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VENTURE CAPITAL AND PRIVATE EQUITY INVESTMENT STRATEGIES IN SELECTED EUROPEAN COUNTRIES

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Abstract Private equity and venture capital (PE/VC) funding is the provision of equity capital by financial investors to non-quoted companies with high growth potential. It has a particular emphasis on entrepreneurial activities rather than on mature businesses. PE/VC investors differ on several dimensions including: investment targets, screening evaluation methods, governance mechanisms, and objectives. The paper is a continuation of the discussion that concerns investment strategies of PE/VC funds. While studying the PE/VC market it is important to analyze the origin and structure of capital. The authors assumed that different types of investors have different investment strategies. Our research is an attempt to answer the following research question: whether the investor type, on the European PE/VC market, has an impact on the selection of industries. The paper presents results of statistical analysis of venture capital and private equity funds investment strategies in selected countries.

JEL classification: G23, G32, C1 Keywords: venture capital, private equity, correspondence analysis, industry analysis

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INTRODUCTION

Financing is a critical element in the entrepreneurship development process. Entrepreneurial firms are a source of growth and innovation in the industry and provide jobs for local communities. They can also help in restructuring any industry. Entrepreneurial firms are usually affected by two main issues. The first concerns access to finance. The second concern is access to know-how (Klonowski, 2010). Venture capital (VC) and private equity (PE) are seen as key instruments to support economic growth and employment (Commission of the European Communities 1998; Harding 2000). The Department of Trade and Industry (1998) believes that venture capital is: central . . . to promoting growth, increasing productivity and creating jobs . . . [They] sense opportunities to take risks in the face of uncertainty to open new markets, design products and develop innovative products. In the knowledge driven economy this process is even more crucial. That is why in recent years venture capital has emerged as an important area of finance for academic researchers.

Observing the growing presence of venture capital and private equity most researchers focus on the size of deals, sector, issues of profits and influence on enterprise growth. Little consideration is given to the assessment of VC/PE investing behavior. This study examines the investment industry portfolio profiles of venture capital and private equity in selected countries.

While studying the PE/VC market it is important to analyze the origin and structure of capital. The authors assumed that different types of investors have different investment strategies. Therefore they have created the following research hypothesis: *a relation can be observed between investor type on the European PE/VC market and selection of industries invested in.*

This study is comprised of three main sections. The first clarifies the context of venture capital and private equity. The second presents the data on PE/ VC investor structure in Europe. The third is devoted to the methodology that was used to collect the data, and presents the results of our statistical analyses.

Specifics of private equity/venture capital

Private equity (PE) funding is the provision of equity capital by financial investors to non-quoted companies

with high growth potential. Private equity covers not only the financing required to create a business, but also includes financing in the subsequent stages of its life cycle. Venture capital (VC) is a subset of private equity and refers to the equity investments made for the launch, early development or expansion of the business. It has a particular emphasis on entrepreneurial activities rather than on mature businesses. Private equity and venture capital refer to different stages of investment (EVCA, 2007). Klonowski (2010) defines venture capital and private equity as risk-equity investing. This is activity by which investors support companies with two important components-"know-how" and capital-in order to exploit market opportunities. Venture capital is highly selective in its choice of companies. PE/VC fund success is based on an efficient capital allocation, provision of funding to companies that have very good prospects of future earnings and have a certain competitive advantage.

Venture capital firms choose to manage a nondiversified portfolio of highly risky investments in the management of which they are intensely involved. As expertise is crucial in this respect, venture capital partnerships tend to specialize by industry and by geographic area, thus giving up diversification benefits. Survival in the long haul is based on the ability to select and foster winners (Spotorno, 2004).

Venture capital and private equity funds are not the only financial intermediaries on the market. Banks also provide that function. Ueda (2004) offers an explanation of why PE/VCs and banks coexist in an economy. The key difference is the nature of the projects financed by PE/VC. Those projects are mainly characterized by high growth, high risk, and high profitability. That is why PE/VC funds are more active in markets where intellectual property is better protected. Current company size is not a matter of relevance where venture capital investment is concerned. Most venture capital firms opt for companies that can offer a significant turnover in short time. The principal aspects considered by venture capital/private equity firms include:

- 1) viability of product or service,
- 2) potential for growth,

3) potential financial return meeting the investment criteria,

- 4) efficient management team,
- 5) balance of risk and expected profits.
 - Therefore PE/VC funds are mostly interested in

SMEs. The high diffusion of small and medium sized companies appears as a structural phenomenon in all the market economies in the western world. The significant number of small sized companies causes this category to have a strong role in the occupational process of the resources and triggers the development processes of new companies (Caselli & Ventrone, 2004). The issue is particularly important in Poland since SMEs generate 48,5% of Polish GDP. Of all the groups of companies the largest share in GDP creation is held by micro companies - approx. 30% (data for 2012). At the end of 2013 the number of people working in enterprises in Poland amounted to nearly 8,9 million, of which 6,2 million (69%) worked in SMEs. Poland has a clear domination of people working in micro and small companies - more than half of the employed (4,6 million people) in micro and small companies (Łapiński, Nieć, Rzeźnik & Węcławska, 2015).

The classical approach to corporate finance was divided into two main categories: the financing of investments and the undertaking of investments. The financing of investments is the analysis of the contracts in return for the future values it produces. The undertaking of investments concerns the use to which funds are put and in particular the issues involved in making decisions about the investment of funds in capital equipment, other companies, etc. Venture capital investments are made in companies not quoted on stock markets, where the investor trades-off the short term illiquidity in the shares for the prospects of a greater future return (Wright & Robbie, 1998). Fundamental differences between venture capital and corporate finance are presented in Table 1.

usually PE/VC investment includes active participation in the management of a company. Another important attribute of venture capital is illiquidity. Venture capitalists participate in their investments for a relatively short time. This time is dedicated to expanding the business and achieving an expected profit. PE/VC funds have to be certain that they can sell their shares. There are two preferred "exit" strategies. First, to sell their stake to a strategic investor. Second, sell shares to the public by offering them on the stock exchange. The issue of an exit from the investment is so important that many PE/VC investors may not choose an attractive business if the exit opportunity appears weak.

The venture capital industry is represented by two types of investors. First is the financing of companies at their seed, start-up and early growth stages. PE/VC funds raise their funds from investors and their managers have entrepreneurial experience and industry knowledge. Most "classic" venture capital/private equity funds are financing technology-based firms. Second, they raise their funds from institutional investors who have short-term

Attribute	Corporate finance	Venture capital
1. Tradeability of shares	Liquid	Illiquid
2. Monitoring of management by sha- reholders	Passive/indirect	Active/direct
3. Role of market for corporate control	High	Low
4. Access to capital	Competitive "anonymous" capital market	 Early stage: access limited to set of financiers with highly specialised skills Later stage/buy-outs: closer to com- petitive market but active monitoring skills required
5. Asset specificity	Generally relatively low	Firms with highly specialised assets
6. Project valuation	Application of a wide range of techniques	Restricted range of techniques (e.g. where early stage investments do not pay dividends) and/or need for greater range of sensitivity analysis because of greater uncertainty of cash flows
7. Investment decisions	Single stage	Multi-stage
8. Information availability	Private information is rare; provision of public information is mandatory	Private information widespread and difficult to reveal, hence requirement for close monitoring of managers

Table 1: Comparisons of venture capital and corporate finance

Source: Wright and Robbie (1998); Caselli (2010)

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investment horizons. Those VC/PE funds are managed by professionals with backgrounds in investment banking or other financial or consulting organizations, who have strong analytical, financial engineering, deal-making and transaction crafting and closing skills but little companybuilding experience and so have little ability to add value to businesses. "Merchant" venture capital/private equity funds invest in later stage deals and in management buyouts and buy-ins (Bygrave & Timmons, 1992; Mason & Harrison, 2002).

Figure 1 presents the main forms of venture capital/ private equity. The key criteria were the capital need of the firm and the managerial assistance provided by venture capitalists to the firm. The oval around each stage in Figure 1 represents the range of managerial assistance and the need for capital (Klonowski, 2010).

Seed financing is provided to enterprises that have not been able to convert their concept into a workable business plan. Capital is deployed to finance market research, a product feasibility study, or the development of a complete business plan. The firm may not have established its legal status at this stage. *Start-up financing* is provided to legally established companies that have been working on a product prototype and are ready to test its market potential.

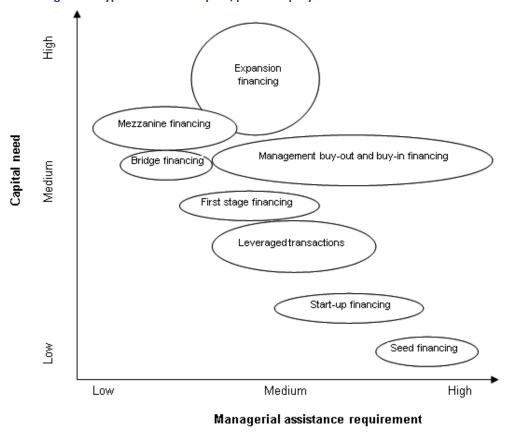
First-stage financing is provided to companies that have successfully passed the market test and are ready to commence production. At this stage building production facilities, hiring necessary production staff and management personnel, developing distribution structures, engaging into marketing and promotional campaigns are financed.

Expansion financing is addressed to firms operating at different stages of development. These firms generate strong growth in sales, but may not yet be profitable. Capital at this stage is directed toward business expansion.

Mezzanine financing is capital provided to a company in the form of a hybrid of debt and equity and is normally used to finance expansion projects.

Bridge financing is directed at firms looking to go public. These firms require capital before they can enter the stock exchange.

Management buyouts (MBO) involve the provision of capital to enable the management of an existing business





Source: Klonowski (2010)

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to acquire existing product lines or the entire business. Venture capital is used where the management is leading the purchase of shares.

Management buy-ins (MBIs) focus on capital provided by venture capitalists to a manager or a group of managers from outside of the firm. Such buy-ins often occur in situations where larger multinational firms have decided to sell off parts of their business.

MBOs and MBIs also play important roles in privatizations and in overcoming succession problems in family-owned businesses.

Leveraged transactions generally involve a buy-out event where an existing or newly established firm's capital structure is based on the use of high level of debt against the firm's assets (Xu, 2004; Klonowski, 2010; Caselli, 2010).

PE/VC INVESTOR STRUCTURE

The positioning of the private equity firm in the market is a crucial decision for every fund. Positioning is defined as identifying the cluster(s) in which to invest money and allocate resources. The positioning issue can be placed into different groups that highlight different solutions for managing the asset allocation by specializing (Caselli, 2010). PE/VC investors differ along several dimensions including: investment targets, screening evaluation methods, skills and competencies, governance mechanisms, and objectives. The type of investor funding available depends on a company's stage of development. Investors often take a specialized approach. Some PE/

VC funds use a diversified approach. In the study of the functioning PE/VC market it is important to analyze the origin and structure of capital, the type of investors.

Tables 2 to 4 present funds raised by region of management and investor type in the years 2012-2014. Acronyms used for regions denote the following countries:

- 1) DACH: Austria, Germany, Switzerland,
- 2) Southern Europe: Greece, Italy, Portugal, Spain,
- 3) Nordic: Denmark, Finland, Norway, Sweden,
- 4) CEE: Central Eastern Europe.

In 2012 the investor "landscape" is dominated by funds of funds (23%), government agencies (17%), pension funds and banks with a share of 5% of the PE/ VC investments made in 2012. The structure of funds raised by regions indicates the differences in investor distribution. The highest share of pension funds, funds of funds and sovereign wealth funds are in the United Kingdom and Ireland. In DACH in the structure of investors sovereign wealth funds are replaced by private individuals and in Nordic countries by government agencies. In France and Benelux countries the dominant position was taken by private individuals, funds of funds and government agencies whose joint share in the structure of investors was 60%. The remaining part was represented by banks, insurance companies and pension funds. This region had the most balanced structure of the investors in 2012. Southern Europe was strongly dominated by banks (61%) with the participation of funds of funds and government agencies. In Central and Eastern Europe PE/VC investors are mainly funds of funds and government agencies with participation of pension funds and sovereign wealth funds.

	UK &Ireland	Dach	Nordic	France &Benelux	Southern Europe	CEE
Academic institutions	3,10%	3,90%	1,50%	0,00%	1,30%	1,10%
Banks	1,80%	8,60%	6,40%	13,20%	60,70%	0,40%
Capital markets	2,70%	0,00%	0,00%	0,20%	0,00%	0,00%
Corporate investors	1,20%	3,60%	3,60%	7,20%	3,90%	0,70%
Private individuals	4,30%	17,30%	5,40%	23,20%	6,70%	5,30%
Fund of funds	24,40%	23,80%	22,50%	18,60%	13,80%	34,60%
Government agencies	1,80%	13,60%	29,70%	18,70%	12,40%	26,80%
Insurance companies	10,20%	8,60%	3,80%	9,30%	1,30%	2,60%
Pension funds	29,40%	20,50%	26,80%	8,70%	0,00%	15,80%
Sovereign wealth funds	21,10%	0,00%	0,20%	0,90%	0,00%	12,80%

Table 2: Funds raised by region of management and investor type in 2012

Source: Own work based on EVCA (2015) data

	UK &Ireland	Dach	Nordic	France &Benelux	Southern Europe	CEE
Academic institutions	4,70%	4,90%	3,30%	0,70%	2,90%	0,10%
Banks	1,00%	3,60%	5,80%	4,70%	18,90%	3,90%
Capital markets	1,00%	0,00%	3,80%	0,00%	0,00%	0,00%
Corporate investors	1,00%	5,30%	1,90%	4,20%	10,00%	9,70%
Private individuals	6,10%	33,90%	5,30%	16,90%	14,70%	6,50%
Fund of funds	17,30%	24,80%	22,30%	6,10%	16,80%	16,80%
Government agencies	1,40%	3,10%	4,40%	19,50%	29,10%	54,60%
Insurance companies	6,70%	11,40%	5,70%	31,30%	1,30%	1,70%
Pension funds	46,40%	13,10%	34,30%	13,80%	6,20%	6,30%
Sovereign wealth funds	14,20%	0,00%	13,50%	2,60%	0,00%	0,30%

Source: Own work based on EVCA (2015) data

Funds of funds, government agencies and pension funds were the main PE/VC investors in Europe in 2013. The highest share of pension fund investments (46,4%) was in UK and Ireland. In DACH countries the "core" investors were private individuals and

funds of funds (60%). In Nordic countries investments were mainly done by funds of funds and pension funds (57%). In France and Benelux countries the share in investment activities has been split between insurance companies, government agencies and private individuals. Government agencies, funds of funds, banks and private individuals were a main source of funds in Southern Europe. In Central and Eastern Europe PE/VC investors were government agencies and funds of funds.

In 2014 the leaders in VC/PE investments were pension funds and government agencies (52%). Pension funds dominated investor structure in UK and Ireland

(40,3%) and DACH countries (49,5%). In Nordic countries pension fund investments accounted for 27,4% with the highest share of investments by funds of funds (28,4%). The share of academic institutions in investor structure was equal to 14,4%. France and Benelux countries were more balanced in their investor structure. The main groups of investors came from government agencies (24,1%), private individuals (18,4%) and funds of funds (16%). The main source of financing VC/PE activities in Southern Europe was government agencies (30,3%), pension funds (24,1%) and funds of funds (19,5%). In Central and Eastern Europe investments were done only by government agencies (60,2%) and pension funds (28,3%).

The sources of PE/VC funds in Europe are dominated by institutional investors such as pension funds, government agencies and funds of funds with a minor role of private individuals and academic institutions. In

	UK &Ireland	Dach	Nordic	France &Benelux	Southern Europe	CEE
Academic institutions	6,40%	3,70%	14,40%	1,60%	1,20%	0,00%
Banks	1,90%	1,00%	0,70%	9,00%	9,50%	0,00%
Capital markets	0,70%	0,70%	1,30%	0,00%	0,00%	0,00%
Corporate investors	3,10%	3,30%	0,50%	2,60%	1,30%	0,00%
Private individuals	7,70%	10,00%	9,00%	18,40%	12,10%	7,10%
Fund of funds	12,80%	12,20%	28,40%	16,00%	19,50%	4,30%
Government agencies	5,50%	4,10%	6,40%	24,10%	30,30%	60,20%
Insurance companies	10,30%	12,60%	4,80%	13,90%	2,00%	0,00%
Pension funds	40,30%	49,50%	27,40%	11,30%	24,10%	28,30%
Sovereign wealth funds	11,30%	2,80%	7,10%	3,10%	0,00%	0,00%

Table 4: Funds raised by region of management and investor type in 2014

Source: Own work based on EVCA (2015) data

each of the analyzed periods the total share of investment done by those three investor types is equal to 50 %.

EVCA (2015) data indicate that United Kingdom (39,3%), France (18%) and Germany (15,3%) are the undisputed leaders in PE/VC market, with a share of around 73% of all European investments in 2012-2014. The first three industry sectors targeted in 2012 - 2014 by PE/VC were life sciences (14,5%), consumer goods & retail (14%) and business and industrial products (12,9%). The most attractive countries in terms of investments in 2012-2014 were the United Kingdom (25,4%), France (17,6%), Germany (16,5%). In Poland PE/VC funds invested around 1% of total investments made between 2012 and 2014.

Research Methodology

Correspondence analysis is a multivariate statistical technique proposed by Hirschfeld (1935) and later developed by Jean-Paul Benzécri (1973). It is conceptually similar to principal component analysis, but applies to categorical rather than continuous data. In a similar manner to principal component analysis, it provides a means of displaying or summarizing a set of data in twodimensional graphical form. Correspondence analysis is a statistical visualization method for picturing the associations between the levels of a two-way contingency table. The name is a translation of the French Analyses des Correspondances, where the term correspondence denotes a "system of associations" between the elements of data sets. Authors use correspondence analysis to classify VC/PE fund investment activity in terms of industry choice.

The authors analyzed data on industries from 2012 to 2014 in the following countries: Austria (A), Belgium (B), Denmark (DK), Finland (FIN), France (F), Germany (D), Ireland (IRL), Italy (I), Netherlands (NL), Norway (NOR), Poland (PL), Portugal (POR), Spain (SP), Sweden (SWE), Switzerland (SUI), United Kingdom (UK). The source of data was the European Private Equity Activity 2014 database (EVCA, 2015).

For each of the countries, data was collected on the size of private equity/venture capital investments in the following industries: Business & industrial products (B_IP), Business & industrial services (B_IS), Chemicals & materials (Chem), Communications (Com), Computer & consumer electronics (Cons_electr), Construction (Constr), Consumer goods & retail (Retail), Consumer services (Cons_serv), Energy & environment (Energy), Financial services (Financial), Life sciences (Life Sc), Transportation (Transp). Due to the fact that the correspondence analysis requires categorical data for each data series the value of the lower and upper quartile of investment was calculated. The level of investment in the country was determined as small if the investment was below the lower quartile and large if the investment was above the upper quartile. The remaining values were determined as medium.

Presentation of results of correspondence analysis requires choice of dimensions that explain most of the variability in the dataset. Commonly used rules recommend that the number of dimensions retained represent >70% of the inertia (Higgs, 1991). Our analysis indicate a choice of 7 dimensions that would explain 70% of inertia. However, in that case the authors would have major problems with the interpretation of geometric results. Therefore the authors decided to choose two dimensions explaining only 30 % of inertia. Graphical results of the correspondence analysis are shown in Figure 2 (year 2012), Figure 3 (year 2013) and Figure 4 (year 2015). Those results illustrate a link between the amount of investment in the industry and the country in which the investment was made. On the basis of that dominant country investment profiles have been created. For statistical analysis STATISTICA (data analysis software system) version 12 was used (StatSoft, 2014).

In 2012 the authors identified two main industry clusters. The first can be described by small investment activity in consumer services, business and industrial products, life sciences, business and industrial services and financial services. That investment profile describes the activities of PE/VC funds in Portugal, Austria and Ireland. The second cluster identified in 2012 is described by large investments in communications, consumer services, life sciences, energy & environment, chemicals & materials, transportation, consumer goods & retail, computer & consumer electronics, business & industrial products, business & industrial services. The sectors that are not represented in this cluster are financial services and construction industry. That cluster well describes investments in Spain, Germany, France and the United Kingdom.

Investment activity in Denmark, Norway, Finland, Belgium, Italy, Sweden, Netherlands and Poland is diverse. It is difficult to clearly identify sets of industries

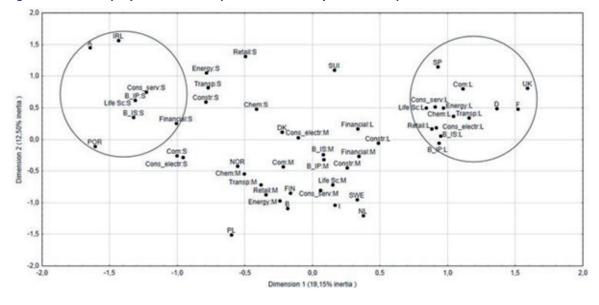


Figure 2: Private equity and venture capital funds industry investment profile in selected countries in 2012

Source: Own work

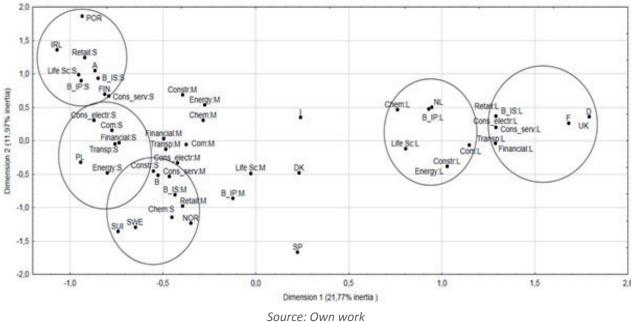
that dominated investment choices of PE/VC funds. In Denmark investments were made in chemicals and materials and consumer electronics and communications. In Norway funds were investing in chemicals and materials, transportation, consumer goods & retail. Finland and Belgium were dominated by communications, consumer goods & retail, energy & environment, transportation, consumer services. Italy, Sweden and Netherlands are described by choice of construction, life sciences and consumer services.

In 2012 it is difficult to distinguish any dominant

investment behavior of PE/VC fund managers in Poland. The best picture of investments in Poland is given by investments in transportation, consumer goods & retail and energy & environment. On the basis of correspondence analysis description of investments made in 2012 in Switzerland is not possible.

In 2013 the authors identified five clusters that best describe decisions of investors. In the first cluster are Portugal, Austria and Ireland (as in 2012) with investments in consumer goods & retail, life sciences, business & industrial products, business & industrial services,





consumer services. That profile matches the investment decisions in these countries in 2012. In 2013 the level of investment in Finland changed to smaller, and industry choice included business & industrial products, business & industrial services, life sciences, consumer services, computer & consumer electronics and communications. The second cluster was formed in Poland. In 2013 the dominant sectors were computer & consumer electronics, communications, financial services, transportation and energy & environment. Compared to 2012 the number of sectors increased but the level of investment decreased.

The third cluster is formed by Belgium, Norway, Sweden and Switzerland with investments in chemicals & materials, construction (on a small level) and medium investments in consumer goods & retail, business & industrial services, consumer services and computer & consumer electronics. In that case the authors also observed the changes in the choice of fund managers.

The fourth cluster is formed by Netherlands and describing the profile of that country there were large investments in business & industrial products, chemicals & materials, life sciences, construction, energy & environment and communications. Once again these are noticeable changes in the profile compared to 2012.

The last, fifth cluster, is created by France, Germany and United Kingdom. The level of investment is (compared to 2012) still large, but fund managers have chosen fewer sectors. These were: business & industrial services, consumer goods & retail, computer & consumer electronics, transportation, consumer services, financial services. In 2013 it was difficult to clearly determine the investment profile of Italy, Denmark and Spain.

The investment profile map for 2014 reveals three clusters. The first is formed by Portugal, Austria and Ireland. These countries successively have a common investment profile of a small level of investments in business & industrial products, business & industrial services, transportation, construction, chemicals & materials, computer & consumer electronics and consumer goods & retail. Change, as compared to previous years, is seen in the expansion of the number of sectors and absence of life sciences and consumer services in their profile. That does not mean that in these countries there was no investment in these sectors. In 2014 they are not included in the best characteristics of the country investment profile.

The second cluster is formed by Italy, Sweden and Finland. The profile of these countries is described by small investments in financial services and life sciences and medium investments transportation, consumer goods & retail, computer & consumer electronics, business & industrial products, business & industrial services and construction. There has also been a significant change in these countries as compared to previous years.

The third cluster with large investments in business & industrial services, energy & environment, transportation, computer & consumer electronics, consumer goods & retail, financial services, life sciences, communications and consumer services is created by Germany and

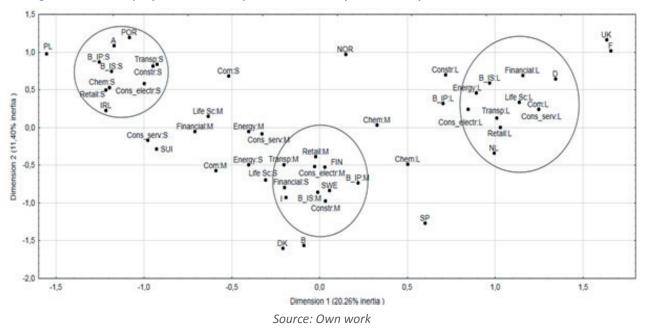


Figure 4: Private equity and venture capital funds industry investment profile in selected countries in 2014

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Netherlands. The profile of United Kingdom and France suggests large VC/PE funds investments in these countries. However, clear identification of the dominant sectors is impossible.

The best description is given by investments in financial services, life sciences, communications and consumer services.

Analysis of data from 2014 indicates the difficulty with a description of the Polish market which is similar to results from 2012. Polish PE/VC investment describes a choice of business & industrial products, business & industrial services, chemicals & materials and consumer goods & retail. High profile volatility and lack of common features in 2012-2014 indicate dynamic change in the Polish PE/VC market.

Investor activity in services (small) and financial services (medium) best describes Switzerland's profile. Coherent characteristics of Norway and Spain cannot be determined on the basis of our analysis and data from 2014. Denmark and Switzerland are described by medium investments in construction and business and industrial services.

On the basis of the collected data and statistical analysis a relation between investor type on the European PE/VC market and selection of industries invested has not been proven.

CONCLUSIONS

The authors believe that despite of the failure to confirm our research hypothesis there is a need for further research on this topic. The presented analysis is biased by a large share of specific investors in the overall structure of investors. The share of funds of funds, government agencies and pension funds in the total share of investment is equal to 50 %. Therefore the statistics are dominated by the choices and decisions of those investors.

The evidence for that can be found in results for Spain. In 2012 Spain is classified in a cluster with Germany, UK and France with the investments in almost all industries. In 2012 Spanish sources of PE/VC funds were dominated by banks, whose strategy is somehow similar to funds of funds, government agencies and pension funds. Change in the structure of investors in 2013 and 2014 combined with a decrease in the level of investment in the country caused a change in industry investment profile.

The presented results confirm previous research findings that show a correlation between PE/VC activity and the existence of a well-established stock market supported by effective in enforcing contracts legal systems (Pukthuanthong, Dolruedee & Walker, 2007; Kuen, 2013). Germany, United Kingdom and France formed a common cluster characterized by large level of investments. It seems that one of the concerns of the European PE/VC market shall be creation of a strong secondary market for high growth small stocks. That shall stimulate the development of the PE/VC market in other EU countries. Many European countries have experimented with their own "secondary markets". Many of these national markets have failed to achieve either the market liquidity or the fundraising capability to support venture capital activity as desired. Attempts have also been made to develop one pan-European exchange e.g. EVCA-supported EASDAQ in September 1996 and the EURO.NM network of national markets financing of SMEs and new technology-based firms. (Osama, 2005). EASDAQ failed to deliver (it closed in November 2003), and the EURO.NM ended its activity after the creation of Euronext in 2000. Generally in CEE countries young and technology-oriented companies still fail to attract the necessary capital. The reasons for this difficult financing process are the early development stage of financial markets, the low availability of risk capital, as well as the non-suitability of financing via the listing on a single pan-European stock exchange (Campbell & Kraeussl, 2007).

The positions of Germany, United Kingdom and France are strengthened by a stable legal system. PE/VC managers not only consider the ventures' business plans but also assess whether the legal system is good enough to protect their interests against any problems with the entrepreneurs (Bruton, Fried & Hisrich, 2000). Bottazzi, Rin and Hellmann (2008) proved that a country's legal system affects its venture-capital financing activities. Their results confirm that a strong legal system that protects investors is very important in determining investor behavior.

Specialization within sectors is not as common as a PE/VC firm strategy. In this model the firm chooses one industrial sector and recruits human resources and creates knowledge. The potential for diversification is strongly reduced, but the fund benefits from the strong control of the sector. Specialization within sectors is typically driven from the background of the managers and their relationship in the sector but, compared to the specialization within stages, the risk is higher because the fund allocates the whole amount of money only in one sector implying a bigger risk during economic downturn or changes in the sector's competitive pattern (Caselli, 2010).

To summarize, it is not surprising that venture capitalists attempt to provide capital to firms that are highly profitable. That is done irrespectively of the origin of capital or the industry. However, the authors believe that investors' investment strategies are dependent on the source of capital and thus their industry choices. The authors were unable to prove differences in industry attractiveness for PE/VC capital and the cyclical nature of investment decisions of investors for two reasons:

1) dominant share of specific investors in our sample, and,

2) the turbulent economic and political situation in the investigated period.

The authors believe that future research on the behavior of investors should be carried out modifying the period tested or reducing the sample. Another research topic that should be undertaken is comparative study of the behavior of investors in the US and Europe.

References

Benzécri, J.-P. (1973). L'Analyse des Données. Volume II. L'Analyse des Correspondances. Paris, France: Dunod.

- Bottazzi, L., da Rin, M., Hellmann, T. (2008). What Is the Role of Legal Systems in Financial Intermediation? Theory and Evidence. *Journal of Financial Intermediation*, 18, 559-598.
- Bruton, G.D., Fried, V.H., Hisrich, R.D. (2000). CEO Dismissal in Venture Capital Backed Firms: Further Evidence from an Agency Perspective. *Entrepreneurship Theory and Practice*, 24(4), 69-77.

Bygrave, W.D., Timmons, J. (1992). Venture Capital at the Crossroads. Boston: Harvard Business School Press.

Campbell, R.A., Kraeussl, R. (2007). A Survey of the Venture Capital Industry in Central and Eastern Europe. In G.N. Gregoriou, M. Kooli, R. Kraeussl (Ed.), *Venture Capital in Europe* (pp. 51-71). Oxford: Butterworth-Heinemann.

Caselli, S. (2010). Private Equity and Venture Capital in Europe. Boston: Academic Press.

Caselli, S., Ventrone, D. (2004). The Special Role of the Venture Capital Industry. In S. Caselli, S. Gatti (Ed.), *Venture Capital A Euro-System Approach* (pp. 191-225). Berlin: Springer-Verlag.

Commission of the European Communities, (1998). *Risk Capital: a Key to Job Creation in the European Union*. Luxembourg: Office for Official Publications of the European Communities.

Department of Trade and Industry, (1999). Addressing the Equity Gap: Support for Regional Venture Capital Funds. DTI Small and Medium Enterprise Policy Directorate, London (URN99/876).

- EVCA, (2007). *Guide on Private Equity and Venture Capital for Entrepreneurs. An EVCA special paper*. European Private Equity & Venture Capital Association. Retrieved from http://www.evca.eu.
- EVCA, (2015). *European Private Equity Activity 2014*. European Private Equity & Venture Capital Association. Retrieved from http://www.evca.eu.
- Harding, R. (2000). *Venturing Forward: the Role of Venture Capital Policy in Enabling Entrepreneurship*. London: Institute of Public Policy Research.

Higgs, N.T. (1991). Practical and Innovative uses of Correspondence Analysis. The Statistician, 40(2), 183–94.

- Hirschfeld, H.O. (1935). A Connection between Correlation and Contingency. *Proc. Cambridge Philosophical Society*, 31, 520–524.
- Klonowski, D. (2010). The Venture Capital Investment Process. New York: Palgrave Macmillan.
- Kuen, A.W.L. (2013). Impacts of Institutions on Venture Capital Investment Activities: Evidence from China, India, Japan, and Hong Kong. The Journal of Investing, Vol. 22, No. 3, 39-52.
- Łapiński, J., Nieć, M., Rzeźnik, G., Węcławska, D. (2015). Przedsiębiorczość i perspektywy rozwojowe sektora MSP w Polsce. In A. Tarnawa, P. Zadura-Lichota (Ed.), Raport o stanie sektora małych i średnich przedsiębiorstw w Polsce w latach 2013–2014 (pp. 13-53). Warszawa: Polska Agencja Rozwoju Przedsiębiorczości.
- Mason, C.M., Harrison, R.T. (2002). The Geography of Venture Capital Investments in the UK. *Transactions of the Institute of British Geographers*, 27(4), 427–451.
- Osama, A. (2005). Transplanting Venture Capital in Developing Countries: a Critical Re-examination of Evidence. AAAS Research Symposium with Next Generation of Leaders in Science and Technology Policy, Washington DC. Unpublished working paper.

Pukthuanthong, K., Dolruedee, T., Walker, T. (2007). Why Venture Capital Markets are Well Developed in Some Countries but Comparatively Small in Others: Evidence from Europe. In G.N. Gregoriou, M. Kooli, R. Kraeussl (Ed.), Venture Capital in Europe (pp. 33-51). Oxford: Butterworth-Heinemann.

Spotorno, L. (2004). The Venture Capital Industry in Europe: Trends and Figures. In S. Caselli, S. Gatti (Ed.), *Venture Capital A Euro-System Approach* (pp. 285-319). Berlin: Springer-Verlag.

StatSoft, Inc. (2014). STATISTICA (data analysis software system), version 12. www.statsoft.com.

- Wright, M., Robbie, K. (1998). Venture Capital and Private Equity: a Review and Synthesis. *Journal of Business Finance & Accounting*, 25(5) & (6), 521-570.
- Xu, X.E., (2004). Venture Capital and Buyout Funds as Alternative Equity Investment Classes. *The Journal of Investing*, 13(4), 74-82.

Ueda, M. (2004). Banks versus Venture Capital: Project Evaluation, Screening, and Expropriation. *Journal of Finance*, 59(2), 601–21.