruption of loyal competition on the market, and the fact that managers of public funds are not under contractual obligation with limited partners (investors), which greatly questions the criteria of allocation of state funds.

Beuselinck and Manigart (2007) provide an interesting piece of information – that a significant amount of investment of public funds was recorded in Belgium and Scandinavian countries (Finland, Norway and Sweden), whereas investment through public funds in the largest economies of the European Union, such as Germany, France, Italy and the UK, is at a very low level. The average investment in these countries accounted for 11% to 15% of the total investment of venture capital in the mid.1990s, whereas the amount of investment through public funds fell down to 4.3% in 2003.

### 3. Central and eastern European countries

To obtain a full picture of the region of Central and Eastern Europe (CEE), it is necessary to analyse the attractiveness and position of individual countries within the region. This is of utmost importance so as to identify economic systems representing weak links in the region on the one hand, and on the other to identify the position of Serbia in relation to other countries in the region.



The individual analysis of the countries of the region will include countries listed as parts of the CEE region according to the European Private Equity & Venture Capital Association (EVCA). The analysis of the position of individual countries in the region will use secondary data from the report of the attractiveness of countries (attractiveness index). The table below shows the movement of attractiveness index of CEE (Central and Eastern Europe) countries in the period 2007-2014.

**Table 3** Attractiveness index of individual CEE countries in the period 2007-2014

CEE countries	2007.	2008.	2009.	2010.	2011.	2012.	2013.	2014.	Mean	Rang
Bosnia and Herzegovina	77	71	79	73	76	72	73	75	74,5	14
Bulgaria	50	55	55	53	56	54	53	56	54	8
Czech Republic	34	37	35	34	34	33	35	37	34,87	2
Montenegro	75	76	68	70	81	79	86	84	77,37	16
Estonia	41	36	52	59	55	50	51	51	49,37	7
Croatia	55	59	60	61	64	65	65	64	61,62	10
Latvia	56	57	73	81	71	63	60	55	64,5	11
Lithuania	46	43	53	65	51	44	43	43	48,5	6
Hungary	43	48	38	39	38	41	42	45	41,75	3
Macedonia	76	79	74	72	78	81	80	78	77,25	15
Moldova	71	93	98	102	101	95	98	96	94,25	17
Poland	35	34	33	29	29	28	28	29	30,62	1
Romania	47	49	48	54	62	64	62	52	54,75	9
Slovak Republic	48	47	45	42	45	45	44	48	45,5	4
Slovenia	45	45	39	46	48	47	45	50	45,62	5
Serbia	72	70	61	66	73	74	82	79	72,12	13
Ukraine	67	66	72	82	77	71	69	63	70,87	12

**Note:** Rankings of countries and determinants within the reports for 2011 and 2012 do not match the data from reports for 2013 and 2014 (where they are used for comparing rankings). This difference appears because the period saw a growth in the countries included in the analysis, so that rankings were adjusted in later reports, so that they can be compared realistically. The table uses the adjusted rankings from later reports.

**Source:** The authors based on data from reports

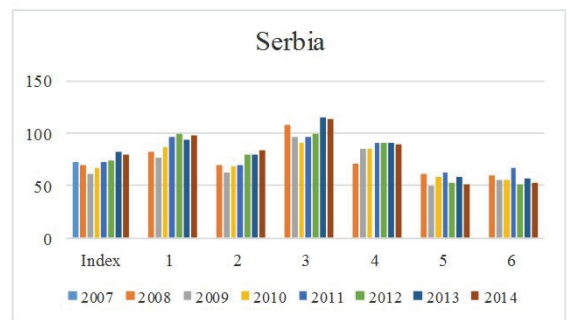
The shaded cells in the table mark rankings of countries above the regional average. So, we can conclude that the “critical countries” of the region that should improve indicators are Bosnia and Herzegovina, Montenegro, Latvia, Macedonia, Moldova, Serbia and Ukraine. According to the rankings of the arithmetic mean of attractiveness index by countries for observed countries for observed years, the obtained rankings of region countries is obtained: Poland (1), the Czech Republic (2), Hungary (3), Slovakia (4), Slovenia (5) Lithuania (6), Estonia (7), Bulgaria (8), Romania (9), Croatia (10), Latvia (11), (Ukraine (12), Serbia (13), Bosnia and Herzegovina (14), Macedonia (15), Montenegro (16) and Moldavia (17).

A separate analysis of countries whose cumulative indicators point to a worse position than the average of CEE region can show the disadvan-

tages of the region. Due to the limited size of this paper, the analysis of individual countries will be omitted, with focus only on Serbia.

**The specific features of conditions in Serbia**

In the average of the observed time series, Serbia took the thirteenth place among the countries of the CEE region, but this attractiveness index has been declining since 2007. The ranking in 2014 among the analysed countries worldwide is 79 out of 118, whereas in relation to the countries of the CEE region the ranking of Serbia is 15 out of 17 countries. Serbia took the best position in 2009, while it was positioned as the worst in 2013. The movements of rankings of indicators comprising the index in the observed period are given in the figure below.



**Figure 1** The rankings of attractiveness indicators in Serbia in the period 2008-2014

**Note:** 1 refers to economic activity; 2 is capital market; 3 is tax regulations; 4 is protection of investors and corporate governance; 5 is human and social business environment; 6 is entrepreneurial culture and business opportunities.

**Source:** The authors based on data from reports in observed years

Despite the undertaken reforms, the attractiveness index of Serbia is in decline, which is obvious on the chart. Determinants demanding the greatest and most urgent corrections are tax regulations, level of economic activity, investor protection and capital market indicators. The direction of reforms should primarily move towards improving tax regulations, which reduces the country’s attractiveness for investors rather than creating favourable conditions. The second indicator that should improve is economic activity level, which primarily depends on the level of gross domestic product and unemployment level. Improvement in the indicators of investor protection and corporate governance demands a whole range of reforms of legal regulations that would protect property-related and legal interests of investors, improve the implementation and adher-

ence to legal regulations and contribute to transparency of data in company reports. The advantage of Serbia is high-quality and educated workforce, and entrepreneurial and business opportunities. Numerous adjustments of regulations and reforms carried out with the aim of harmonisation of regulations with the laws and regulations in the European Union should encourage investors to invest their capital in the country.

## Research results and conclusion

Having analysed the determinants of individual countries within the Central and Eastern European (CEE) region, we can note the advantages and disadvantages of countries and regions for attracting investors. It is of essence to determine the weaknesses and threats so as to undertake measures and conceive strategies of the region's sustainable development. The table below shows the SWOT matrix of the CEE region.

**Table 4** SWOT analysis of the CEE region

Strengths	Weaknesses
<ul style="list-style-type: none"> <li>▪ prognosis of growth in GDP in CEE countries</li> <li>▪ lower debt levels of CEE countries</li> <li>▪ tax rates are growing in the region, but they are still lower than the rates in Western Europe</li> </ul>	<ul style="list-style-type: none"> <li>▪ low development of the region's capital market</li> <li>▪ low level of political stability and lack of constant structural reforms</li> <li>▪ volatility of exchange rate in some countries of the region</li> </ul>
Opportunities	Threats
<ul style="list-style-type: none"> <li>▪ growth of entrepreneurial culture and opportunities for investors of venture capital and private equity</li> <li>▪ high level of intellectual capital and low cost of workforce</li> <li>▪ privatisation process in some countries, stimulated by budget deficit</li> </ul>	<ul style="list-style-type: none"> <li>▪ high competitiveness on the market of private capital</li> <li>▪ less stable regulation and less consistency in implementation</li> <li>▪ dependence on the countries of Western Europe, primarily through import and investment</li> </ul>

**Source:** Peter Wells, Ernst & Young, 2013, as cited in Groh, von Liechtenstein, & Lieser, 2007-2014

Based on the matrix, it can be observed that the CEE region requires introducing certain improvements to make it more competitive for investors. The defined improvement strategies should move in two directions. One direction should be strengthening economic activity within the states, whereas the other direction should be creating politically stable conditions in the countries of the CEE region. The first strategic direction should move towards simulative measures aimed at deregulation and support to entrepre-

neurship, measures for strengthening the capital market, and stabilisation of the exchange rate of domestic currencies within individual countries. If the level of economic activities increased, this would create a strong basis for export orientation of the countries, which would reduce the dependence on the Western European countries. The other aspect of corrective strategies should be oriented on creating a healthy and stable political environment within the countries. This is of utmost importance, for a clear political strategy can define concise measures of reforms and pass legal regulations supporting these reforms. The following step in this other strategic direction demands perseverance in implementing adopted regulations and control of adherence to them. To achieve this it is extremely important to have a stable political environment, which also reduces the country risk and sends a positive signal to investors.

The analysis of weak areas of the CEE region can single out the determinants which are equally represented in the analysed countries. Four indicators can be singled out that demand correction without delay, including:

**Level of economic activity** – high unemployment rate and low level of growth of gross domestic product is present in most countries. It is because of this potential for growth that these countries represent an attractive location for investing private equity and venture capital. However, the lower this indicator, the riskier is the country for the investor. For this reason, economic policy makers of each country should take measures to improve this indicator, for despite the improvements there is still enough space for achieving investor return and growth of activities of emerging economies.

**Capital market** – this indicator in all the above analysed countries is at an unenviable low level of development. Within this indicator, it is necessary to take a range of measures to strengthen financial market, i.e. volume of trading in securities. As there is a certain level of correlation between the indicators of the economic activity level indicators and capital market, improvement of the former influences the activities of the latter indicator. Furthermore, strengthening and growth of the venture capital and private equity markets inevitably improves the indicator of capital market, as the final aim of the investor's investment is to achieve output through output strategy which implies entry to financial market.

**Tax regulations** are the third factor requiring correction, being present in all analysed countries

featuring as the weak points of the CEE region. First of all, it should be pointed out that tax rates in the region are more favourable in relation to tax rates in the developed countries of Western Europe, but if other developing regions are viewed, the position of the CEE region is not at an enviable level. In comparison with tax havens, which set minimum taxation for foreign investors, the emerging countries are losing the battle. It is necessary to establish such a system of tax rates that will have as its goals the incentive for opening new companies, attracting foreign investors and eliminating grey economy. A system of tax rates and benefits should be conceived which will compensate the reduction in public revenue, based on reducing taxation, with a growth in business activity and opening new jobs in newly opened companies. Policy makers in each country should establish the margin tax rate that yields more benefit for the economic system than damage in the form of reduction in public expenditure.

**Investor protection and corporate governance** feature as problems faced by countries where market economy is yet to take full hold and there is significant space for unfair competition. Almost all the above analysed countries of the CEE region require a reform of legal regulations, transparency of business operations, protection of investors' property rights and the rights of small shareholders in companies. In this segment, reform and impartiality of the judicial system plays an important role in improving the overall situation in the countries.

In implementing these reforms, it is necessary to harmonise all the measures and take them simultaneously, as there is a certain level of correlation between the indicators. Parallel implementation of reforms aimed at growth in the attractiveness of countries results in multiple effects exactly because of the positive correlation between the indicators.

In addition to the disadvantages of the region of Central and Eastern Europe, one must also point to the potentials that should be used. In particular, the countries of the region have a high-quality human and social setting for business and high-quality entrepreneurial culture and business opportunities. The countries of Central and Eastern Europe should use these advantages, first of all their high-quality and educated workforce, as the brain drain recorded in the past two may jeopardise the position of these countries in the long run. The worst-case scenario is that young people leave the country after the end of their schooling,

which causes the country twofold damage. On the one hand, investment made in knowledge is handed over to another country, and on the other, high-quality workforce is lost. It is the high-quality human resources that create high-quality entrepreneurial culture, with their business ideas, capacity for innovation and registered patents. It is up to the state to provide favourable procedural conditions for the realisation of ideas and starting up business activities. Therefore, bearing in mind the potentials of the region, each country should use the advantages as a tool for removing disadvantages, all with the aim of creating the best conditions not only for conducting business activities, but also for attracting foreign investors.

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