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Swiss Private Equity & Corporate Finance Association



## SECA Yearbook 2009

## **How European Countries Attract Institutional Investors' Venture Capital and Private Equity Allocations**

### **Introduction**

Why is there such a strong market for Venture Capital (VC) and Private Equity (PE) in the United Kingdom, why is there relatively little activity in Germany, and why is activity close to zero in Greece or in some of the new European Union accession countries? Spatial variations in VC/PE activity result from numerous factors. Institutional investors (Limited Partners or LPs) allocate their capital via chains of agents and networks in certain regions, and among countries. Usually, there is a concentration in 'hotspots' or core economic centers. These hotspots evolve mainly for two reasons. First, there is a professional community to support transactions, and to establish the capital supply side. Second, there must be expectation for demand of the committed capital. Therefore, LPs make a geographical selection of promising spots. The selection depends on their expectation of the demand for VC/PE, and on their evaluation of the host country's professional community.

We address this allocation process and discuss the criteria proposed in literature that determine both, supply and demand for VC and PE in a particular country. In a next step, we gather 42 socio-economic data series to assess the quality of these criteria in Europe, and aggregate the data to the "European Venture Capital and Private Equity Country Attractiveness Indexes". The complete procedure is described in our academic paper Groh, Liechtenstein and Lieser (2009), The European Venture Capital and Private Equity Country Attractiveness Index(es), IESE Working Paper 773, free download at <http://ssrn.com/abstract=1307090>. Here, we provide a summary of our findings.

### **Determinants of Vibrant VC/PE Markets in Literature**

In literature, only some of the papers explicitly distinguish between the VC and the PE market segments. Some of the proposed criteria have a stronger impact on young and start-up corporations, some of them more closely affect established businesses, while others are valid for all corporations and, hence, both market segments. We first consider all the parameters detected and calculate one single index that represents both, VC and PE. At a later stage then, we split this index into two sub-indexes, one for VC and one for PE. Here, we present a small collection of the literature on the topic that finally determines the data selection for our indexes.

Gompers and Lerner (1998) point out that the state of a particular country's economy should affect the VC/PE activity. Pure economic size will be an indicator for the body of corporations and deal flow opportunities in general. Economic growth should also lead to demand for finance.

Black and Gilson (1998) focus on the differences between bank-centered and stock market-centered capital markets. They argue that a well-developed stock market that permits Venture Capitalists to exit through an IPO is crucial for the existence of a vibrant VC market. In general, bank-centered capital markets show less ability to produce an efficient VC infrastructure. Jeng and Wells (2000) stress that the main force behind the cyclical swings is IPO activity because it reflects the potential return to the VC/PE funds.

Gompers and Lerner (1998) also stress that the capital gains tax rate influences VC/PE activity. Djankov et al. (2008) show, that corporate tax rates strongly affect entrepreneurship, and hence, also the VC/PE asset class.

Additionally, legal structures and the protection of property rights appear to influence strongly the attractiveness of a national VC/PE market. La Porta et al. (1997 and 1998) confirm that the legal environment strongly determines the size and extent of a country's capital market and local companies' ability to receive outside financing. Cumming et al. (2006) find that the quality of a country's legal system is stronger connected to facilitating VC/PE backed exits than the size of a country's stock market.

Rigid labor market policies negatively affect the evolvement of a VC/PE market. Black and Gilson (1998) argue that labor market restrictions influence VC/PE activity; however, not to the same extent as the stock market.

The number of potential investments also relates to the research output in an economy. Gompers and Lerner (1998) show that both industrial and academic R&D expenditure significantly correlates with VC/PE activity. Kortum and Lerner (2000) highlight that the growth in VC/PE fundraising in the mid-90s may be due to a surge of patents in the late 1980s and 1990s.

#### **Data and Index Structure**

The selection of our data series is driven by the previous literature findings. The task is to detect adequate measures that share common characteristics with the identified key drivers for the European countries. We want to rely on broadly available, and commonly accepted data sets only and propose the 42 individual data series presented in Table 1. We group the individual data series into six groups that we name the key drivers of VC/PE activity. We are aware of the fact

that in some of the cases the link between the data series and the attractiveness of a national VC/PE market is not directly obvious. However, there is always a latent relation between the characteristic we aim to measure, and the data used. The selection of the data series hardly depends on what kind of data we would like to include, it more depends on what is available among the European countries. For example, as there is no European wide statistics on the number of banks to support leveraged transactions we use the number of banks per capita instead. Hence, we implicitly assume that the higher the number of banks in an economy, the higher the number of players that support leveraged transactions.

Some of the data-points are averages over a certain time-period to smooth fluctuations. For example, GDP figures, VC and PE activity, or M&A transaction volume among others are such averages. For large fluctuations and large differences between the countries we also use logs of the averages (please refer to the legend of Table 1 for detailed information).

## **Results**

We perform several statistical tests, follow different weighting procedures, and explain all the details in our academic working paper. We receive the most representative result if we use three particular aggregation steps: “Rescaling, Factor Analyses, and Geometric Aggregation”. Further, we split the index into one that focuses on the VC, and one on the PE market segment. Figure 1 presents the index rankings for the 25 European Union countries (Estonia, Latvia, and Lithuania grouped into the Baltic States), plus Switzerland and Norway for the common VC/PE and for the two sub-indices. For the construction of the sub-indices, we simply discard the data series that are not directly relevant either for VC, or for PE.

The top performers regarding the overall VC/PE Country Attractiveness Index are the United Kingdom, Ireland, Denmark, Sweden and Norway. Germany, as the largest European economy, ranks slightly ahead of Switzerland, while other large economies, such as France, Italy, and Spain have rather disappointing scores. Bulgaria, Greece, Slovakia, and Romania are the least attractive European countries for LPs.

| Key Drivers/Individual Data Series                                  | Source                         |
|---|--------------------------------|
| <b>1 Economic Activity</b>  |                                |
| 1.1 Gross Domestic Product  |                                |
| 1.1.1 Total GDP [€/capita]*   | Global Market Inform. Database |
| 1.1.2 Total GDP y-o-y Growth [%]**                                  | Global Market Inform. Database |
| 1.2 General Price Level [Index=1995]***                             | Global Market Inform. Database |
| 1.3 Working Force (Unemployment Rate) [%]*                          | Global Market Inform. Database |
| 1.4 Foreign Direct Investment, Net Inflows [% of GDP]***            | Global Market Inform. Database |
| <b>2 Capital Market</b>   |                                |
| 2.1 IPO [IPO Volume in % of GDP]****                                | Thomson Financial Data         |
| 2.2 Stock Market  |                                |
| 2.2.1 Stock Market Capitalization [% of GDP]*                       | Worldbank Data                 |
| 2.2.2 Stock Market Total Value Traded / GDP [% of GDP]*             | Worldbank Data                 |
| 2.3 M&A Market [sales % of GDP]*                                    | Global Market Inform. Database |
| 2.4 Debt & Credit Market  |                                |
| 2.4.1 Central Bank Discount Rate [%]*                               | IMF                            |
| 2.4.2 Private Credit by Deposit Money Banks and Other Financial     | Worldbank Data                 |
| 2.4.3 Number of Banks [per Capita]                                  | EBRD, EUROSTAT Database        |
| 2.5 VC/PE Activity [Funds Invested in % of GDP]****                 | Thomson Financial Data         |
| <b>3 Taxation</b>   |                                |
| 3.1 Highest Marginal Corporate Tax Rate (%)                         | Worldbank Data                 |
| 3.2 Difference Between Income and Corporate Tax Rate [%]            | The Heritage Foundation        |
| <b>4 Investor Protection and Corporate Governance</b>               |                                |
| 4.1 Extent of Disclosure Index                                      | Worldbank Data                 |
| 4.2 Extent of Director Liability Index                              | Worldbank Data                 |
| 4.3 Ease of Shareholder Suits Index                                 | Worldbank Data                 |
| <b>5 Human &amp; Social Environment</b>                             |                                |
| 5.1 Education   |                                |
| 5.1.1 Government Expenditure on Education [% of GDP]*               | Global Market Inform. Database |
| 5.1.2 Amount Employees as Researchers in the University Sector [per | EUROSTAT                       |
| 5.1.3 Amount University Students [per capita]*                      | Global Market Inform. Database |
| 5.1.4 Amount University Establishments [per capita]                 | Global Market Inform. Database |
| 5.2 Labor Regulations   |                                |
| 5.2.1 Rigidity of Employment  |                                |
| 5.2.1.1 Difficulty of Hiring Index                                  | Worldbank Data                 |
| 5.2.1.2 Rigidity of Hours Index                                     | Worldbank Data                 |
| 5.2.1.3 Difficulty of Firing Index                                  | Worldbank Data                 |
| 5.2.2 Hiring Cost [% of salary]                                     | Worldbank Data                 |
| 5.2.3 Firing Costs [weeks of wages]                                 | Worldbank Data                 |
| 5.3 Bribing & Corruption Index                                      | Transparency                   |
| 5.4 Crime   |                                |
| 5.4.1 Juvenile Offenders [per capita]*                              | Global Market Inform. Database |
| 5.4.2 Offences [per 100,000 inhabitants]*                           | Global Market Inform. Database |
| <b>6 Entrepreneurial Opportunities</b>                              |                                |
| 6.1 General Innovativeness Index                                    | TrendChart.Cordis              |
| 6.2 R&D Expenditure   |                                |
| 6.2.1 Public R&D Expenditures [% of GDP]                            | EUROSTAT, OECD                 |
| 6.2.2 Business R&D Expenditures [% of GDP]                          | EUROSTAT, OECD                 |
| 6.3 Enterprise Restructuring  |                                |
| 6.3.1 Small-Scale Privatization Index                               | EBRD                           |
| 6.3.2 Large-Scale Privatization Index                               | EBRD                           |
| 6.3.3 Governance and Enterprise Restructuring Index                 | EBRD                           |
| 6.4 Enterprise Stock Activity                                       |                                |
| 6.4.1 Number of Enterprises [per capita]                            | World Bank, EUROSTAT, OECD     |
| 6.4.2 Enterprise Foundation Rate [%]*                               | World Bank, EUROSTAT, OECD     |
| 6.5 Burden: Starting a Business                                     |                                |
| 6.5.1 Procedures [numbers]  | Worldbank Data                 |
| 6.5.2 Time [days]   | Worldbank Data                 |
| 6.5.3 Cost of Business Start-Up Procedures [% GNI per capita]       | Worldbank Data                 |
| 6.5.4 Min. Capital [% GNI per capita]                               | Worldbank Data                 |

**Notes:**

\* = arithmetic average of annual data

\*\* = geometric average of annual data

\*\*\* = log of arithmetic average of annual data

\*\*\*\* = arithmetic average of annual data since coverage in the database for CEE countries

otherwise: most recent data record.

**Table 1:** List of raw data and their sources.

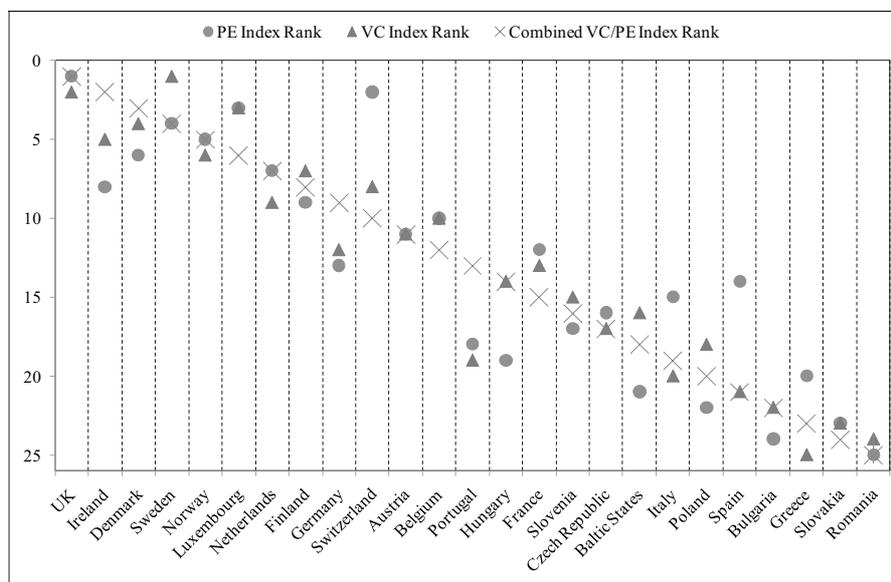


Figure 1: The European VC/PE Country Attractiveness Index, and the Separate VC and PE Sub-Indices.

The deviations of the separate VC and PE index ranks are not very large for most of the countries, except for Ireland, Switzerland, Portugal, Hungary, Italy and Spain. These deviations are caused by changes in weight, respectively by the deletion of data series where the countries have competitive advantages/disadvantages. Spain and Italy advance many positions if we focus on the attractiveness of their PE markets only, which is mainly due to the deletion of taxation in that index. Ireland, Portugal, and Hungary lose some ranking positions for the same reason. Switzerland benefits because some of the bureaucratic burdens to start businesses are discarded. However, if we focus on the VC index, their comparative positions remain. This confirms our base case calculation, which considers both segments, and uses more data series.

Figure 2 presents a spider chart with the scores of the six key drivers for the United Kingdom, Switzerland, and Romania. The EU-25 average is rescaled to 100, so that the scores are directly comparable with the European Union average.

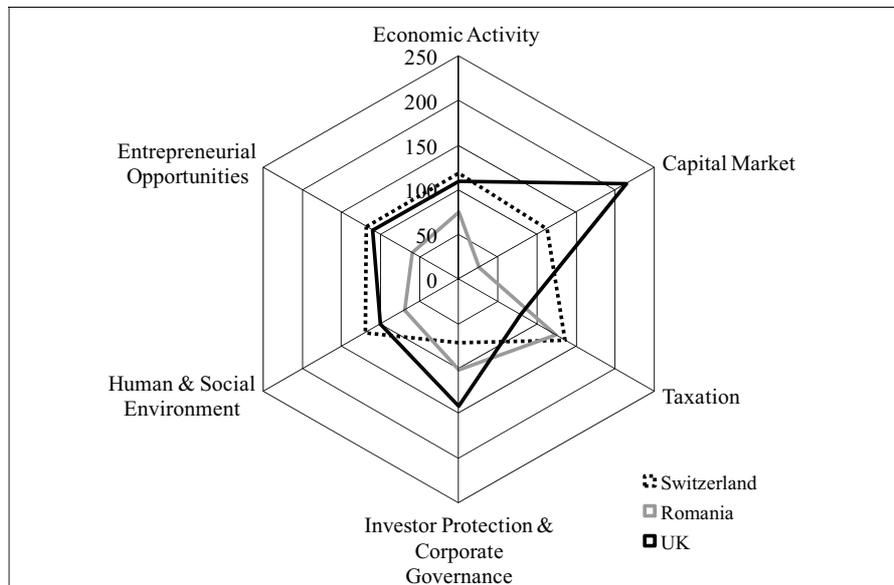


Figure 2: Comparison of Key Drivers of the UK, Switzerland, and Romania.

Figure 2 shows that, while Investor Protection & Corporate Governance is on the European average level for Romania, it is worse for Switzerland and superior for the United Kingdom. There is only very little dispersion regarding Investor Protection & Corporate Governance among the Continental European Union members as they all have similar rules. However, the UK impressively outperforms the EU-25 average with its common law system. While size and liquidity of Romania's capital market is far below the EU-25 average, the UK demonstrates its major advantage. The capital market turns out to be the most distinguishing feature between the UK and the other European countries. Switzerland is ahead of the EU-25 average with respect to its Capital Market, Economic Activity, Entrepreneurial Opportunities, and Human and Social Environment. It disappoints regarding Corporate Governance and Investor Protection rules, but attracts with its Taxation.

### Conclusions and Outlook

Lack of space prevents us from commenting on all the individual countries, and on detailed analyses. However, we find a general pattern if we compare the characteristics. There is dispersion in all the six key drivers across Europe. Some countries attract investors with low corporate taxes. The Nordic countries are especially strong in Entrepreneurial Opportunities. There is some dispersion in

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Economic Activity, and in the Human & Social Environment. However, Investor Protection & Corporate Governance, and Capital Markets make the difference. Unfortunately, our economic approach cannot cover special situations or special opportunities for VC/PE investments in particular countries. This is notably the case for tax considerations. It is impossible for us to cover and compare individual countries' tax regimes on a general and transparent level, especially including taxes on dividends, and capital gains taxes, which are of particular importance for the asset class in question. Similarly, this is valid for different public subsidy policies to attract institutional capital. Moreover, our approach relies on last available and historic data, and cannot consider the latest development and particularities of individual countries. We leave the final judgment for the practitioners and the country specialists. We regard our index as a complementary informational support tool for country allocation decisions and not as a crystal ball or trading instrument. Currently, we gather new data series and will soon come up with a new index that covers the whole world.

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|----------------------------|--|
| Alexander Peter Groh       | Quadriga Capital Services GmbH<br>Hamburger Allee 4<br>60406 Frankfurt<br>Germany<br>and<br>IESE Business School – University of Navarra,<br>Finance Department, Av. Pearson, 21<br>08034 Barcelona, Spain<br>agroh@iese.edu |
| Heinrich von Liechtenstein | IESE Business School – University of Navarra<br>Finance Department<br>Av. Pearson, 21<br>08034 Barcelona<br>Spain<br>hl@iese.edu   |
| Karsten Lieser             | IESE Business School – University of Navarra<br>Finance Department<br>Av. Pearson, 21<br>08034 Barcelona<br>Spain<br>klieser@iese.edu  |