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INTERNATIONAL ALLOCATION DETERMINANTS OF INSTITUTIONAL INVESTMENTS IN VENTURE CAPITAL AND PRIVATE EQUITY LIMITED PARTNERSHIPS

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Abstract

We examine the determinants of institutional investors when deciding on international capital allocation in Venture Capital and Private Equity Limited Partnerships; this is done through a questionnaire addressed to (potential) Limited Partners world-wide. The respondents provide information about their criteria for international asset allocation. The protection of property rights is the dominant concern, followed by the need to find local quality General Partners, and the quality of management and skills of local entrepreneurs. Furthermore, the expected deal flow plays an important role in the allocation process, while investors fear bribery and corruption. Public funding and subsidies do not play a role at all in the international allocation process. Hence, private money does not follow public money. The IPO activity and the size of local public equity markets are not as relevant as proposed by other researchers. Our results can support policymakers to increase the attractiveness of their countries for institutional investors and, thus, to receive more risk capital for innovation, entrepreneurship, employment and growth.

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1. Introduction

International comparisons of Venture Capital and Private Equity (VC/PE) markets reveal that there are large differences in the VC/PE activity across nations. On national levels the VC/PE activity is often measured as a percentage of GDP. In terms of this ratio, the United Kingdom currently leads the world-wide ranking, followed by the United States (EVCA 2007 and NVCA 2007). While both countries are similar, regarding important investment-related issues, such as their common law systems and their entrepreneurial and capital market oriented economies, it is interesting to determine the parameters that lead to their attractiveness for institutional investors, and differentiate them from other countries with far less VC/PE activity.

A large body of literature deals with issues concerning the evolvement of vibrant local VC/PE markets, and with the parameters that determine institutional investors' decisions to allocate capital in economic regions. We contribute to the existing literature by directly incorporating these determinants into a questionnaire addressed to world-wide operating institutional investors as the dominant providers of risk capital. In this way, we receive a unique primary data set to analyze the most important criteria for institutional investors when evaluating international VC/PE capital allocation opportunities. The questionnaire is sent out electronically to 1,079 (potential) institutional investors in VC/PE Limited Partnerships (the Limited Partners – "LPs"). We perform several tests and analyses and show that the protection of property rights is the most important issue when evaluating international VC/PE allocation, followed by the desire to find quality local fund management teams (the General Partners – "GPs"), and followed in turn by the need to be convinced about the quality and skills of the local entrepreneurial managers. Furthermore, in descending order, the expected deal flow plays an important role in the allocation process, and the investors fear bribery and corruption. The results are significant, and do not meaningfully differ among the sub-groups of institutional investors, as, for example, Europeans and non-Europeans. Another very important finding is that institutional investors do not at all consider the availability of public subsidies as decision criteria in their international allocation process. This puts into doubt the existence of several government programs intended to spur the market for risk capital. Additionally, the role of the public stock market and the IPO market is not as relevant as expected. Our results confirm previous findings on the importance of corporate governance rules and practices and on the

unimportance of public subsidies. However, our results contradict with findings on the prominence of the IPO activity and the size of the public equity market. Related literature so far discusses selections of several determinants and provides evidence by multivariate regressions. We are able, for the first time, to rank the importance of all the particular parameters so far discussed in similar research papers, by directly addressing institutional investors as the main source of VC/PE funding.

The results lead to more transparency of the international capital allocation process of institutional investors and serve as a guideline for policymakers attempting to attract more risk capital for their countries to spur innovation, entrepreneurship, growth, and employment.

The paper is structured as follows: First, we review related literature. Then, we describe the study design and the resulting sample. Next, we perform comprehensive analyses of the data gathered. Each analysis is immediately followed by an interpretation of the findings. Finally, we conclude.

2. Literature Overview

A large body of research explores the determinants of VC/PE activity in particular economies; Black and Gilson (1998), and Michelacci and Suarez (2004) highlight the important role of the stock market for the VC/PE asset class. Kaplan and Schoar (2005) confirm the strong relation between VP/PE activity and stock market waves. Jeng and Wells (2000) explore the determinants of VC/PE funding for 21 countries and expand the work of Black and Gilson (1998). They show that IPOs are the strongest driving force of VC/PE investing. Surprisingly, GDP growth and market capitalization are not significant. Gompers and Lerner (2000) emphasize that risk capital flourishes in countries with deep and liquid stock markets.

The availability of debt financing is another key factor for start-ups entering the market, as emphasized by Greene (1998), and hence a determinant for a vibrant, local VC/PE market. Additionally, the maturity of the VC/PE market itself might attract investors. The maturity of a local VC/PE market is also reflected by the number of players and supporting institutions, such as law firms, investment banks, M&A boutiques, auditors and consultants. Sapienza et al. (1996) claim that whether or not the VC/PE market is accepted within a society, and the historical development of that market, determine investor confidence. Balboa and Martí (2003) find that annual fundraising volume is dependent on the previous year's market liquidity. Chemla (2005) argues that the management of VC/PE funds is costly. Particular regions become attractive to investors only if the deal flow is large enough, and if transaction volumes and expected payoffs exceed a certain amount that allows the management fees to be covered.

La Porta et al. (1997 and 1998) prove that the legal environment strongly determines the size and extent of a country's capital market and local firm's abilities to receive outside funding. Glaeser et al. (2001), Djankov et al. (2003 and 2005) suggest that parties in common law-countries have greater ease in enforcing their rights from commercial contracts. Cumming and Johan (2007) highlight that the perceived importance of regulatory harmonization increases institutional investors' allocations to the asset class. Desai et al. (2006) investigate the influence of institutional settings in 33 European countries, in particular the issues of fairness and the protection of property rights, on the entry of enterprises into the markets. The number of new enterprises proxies the attractiveness for VC/PE allocations. Cumming et al. (2006a) find that the quality of a country's legal system is much more directly connected to facilitating VC/PE-backed exits than the size of a country's stock market. Cumming et al. (2006b) extend this and

show that cross-country differences in legality, including legal origin and accounting standards, have a significant impact on the governance of investments in the VC/PE industry. Better laws facilitate deal-screening and deal-origination. They also facilitate investors' board representations and the use of desired types of securities. Lerner and Schoar (2004) analyze VC/PE transaction structures in developing countries and find that the choice of securities is driven by the legal and economic circumstances of the nation and of the investing VC/PE group. La Porta et al. (2002) find a lower cost of capital for companies in countries with better investor protection. Lerner and Schoar (2005) confirm these findings. Johnson et al. (1999) show that weak property rights limit the reinvestment of profits in start-up firms. Even so, Knack and Keefer (1995), Mauro (1995), and Svensson (1998) demonstrate that property rights significantly affect investments and economic growth.

Gompers and Lerner (1998) examine the forces that affected independent VC/PE fundraising in the US. They conclude that factors such as regulatory changes affecting pension funds, overall economic growth, firm-specific performance and reputation all affect fundraising. They point out that there are more attractive opportunities for entrepreneurs if the economy is large and growing. Wilken (1979) argues that economic development facilitates entrepreneurship, as it provides a greater accumulation of capital for investments. Romain and van Pottelsberghe de la Potterie (2004) find that VC/PE activity is related to GDP growth.

Da Rin et al. (2005) argue that policymakers should consider a wide set of policies to improve emerging VC/PE markets, rather than simply channeling funds into the segment. Armour and Cumming (2006) confirm this rationale and show that government programs often hinder rather than help the development of VC/PE markets.

Gompers and Lerner (1998) also stress that the capital gains tax rate influences VC/PE activity. Bruce (2000 and 2002), and Cullen and Gordon (2002) show that taxes affect the entry and exit of businesses. It can be concluded that this should be mirrored in VC/PE activity.

Rigid labor market policies might negatively affect the attractiveness of a VC/PE market. Institutional investors could hesitate investing in countries with exaggerated labor market protection and immobility. Lazear (1990), and Blanchard (1997) discuss how protection of workers can reduce employment and growth. Black and Gilson (1998) show that variations in labor market restrictions correlate with VC/PE activity.

Access to viable investments is probably another important factor for the attractiveness of a regional VC/PE market. In order to foster a growing risk capital industry, Megginson (2004) argues that the R&D culture, especially in universities or national laboratories, plays an important role. Gompers and Lerner (1998) show that both industrial and academic R&D expenditure is significantly correlated with VC/PE activity. Schertler (2003) emphasizes that the number of employees in the R&D field and the number of patents, as an approximation of human capital endowment, have a positive and highly significant influence on VC/PE activity. Furthermore, Romain and van Pottelsberghe de la Potterie (2004) find that the level of entrepreneurship interacts with the R&D capital stock, technological opportunities, and the number of patents. Lee and Peterson (2000), and Baughn and Neupert (2003) argue that national cultures shape both individual orientation and environmental conditions, which lead to different levels of entrepreneurial activity in particular countries, and which should affect the level of acceptance of a risk capital culture. The acceptance of a risk capital culture in a society should also influence the funding activities of institutional investors.

All of the above-mentioned papers focus on the settings of several regional capital markets. Most of them run multivariate analyses on secondary data, some of them use surveys among General Partners. Our research approach differs: We directly assess the sources of VC/PE capital, the (potential) institutional investors on a world-wide scale, and collect, through a questionnaire, information about the parameters they evaluate when deciding on international VC/PE allocation. For the determination of the parameters we refer to the findings of the above-reviewed literature, select the strongest and most important ones, group the parameters, and directly ask the respondents about their importance. Therefore, combining the findings of previous research and the unique primary data set we gathered, we are able to derive significant conclusions on the asset allocation process of institutional investors.

3. Study Design

3.1. The Questionnaire and Addressees

Due to space limitations we do not describe the questionnaire in detail (it is available on request), but, in brief, it is divided in two parts. The first part contains some descriptive information on the respondent's institution in terms of its type, its size, and allocation hurdle rates; and the second part comprehensively deals with the socio-economic criteria that the respondent considers for the international asset allocation decision process for VC/PE investments.

Some of the questions raised provide metric responses, but the majority of the responses are ordinal, made via entries on a seven-point Likert scale. Other responses are categorical. The ordinal responses on the Likert scales range from not at all important to very important. To ensure that no important determinant is missed in our questionnaire, in parallel we ask the respondents to determine their most important asset allocation criteria using keywords. The analyses of these keywords shall be anticipated at that stage, because they prove that no major topic is left out in our questionnaire.

The survey was addressed via email to 1,079 Limited Partners world-wide. The geographic distribution of the addressees is as follows: 77% USA and Canada, 17% Europe, 5% Asia, and 1% others. The email addresses of the Limited Partners are collected from three commercial databases. It is not known what the entire population of LPs is in terms of numbers and funds under management, as a reliable or official list of institutional investors that qualify for VC/PE partnerships does not exist. Each of the three databases claims to cover the whole population of LPs, but, in matching them, we increase the number of players and, hence, gain a unique world-wide compendium of Limited Partners. Furthermore, we check several references and actively search for important and well-known LPs manually in our repository. We deliberately attempt to cover as many LPs as possible. Nevertheless, matching the databases and the cross-checks might not secure a valid collection of LPs that, at least, represents the entire population. Regarding the geographical distribution of investors, for example, we have the following concern: Even though the USA, as an economic region and as the best-developed financial market, probably embodies the biggest (in terms of fund volumes), most sophisticated, and with the largest number of LPs, other regions, notably Asia, might be under-represented. However, in terms of funds under management, our data collection reliably represents the population. In our depository, none of the larger LPs should be missing, whether in the USA, Europe or Asia, and the larger institutions are the more important ones because of their market weight. We believe

that an over-representation of the number of US LPs in our depository of addresses will not harm our conclusions unless they respond in a different manner. However, we will address this issue and investigate our sample regarding differences in the allocation processes of sub-groups of the investors.

3.2. Sample Size, Geographical Structure and Potential Bias

From the 1,079 Limited Partners addressed we received 75 valid and valuable responses. This is a response rate of 7% and quite satisfying, when compared to some other studies that collect primary data about investors' behavior by means of a questionnaire. For instance, Lerner and Schoar (2005) collect data from 28 Private Equity funds, and Köke (1999) considers a sample of only 21 responses.

The responding LPs are segmented into the following groups: corporate investors, government agencies, banks, pension funds, insurance companies, funds of funds, endowments, and others. A geographic distinction is made according to the origin of the investors: USA and Canada, Europe, and rest of the world. The segments are presented in Table 1.

Table 1

Segmented Respondents (Type and Origin of Investors)

Type of Investor	Occurrence	Origin of Investor	Occurrence
Corporate Investors	4	USA and Canada	34
Government Agency	1	Europe	38
Banks	3	Rest of the World	3
Pension Funds	8		
Insurance Companies	1		
Funds of Funds	29		
Endowments	2		
Others	26		
Not Available	1		

Unfortunately, the response rate from LPs that qualify themselves as 'others' is relatively large, and therefore, only the 'funds of funds' group can be distinguished as homogeneous. Furthermore, we received more answers from European LPs (49.3% of all the answers), as compared to their occurrence in our depository of 17%. This might bias the results of our study. Anyway, the geographical distribution might not be the only cause of a selection bias. As discussed further below, the types of investors, the fund sizes, or other criteria might also not be sufficiently representative. Unfortunately, since no comparable comprehensive repository of investor data exists that provides the necessary information to correct for a potential bias, as mentioned above, we are unable to address this issue. However, we assess the responses of sub-groups of investors, e.g. Europeans and non-Europeans, or small and large funds separately in a subsequent section of this paper, and find that there are no meaningful differences in their international capital allocation approaches. This leads us to conclude that, even if our sample does not perfectly represent the world-wide population of (potential) Limited Partners, our findings are not biased.

3.3. Funds under Management and VC/PE Commitments

59 respondents provided information regarding the size of the managed funds, and from 68 we received their percentage allocation in the VC/PE asset class. Table 2 presents the distribution of the sample, segmented by size and by the world-wide percentage allocation in the VC/PE asset class.

Table 2

Segmented Respondents (Fund Size) and VC/PE Allocation

Fund Size	Occurrence	VC/PE Allocation	Occurrence
< €100 m	9	< 30%	29
€100 m – 999 m	18	30% - 89%	8
€1,000 m – 9,999 m	23	90% - 100%	31
> €9,999 m	9		

The fund sizes are relatively heterogeneous, while the world-wide commitments to the VC/PE asset class are not. A large number of the funds allocate 90% or more of their funds under management into the asset class. This leads us to investigate the relationship between the size of the fund and the percentage of VC/PE allocation. We assume that the percentage of a fund's allocation in the VC/PE capital market segment decreases with the size of the fund. The reason for this is that the smaller funds might be specialized VC/PE vehicles that receive their capital from already-diversified investors, and do not need to diversify among different asset classes. Therefore, we perform a Kruskal-Wallis test with the hypotheses H0: $\mu_i = \mu_k$, and H1: $\mu_i \neq \mu_k$ to test whether the percentage allocation of the funds differs with fund size. The results are reported in Table 3 (note that 58 respondents provided information on both determinants).

Table 3

Kruskal Wallis Test on the Commitment to the VC/PE Asset Class, Grouped by Size

Funds under Management	N	Mean Rank	Mean % commitment to VC/PE		% committed to VC/PE
< €100 m	9	24.06	41.84	Chi-Square	10.264
€100-999 m	18	34.00	67.18	df	3
€1,000-9,999 m	22	33.64	61.27	Asymp. Sig.	**.016**
> €9,999 m	9	15.83	22.67		
Total	58		54.10		

We find a significant difference in the mean commitments of the funds grouped by fund size. Hence, H0 has to be rejected, but not in the expected way. The result is rather surprising and leads to the conclusion that the smallest and largest funds in our sample (with 41.8% respectively with 22.7% average VC/PE allocation in each group) have a smaller percentage allocation than the medium-sized funds (between €100 million and €9.9 billion, with average allocations of 67.2%, and 61.3% respectively). The medium-sized funds are the entities that are more specialized in VC/PE.

Summarizing these descriptive statistics, it can be reported that we receive a diverse sample of (potential) investors in the VC/PE asset class in terms of size, type, relevant geographical origins, and exposure in VC/PE. The data is comprehensively analyzed in the subsequent sections of this paper.

4. Analyses

The analyses are performed with several non-parametric tests, mainly to determine the rankings of the importance of the suggested parameters. Within our statistical tests, we follow the approach of not having prior expectations regarding the location of central parameters and, hence, define non-directional alternative hypotheses.

4.1. Country Allocation Criteria

With our questionnaire, we primarily aim to determine the most important criteria for the country allocation process of institutional investors. Therefore, we refer to the findings of the cited research papers that deal with asset allocation processes of institutional investors, or investigate the necessary requirements for vibrant local VC/PE markets and culture. The findings are used to narrow the relevant questions raised to the institutional investors.

The questionnaire considers all the different issues mentioned in our literature overview, and groups them into six major categories: economic activity, capital market, taxation, investor protection, social environment, and entrepreneurial opportunities. The respondents are asked to evaluate the importance of the individual criteria for their decisions about international asset allocation on a seven-point Likert scale, ranging from 1, not at all important, to 7, very important. First, we perform analyses of the importance of the criteria within each category, and then analyses of all individual criteria to determine the most important ones when institutional investors decide on international capital allocation. The results are described in the following sections.

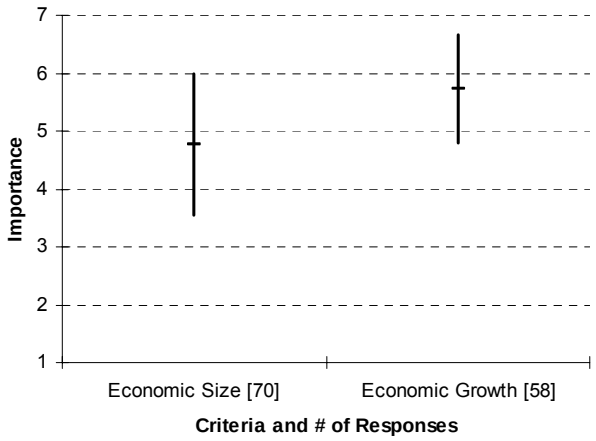
4.1.1. The Importance of Economic Activity

Referring to Gompers and Lerner (1998), Wilken (1979), and Romain and van Pottelsberghe de la Potterie (2004), we distinguish the parameters “economic growth” and “economic size” in our questionnaire to reveal the importance of the economic activity in a particular country for institutional investors’ allocation decisions. Figure 1 presents the assessments of both criteria measured by the means and by the $\pm \sigma$-percentiles of the respondents’ evaluations.

The graph reveals that economic growth is more important than size, and the dispersion of the evaluation of growth is less than that for size. The result is confirmed by a Wilcoxon Signed Rank Test with the Hypothesis H0: $\mu_1 = \mu_2$, and H1: $\mu_1 \neq \mu_2$. The test statistic is presented in Appendix 3 and strongly rejects H0. Hence, when they evaluate economic conditions as part of their international asset allocation process, institutional investors regard growth as more important than size.

Figure 1

Importance of Economic Criteria (Fluctuating Numbers of Responses)

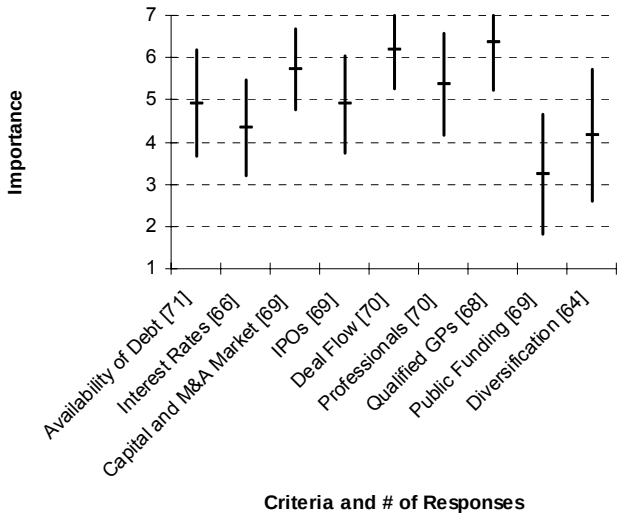


4.1.2. The Importance of the Capital Market

From the manifold research papers mentioned, we distinguish the following parameters to investigate the importance of a local capital market for the international allocation process: availability of debt financing, interest rates, capital market and M&A market activity, IPO activity, expected deal flow, presence of professional institutions and supporters (law firms, investment banks, auditors, and consultants), presence of qualified GPs, availability of public funding and subsidies, and the expected diversification effected by committing capital to that local market. Figure 2 presents the means of the responses and the $\pm \sigma$-percentiles for each criterion.

Figure 2

Importance of Capital Market Criteria (Fluctuating Numbers of Responses).



Note: Because the responses are truncated at level 7, the $+\sigma$ interval is also truncated at 7.

The presence of qualified GPs and the expected deal flow are the most important selection criteria, with average nominations of 6.35 and 6.17 on the Likert scale. However, deal flow has the lowest dispersion of responses, i.e., LPs strongly agree on the importance of that criterion. As discussed above, we perform pair-wise Wilcoxon Signed Rank Tests with the hypothesis H0: $\mu_i = \mu_k$, and H1: $\mu_i \neq \mu_k$ to determine a ranking of the criteria. The test statistics are presented in Appendix 2 and the results in Table 4.

Table 4

Ranks of Importance of Criteria Regarding the Capital Market

Criteria	**Rank(s)**
Presence of qualified GPs	1 or 2
Expected deal flow	1 or 2
General capital and M&A market activity	3
Presence of professional institutions to support	4
Availability of debt finance in the target country	5 or 6
IPO market activity	5 or 6
Interest rates in the target country	7 or 8
Diversification effect	7 or 8
Availability of public funding and subsidies	9

The tests reveal that the quality of GPs and the deal flow expectations dominate the other criteria; both criteria rank either first or second, but definitely before the general capital and M&A market activity. The quoted capital market segment, the M&A market, and IPO activity are nevertheless important allocation criteria for LPs, but not as dominant as expected. The presence of qualified GPs and the expected deal flow are hard to measure and, therefore, not yet explicitly analyzed in literature. However, our findings contradict with existing literature that emphasizes the special importance of the exit conditions for transactions by IPOs, as, for example, Jeng and Wells (2000). This contradiction could be caused by the fact that Jeng and Wells (2000) do not analyze the importance of the more important factors here determined, or due to collinearity, where the independent variables were so highly correlated that it became difficult or impossible to distinguish their individual influences.

Interestingly, the debt market and the price of debt are not as meaningful as anticipated, for instance, according to Greene (1998). One could argue that the price of debt is an indicator for the minimum return requirements in a particular country and, hence, plays a role for the allocation process. However, LPs obviously do not consider this criterion important in general. Furthermore, diversification does not play an important role for investors in the VC/PE market segment. LPs seem to be well diversified already, or aware that they manage already well-diversified money.

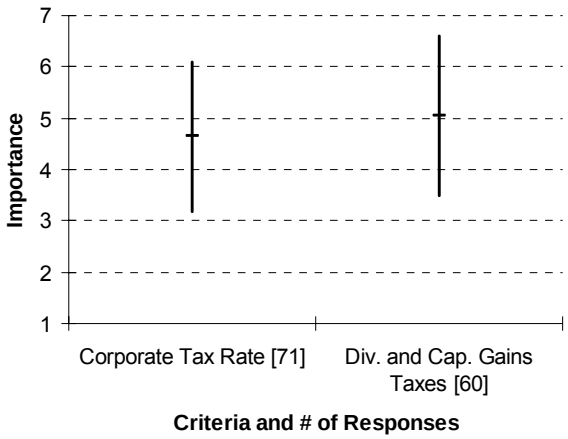
A clear finding, and one that might be unpleasant for policymakers, is that the availability of public funding and subsidies is not an important issue for institutional investors when deciding on their VC/PE allocations. The (potential) investors regard this as the least important (mean = 3.23) of all the criteria we consider in the questionnaire. However, the criterion also has a large dispersion (standard deviation = 1.42), signaling that some of the investors obviously follow public activities. Summarizing this issue, which is in line with the findings of Da Rin et al. (2005) and Armour and Cumming (2006), it can be argued that private money does not, in the end, follow public money in the VC/PE market segment.

4.1.3. The Importance of Taxes

Referring to Gompers and Lerner (1998), Bruce (2000 and 2002), and Cullen and Gordon (2002), we focus on the corporate tax rate and dividend and capital gains taxes, in determining the importance of taxes in respect to institutional investors' international allocation decisions. Despite many other taxes and tax policies that potentially influence the activities of LPs in individual countries, the ones mentioned are those that have the greatest impact on business, and those that are somewhat comparable across countries with different tax regimes. Corporate taxes are relevant on the transaction level, and dividend and capital gains taxes on the investor level. Figure 3 presents the means of the nominations concerning their importance, and the $\pm \sigma$-percentiles for both taxes.

Figure 3

Importance of Taxes (Fluctuating Numbers of Responses)



We propose the hypothesis that both of the taxes are equally important, H0: $\mu_1 = \mu_2$, while the alternative is that the importance differs, H1: $\mu_1 \neq \mu_2$. The Wilkoxon Signed Rank test proves dominance of dividend and capital gains taxes. The test result is presented in Appendix 3. As also proved by Gompers and Lerner (1998), investors are more concerned about the taxes that affect them directly.

4.1.4. The Importance of Property Rights Protection

Since property rights and investor protection play such a dominant role in literature on investment determinants and practice, we directly raise the question about their importance in the international asset allocation process. The overwhelming result is a mean importance of 6.55. The answers range from 4 to 7 points only and, therefore, have the lowest dispersion of all the responses, with a standard deviation of 0.63. This reveals that LPs very much agree that their protection is the most important issue among all the selection criteria we consider in the questionnaire. We will describe the tests for the overall importance of particular criteria at a later stage in this paper.

This result is in line with La Porta et al. (1997 and 1998) who confirm that the legal environment greatly determines the size and extent of a country's capital market and local firms' ability to receive outside financing, and with Desai et al. (2006) and Lerner and Schoar (2005) on growth and emergence of new enterprises influenced by the protection of property

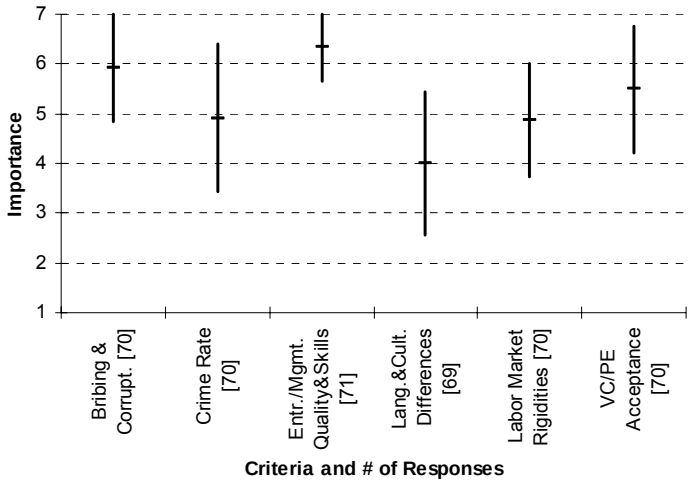
rights. It is further in line with Cumming et al. (2006a and 2006b) who show that cross-country differences in legality impact the quality of governance of VC/PE investments.

4.1.5. The Importance of the Social Environment

As highlighted in the above-cited literature, we distinguish the following criteria as determinants that might influence the allocation decisions of institutional investors when considering the social environment of their VC/PE target countries: bribery and corruption, the crime rate, expected entrepreneurial management quality and skills, language and cultural differences, labor market rigidities, and acceptance of VC/PE. Figure 4 presents the mean nominations and the ± σ-percentiles of the mentioned determinants.

Figure 4

Importance of the Social Environment (Fluctuating Numbers of Responses)



Again, Wilkoxon Signed Rank tests with the hypotheses H0: $\mu_i = \mu_k$, and H1: $\mu_i \neq \mu_k$ result in the ranking in Table 5. The test statistics are presented in Appendix 4.

Table 5

Ranks of Importance of Criteria Regarding the Social Environment

Criteria	Rank(s)
Expected Entrepreneurial Management Quality and Skills	1
Bribing and Corruption	2
Acceptance of VC/PE	3
Crime Rate	4 or 5
Labor Market Rigidities	4 or 5
Language and Cultural Differences	6

The tests reveal that the expected quality of management is the most important criterion when evaluating the social environment of a country for VC/PE allocations, followed by the issues of bribery and corruption, and the acceptance of the asset class in the country. The finding

underpins the common-sense approach found in VC/PE practice when referring to the asset class as "people's business". Institutional investors allocate funds to particular countries if they are convinced about the quality and the skills of local management teams. This finding is also consistent with Farag et al. (2004), Bliss (1999), Karsai et al. (1998), and Chu and Hisrich (2001).

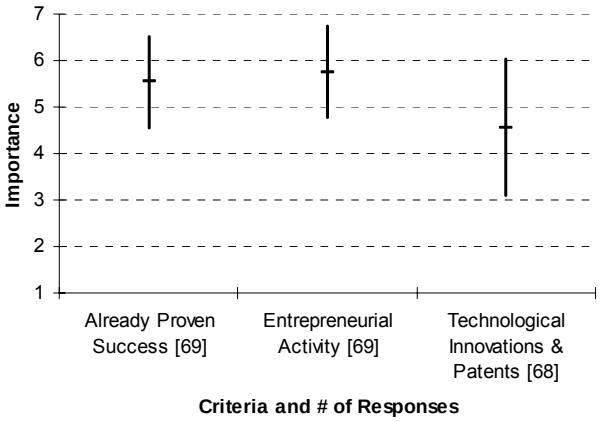
The crime rate, labor market rigidities and language and cultural differences do not play such an important role in their approach to country allocation.

4.1.6. The Importance of the Entrepreneurial Opportunities

To contribute to the discussion of the importance of entrepreneurial opportunities that might influence the decisions taken by institutional investors concerning their international allocations, we distinguish the parameters as follows: already-proven success strategies, general entrepreneurial activity, and technological innovations and patents. Figure 5 presents the mean nominations and the ± σ-percentiles of the investors' answers regarding these determinants.

Figure 5

Importance of Entrepreneurial Opportunities (Fluctuating Numbers of Responses)



The Wilkoxon Signed Rank tests, presented in Appendix 5, with the hypotheses H0: $\mu_i = \mu_k$, and H1: $\mu_i \neq \mu_k$ lead to a clear ranking headed by the entrepreneurial activities, followed by already-proven success and the criterion innovations and patents. LPs are obviously future-oriented investors that prefer to draw conclusions about future options from the current entrepreneurial spirit rather than from historic success, or just from the number of patents. This result is in line with Lee and Peterson (2000) and Baughn and Neupert (2003) who emphasize the role of cultural shapes, individuals' orientations, and environmental conditions that create entrepreneurial spirit and activity. It somehow contradicts the finding of Schertler (2003) who proposes the number of patents to be a strong indicator for the VC/PE activity in a particular country.

4.2. Most Important Criteria

So far, we have investigated the importance of several criteria grouped into six categories. Now, we address the five most important criteria of them all. The criteria with the highest average

important scores are: protection of property and investor's rights (6.55), presence of qualified GPs (6.35), expected entrepreneurial management quality and skills (6.35), expected deal flow (6.17), and bribery and corruption (5.91). Wilkoxon Signed Rank tests with the hypotheses H0: $\mu_i = \mu_k$, and H1: $\mu_i \neq \mu_k$ are described in Appendix 6 and lead to the results presented in Table 6.

Table 6

The Five Most Important Criteria for LPs' International VC/PE Allocation Decisions

Criteria	**Rank(s)**
Protection of Property and Investor's Rights	1 or 2
Presence of Qualified GPs	1 or 2 or 3 or 4
Expected Entrepreneurial Management Quality and Skills	2 or 3 or 4
Expected Deal Flow	2 or 3 or 4 or 5
Bribing and Corruption	4 or 5

Table 6 reveals that the definition of absolute ranks is impossible on a 0.05 significance level. However, the protection of investors is the dominant criterion that can either rank at the first or at the second position. The investors' claims in the funds and, additionally, the claims of the funds in the target companies have to be secured. If institutional investors are not confident with that issue, they are reluctant to invest. Hence, issues relating to investor protection are the major obstacles for the development of regional VC/PE markets.

Nevertheless, the presence of qualified GPs follows closely (at rank 1, 2, 3, or 4). Next is the expected entrepreneurial management quality and skills (ranking at 2, 3, or 4, but not ahead of investor protection), and both criteria emphasize once again the role of talented people for the asset class. If investors do not feel they can rely on people as the driving forces of the VC/PE business and of the target companies, they will not commit capital. Following on from the role of people, the expected deal flow materializes. It has to be emphasized here that the potential deal flow also depends on several other socio-economic and market factors, and it is difficult to regard it as a particular determinant. The deal flow, for instance, is certainly influenced by other variables, such as economic growth and size, and by the presence of supporting institutions, such as investment banks and M&A boutiques, among others.

Finally, and coinciding with their desire for protection, investors fear bribery and corruption as these directly interfere with the enforcement of their claims.

The results strongly confirm the findings on the importance of property rights protection, such as La Porta et al. (1997 and 1998), Johnson et al. (1999), Glaeser et al. (2001), Djankov et al. (2003 and 2005), Lerner and Schoar (2004 and 2005), Desai et al. (2006), Cumming et al. (2006a and 2006b), and Cumming and Johan (2007). However, all the papers mentioned do not address investors directly, but derive their conclusions by proxies. Our results also confirm the conclusions on the importance of management quality by Farag et al. (2004), Bliss (1999), Karsai et al. (1998), and Chu and Hisrich (2001). The findings of the manifold other research papers gooted are not directly contradicted, but we prove that all the other criteria analyzed in those papers are of less importance than the criteria listed in Table 6.

4.3. Sample Bias and Grouping Investors

Our heterogeneous sample of 75 LPs allows partitioning in several homogeneous sub-samples. The following categories can be assigned to the respondents: They are either European or not, they are either small or big (split by the median of fund size), they are either funds of funds or not, or they either can or cannot be grouped into entities that are focused on VC/PE investments and hence specialized (with high percentage VC/PE exposure). All of the criteria split the sample roughly by half. The research question for the sub-samples is always whether there are any differences regarding their capital allocation processes. We obtain the required results by running Mann Whitney U tests. First, we distinguish European and non-European LPs.

It could be argued that European and non-European investors follow different criteria in their international asset allocation process. To test these hypotheses we perform Mann Whitney U tests, using H0: $\mu i = \mu k$, and H1: $\mu i \neq \mu k$. Having tested for every single parameter, we present only the test statistics with significant results in Table 7.

Table 7

Test Statistics with Significant Results

European		max % in single fund	Growth prospects of the target country
0	N	30	29
	Mean	22.73	5.45
	Std. Deviation	17.78	.827
1	N	33	28
	Mean	14.36	5.96
	Std. Deviation	15.94	.96
	Mann-Whitney U	296.5	258.5
	Z	-2.770	-2.494
	Asymp. Sig. (2-tailed)	**.006**	**.013**

Table 7 presents the test statistics for the analyses, where partitioning the sample into European (= 1) and non-European (= 0) LPs gives significant results (also having tested for all the other possible parameters). The results reveal that non-European investors are prepared to maintain a higher maximum exposure in a fund, and that European investors focus more on growth expectations in their international allocation process. However, we do not find meaningful and significant differences between European and non-European LPs regarding any other determinant than those two mentioned. This allows us to conclude that institutional investors operating on an international level do not differ greatly across different regions of origin in their approaches to international capital allocation.

Next, we differentiate the size of the fund and split the sample by the median of the funds under management. We test all parameters available for potential differences in the two groups of funds by using Mann Whitney U tests, with H0: $\mu_i = \mu_k$, and H1: $\mu_i \neq \mu_k$. Table 8 presents the test statistics with significant results.

Table 8

Test Statistics with Significant Results

Larger Fund		min inv. in single fund	Availability of debt	Availability of public subsidies	Diversifica-tion	Language and cultural differences
0	N	26	28	27	26	27
	Mean	7.64	5.28	3.85	4.58	4.48
	Std. Deviation	8.22	1.36	1.43	1.42	1.53
1	N	28	29	29	26	29
	Mean	14.24	4.76	2.86	3.62	3.72
	Std. Deviation	19.97	1.057	1.27	1.63	1.44
	Mann-Whitney U	261.0	296.0	233.0	226.0	275.0
	Z	-1.792	-2.000	-2.700	-2.089	-1.951
	Asymp. Sig. (2-tailed)	.073	**.045**	**.007**	**.037**	.051

We find that larger funds have a higher level of minimum exposure in a single GP, and they rate the availability of debt and public subsidies in the target country, diversification effects, and language and cultural differences lower than the smaller funds do. These differences can be directly related to the fund size: larger LPs will also search for larger exposures in single funds to minimize GP searching and due diligence cost. They neither need to lever their exposure so much, by including debt and public subsidies in transaction financing. Thereby, it has to be mentioned, that the availability of public subsidies does not receive a high level of importance from smaller funds either (it is 3.85). Their evaluated level of importance only significantly differs from that one of the larger funds (2.86). Further, for larger funds it is easier to diversify their portfolio, therefore diversification is less important for them. Finally, within management teams of larger funds it should be easier to cover different languages, regions, and cultures and, hence, these determinants are also evaluated as less important by the larger funds.

The following analyses deal with differences between: a) those funds dedicated to VC/PE only, and b) the rest. We distinguish the funds dedicated to the VC/PE asset class from the others on the basis of the percentage of fund allocation to VC/PE being higher than 90%. It could be argued that the focused funds are more experienced and more professional in their due diligence and allocation processes. To test these and other hypotheses, we perform Mann Whitney U tests again, using H0: $\mu_i = \mu_k$, and H1: $\mu_i \neq \mu_k$. Table 9 presents the test statistics with significant results.

Table 9

Test Statistics with Significant Results

VC/PE Focused		max % in single fund	Growth prospects of the target country	Availability of debt in the target country	Entrepreneurial mana-gement quality/ skills of local people	Accep-tance of VC/PE
0	N	36	31	37	37	37
	Mean	16.56	5.90	4.59	6.19	5.14
	Std. Deviation	17.36	.83	1.34	.70	1.46
1	N	23	22	29	29	28
	Mean	21.57	5.41	5.38	6.52	5.86
	Std. Deviation	17.75	1.01	.98	.69	.89
	Mann-Whitney U	303.5	241.5	346.0	395.0	375.0
	Z	-1.743	-1.905	-2.538	-2.003	-1.955
	Asymp. Sig. (2-tailed)	.081	.057	**.011**	**.045**	.051

Table 9 presents the test statistics for the analyses, where splitting the sample into VC/PE specialized LPs (= 1) and non-specialized LPs (= 0) leads to significant results. The specialized funds are willing to subscribe larger maximum stakes in single funds. In their regional due diligence process they do not consider growth opportunities as that important, and therefore focus on the availability of debt finance, the expected entrepreneurial management quality and skills of people, and on the acceptance of the asset class in the target region. The greater importance given to debt might result from a larger exposure of these funds in later stage investments (such as buyouts and turnaround financing) where debt financing plays a larger role. This could similarly be the case for societal acceptance, because later stage transactions are more often publicly debated, typically due to their size and the consequences of restructuring. The increased attention granted from specialized funds to managerial potential might result from the funds' greater experience on the level of individual transactions, where the requirement for excellent management teams often becomes obvious. In summary, it can be argued that investors closer to the individual target investments have only slightly different opinions in regard to several allocation criteria.

The final distinction is made by separating funds of funds from other categories of investors. Funds of funds will, as indicated by the name, diversify among different funds. They delegate the management activities to lower levels and, therefore, have to rely more on the subsequent chain of agents than other investors who can allocate their capital more directly. As a result, they should differ in respect to their allocation profiles, and they might have different asset allocation criteria and regional perceptions. To test these hypotheses we perform Mann Whitney U tests once again, using H0: $\mu_i = \mu_k$, and H1: $\mu_i \neq \mu_k$. The test statistics with significant results are presented in Table 10.

Table 10

Test Statistics with Significant Results

Fund of Fund		% committed to VC/PE	Min. commitment in single fund	Presence of qualified GPs	Acceptance of VC/PE
0	N	40	34	43	43
	Mean	34.57	10.56	6.07	5.21
	Std. Deviation	39.67	18.14	1.32	1.34
1	N	27	26	25	27
	Mean	87.19	14.69	6.84	5.93
	Std. Deviation	26.58	12.18	.374	1.04
	Mann-Whitney U	178.0	261.0	364.0	398.0
	Z	-4.854	-2.743	-2.630	-2.274
	Asymp. Sig. (2-tailed)	**.000**	**.006**	**.009**	**.023**

The proposed differences are supported by the data. Firstly, the funds of funds do not greatly differ from the specialized funds we considered previously in the sample partition tests. They are characterized by a significant average commitment to the VC/PE asset class of 87.2% and a median of even 100%. This show that the majority of the funds of funds are, at the same time, focused on VC/PE and are therefore, in fact, VC/PE Funds of Funds. However, analyzing the data more closely reveals that nine funds with 100% VC/PE exposure do not qualify themselves as funds of funds, and inversely, five funds identify themselves as funds of funds but each have a very low VC/PE exposure. Whatever the case may be, it can be argued that, once again, we identify a more specialized type of investor and find that, while their funds under management

are not significantly larger than those of their peers, they are looking for a higher level of commitment in general and, hence, raise the minimum commitment level. Also, they have an even greater focus on people, because they regard the presence of qualified GPs as well as societal acceptance of the asset class as more important than other investors. This is probably due to the fact that, as mentioned before, funds of funds have to rely heavily on the agents in the subsequent chain of diversification.

Summarizing the results of partitioning the sample, we claim that there are some minor differences in the capital allocation strategies of certain sub-groups. However, the strategies do not vary to such an extent that our general results could become meaningfully biased towards a particular sub-group of institutional investors in our sample.

5. Conclusions

With a questionnaire sent out to 1,079 (potential) limited partners on a world-wide scale we address the investors' decision determinants for investments in VC/PE limited partnerships. The approach assures a primary and direct source of information. We group possible allocation parameters into six criteria: economic activity, capital market, taxation, property rights protection, social environment and entrepreneurial activity. Within those groups we identify the most important decision parameters. The protection of property rights stands out as the most important issue of all the aspects suggested as asset allocation determinants. This confirms numerous other research papers that do not address investors directly but measure its importance via proxies.

When assessing the capital market and VC/PE market conditions, LPs search for qualified GPs and are interested in the deal flow. The size and liquidity of a stock market, as well as the IPO activity, are of much lower importance, a finding that contradicts previous literature. Regarding the social environment, the expected entrepreneurial management quality and skills and the fear of bribery and corruption act as determinants in the decision-making process. Finally, when taking decisions about country allocation, the investors focus on entrepreneurial activity and the entrepreneurial climate. The availability of public funding and subsidiaries plays no role in allocation decisions, and public money will not attract private money.

Our results contribute to more transparency of the international asset allocation processes of institutional investors and to a better understanding of investment obstacles. Local policymakers should benefit from our findings and detect weaknesses in their countries regarding the investors' allocation criteria. They should be able to exploit this room for improvement to attract risk capital. Future research can pick up our findings on the importance of the individual decision parameters and explore the relationship between those parameters and the actual risk capital funding volumes in particular countries, or can set up country rankings according to the criteria.

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Appendices

Appendix 1

Wilcoxon Signed Rank Test on the Importance of Economic Determinants

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum	Percentiles 25th	50th (Median)	75th
General economic size, measured by the GDP	70	4.76	1.221	1	7	4.00	5.00	6.00
Growth prospects of the target country	58	5.72	.933	3	7	5.00	6.00	6.00

Ranks

		N	Mean Rank	Sum of Ranks
Growth prospects of the target country - General economic size, measured by the GDP	Negative Ranks	5(a)	17.30	86.50
	Positive Ranks	36(b)	21.51	774.50
	Ties	17(c)		
	Total	58		

a Growth prospects of the target country < General economic size, measured by the GDP
b Growth prospects of the target country > General economic size, measured by the GDP
c Growth prospects of the target country = General economic size, measured by the GDP

Test Statistics(b)

	Growth prospects of the target country - General economic size, measured by the GDP
Z	-4.584(a)
Asymp. Sig. (2-tailed)	**.000**

a Based on negative ranks.
b Wilcoxon Signed Ranks Test.

Appendix 2

Wilcoxon Signed Rank Test on the Importance of Capital Market Determinants

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum	Percentiles 25th	50th (Median)	75th
Availability of debt finance in the target country	71	4.92	1.262	2	7	4.00	5.00	6.00
Interest rates in the target country	66	4.33	1.128	2	7	3.75	4.00	5.00
General capital market and M&A market activity	69	5.72	.953	3	7	5.00	6.00	6.00
IPO market activity	69	4.90	1.152	2	7	4.00	5.00	6.00
Expected deal flow	70	6.17	.916	4	7	6.00	6.00	7.00
Presence of professional institutions to support	70	5.36	1.204	2	7	5.00	5.50	6.00
Presence of qualified GPs	68	6.35	1.130	3	7	6.00	7.00	7.00
Availability of public funding and subsidies	69	3.23	1.416	1	7	2.00	4.00	4.00
Diversification effect/tracking the market portfolio	64	4.16	1.566	1	7	3.00	4.00	5.00

Test Statistics(c): Availability of Debt vs. other Criteria

	Interest rates in the target country - Availability of debt finance in the target country	General capital market and M&A market activity - Availability of debt finance in the target country	IPO market activity - Availability of debt finance in the target country	Expected deal flow - Availability of debt finance in the target country	Presence of professional institutions to support - Availability of debt finance in the target country	Presence of qualified GPs - Availability of debt finance in the target country	Availability of public funding and subsidies - Availability of debt finance in the target country	Diversification effect/tracking the market portfolio - Availability of debt finance in the target country
Z	-4.358(a)	-4.699(b)	-.065(a)	-5.664(b)	-2.852(b)	-5.678(b)	-5.963(a)	-2.787(a)
Asymp. Sig. (2-tailed)	**.000**	**.000**	.948	**.000**	**.004**	**.000**	**.000**	**.005**

a Based on positive ranks.

b Based on negative ranks.

c Wilcoxon Signed Ranks Test.

Test Statistics(c): Interest Rates in the Target Country vs. other Criteria

	General capital market and M&A market activity - Interest rates in the target country	IPO market activity - Interest rates in the target country	Expected deal flow - Interest rates in the target country	Presence of professional institutions to support - Interest rates in the target country	Presence of qualified GPs - Interest rates in the target country	Availability of public funding and subsidies - Interest rates in the target country	Diversification effect/tracking the market portfolio - Interest rates in the target country
Z	-6.216(a)	-3.678(a)	-6.522(a)	-4.771(a)	-6.050(a)	-4.830(b)	-.499(b)
Asymp. Sig. (2-tailed)	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	.617

a Based on negative ranks.
b Based on positive ranks.
c Wilcoxon Signed Ranks Test.

Test Statistics(c): Capital and M&A Market Activity vs. other Criteria

	IPO market activity - General capital market and M&A market activity	Expected deal flow - General capital market and M&A market activity	Presence of professional institutions to support - General capital market and M&A market activity	Presence of qualified GPs - General capital market and M&A market activity	Availability of public funding and subsidies - General capital market and M&A market activity	Diversification effect/tracking the market portfolio - General capital market and M&A market activity
Z	-5.115(a)	-4.026(b)	-1.979(a)	-3.245(b)	-6.789(a)	-5.238(a)
Asymp. Sig. (2-tailed)	**.000**	**.000**	**.048**	**.001**	**.000**	**.000**

a Based on positive ranks.
b Based on negative ranks.
c Wilcoxon Signed Ranks Test.

Test Statistics(c): IPO Market Activity vs. other Criteria

	Expected deal flow - IPO market activity	Presence of professional institutions to support - IPO market activity	Presence of qualified GPs - IPO market activity	Availability of public funding and subsidies - IPO market activity	Diversification effect/tracking the market portfolio - IPO market activity
Z	-6.107(a)	-2.566(a)	-5.741(a)	-6.066(b)	-3.012(b)
Asymp. Sig. (2-tailed)	**.000**	**.010**	**.000**	**.000**	**.003**

a Based on negative ranks.
b Based on positive ranks.
c Wilcoxon Signed Ranks Test.

Test Statistics(c): Expected Deal Flow vs. other Criteria

	Presence of professional institutions to support - Expected deal flow	Presence of qualified GPs - Expected deal flow	Availability of public funding and subsidies - Expected deal flow	Diversification effect/tracking the market portfolio - Expected deal flow
Z	-4.807(a)	-1.783(b)	-6.988(a)	-6.108(a)
Asymp. Sig. (2-tailed)	**.000**	.075	**.000**	**.000**

a Based on positive ranks.
b Based on negative ranks.
c Wilcoxon Signed Ranks Test.

Test Statistics(c): Presence of Professional Institutions vs. other Criteria

	Presence of qualified GPs - Presence of professional institutions to support	Availability of public funding and subsidies - Presence of professional institutions to support	Diversification effect/tracking the market portfolio - Presence of professional institutions to support
Z	-4.998(a)	-6.774(b)	-4.169(b)
Asymp. Sig. (2-tailed)	**.000**	**.000**	**.000**

a Based on negative ranks.
b Based on positive ranks.
c Wilcoxon Signed Ranks Test.

Test Statistics(b): Presence of Qualified GPs vs. other Criteria

	Availability of public funding and subsidies - Presence of qualified GPs	Diversification effect/tracking the market portfolio - Presence of qualified GPs
Z	-6.784(a)	-5.594(a)
Asymp. Sig. (2-tailed)	.000	.000

a Based on positive ranks.
b Wilcoxon Signed Ranks Test.

Test Statistics(b): Availability of Public funding vs. Diversification Effect

	Diversification effect/tracking the market portfolio - Availability of public funding and subsidies
Z	-3.440(a)
Asymp. Sig. (2-tailed)	.001

a Based on negative ranks.
b Wilcoxon Signed Ranks Test.

Appendix 3

Wilcoxon Signed Rank Test on the Importance of Taxes

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum	Percentiles 25th	50th (Median)	75th
Corporate tax rates	71	4.65	1.455	1	7	4.00	5.00	6.00
Dividend and capital gains taxes	60	5.05	1.567	1	7	4.00	5.00	6.00

Test Statistics(b): Corporate Tax Rates vs. Dividend and Capital Gains Taxes

	Dividend and capital gains taxes - Corporate tax rates
Z	-2.882(a)
Asymp. Sig. (2-tailed)	**.004**

a Based on negative ranks.

b Wilcoxon Signed Ranks Test.

Appendix 4

Wilcoxon Signed Rank Test on the Importance of the Social Environment

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum	Percentiles 25th	50th (Median)	75th
Bribing and corruption	70	5.91	1.073	1	7	5.00	6.00	7.00
Crime rate	70	4.91	1.491	1	7	4.00	5.00	6.00
Entrepreneurial management quality/skills of local people	71	6.35	.699	5	7	6.00	6.00	7.00
Language and cultural differences	69	4.00	1.435	1	7	3.00	4.00	5.00
Labor market conditions (possibility of hiring/firing people)	70	4.87	1.141	1	7	4.00	5.00	6.00
Acceptance of VC/PE	70	5.49	1.271	2	7	5.00	6.00	6.25

Test Statistics(c): Bribing and Corruption vs. others

	Crime rate - Bribing and corruption	Entrepreneurial management quality/skills of local people - Bribing and corruption	Language and cultural differences - Bribing and corruption	Labor market conditions (possibility of hiring/firing people) - Bribing and corruption	Acceptance of VC/PE - Bribing and corruption
Z	-5.186(a)	-3.045(b)	-6.504(a)	-5.473(a)	-2.629(a)
Asymp. Sig. (2-tailed)	**.000**	**.002**	**.000**	**.000**	**.009**

a Based on positive ranks.

b Based on negative ranks.

c Wilcoxon Signed Ranks Test.

Test Statistics(c): Crime Rate vs. others

	Entrepreneurial management quality/skills of local people - Crime rate	Language and cultural differences - Crime rate	Labor market conditions (possibility of hiring/firing people) - Crime rate	Acceptance of VC/PE - Crime rate
Z	-5.973(a)	-4.221(b)	-.585(b)	-2.531(a)
Asymp. Sig. (2-tailed)	**.000**	**.000**	.559	**.011**

a Based on negative ranks.

b Based on positive ranks.

c Wilcoxon Signed Ranks Test.

Test Statistics(b): Entrepreneurial and Management Skills vs. others

	Language and cultural differences - Entrepreneurial management quality/skills of local people	Labor market conditions (possibility of hiring/firing people) - Entrepreneurial management quality/skills of local people	Acceptance of VC/PE - Entrepreneurial management quality/skills of local people
Z	-7.035(a)	-6.675(a)	-5.014(a)
Asymp. Sig. (2-tailed)	**.000**	**.000**	**.000**

a Based on positive ranks.
b Wilcoxon Signed Ranks Test.

Test Statistics(b): Language and Cultural Differences vs. ohters

	Labor market conditions (possibility of hiring/firing people) - Language and cultural differences	Acceptance of Private Equity - Language and cultural differences
Z	-4.644(a)	-5.702(a)
Asymp. Sig. (2-tailed)	**.000**	**.000**

a Based on negative ranks.
b Wilcoxon Signed Ranks Test.

Test Statistics(b): Labor Market Rigidities vs. Acceptance of VC/PE

	Acceptance of VC/PE - Labor market conditions (possibility of hiring/firing people)
Z	-3.496(a)
Asymp. Sig. (2-tailed)	**.000**

a Based on negative ranks.
b Wilcoxon Signed Ranks Test.

Appendix 5

Wilcoxon Signed Rank Test on the Importance of the Social Entrepreneurial Opportunities

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum	Percentiles 25th	50th (Median)	75th
Already proven success strategies	69	5.54	.994	3	7	5.00	6.00	6.00
Entrepreneurial activity in the target country	69	5.75	.976	4	7	5.00	6.00	7.00
Technological innovations and patents	68	4.56	1.460	1	7	4.00	5.00	6.00

Test Statistics(c): Already Proven Success Strategies vs. other Criteria

	Entrepreneu-rial activity in the target country - Already proven success strategies	Technological innovations and patents - Already proven success strategies
Z	-2.224(a)	-4.626(b)
Asymp. Sig. (2-tailed)	**.026**	**.000**

a Based on negative ranks.

b Based on positive ranks.

c Wilcoxon Signed Ranks Test.

Test Statistics(b): Entrepreneurial Activity vs. Technological Innovations and Patents

	Technological innovations and patents - Entrepreneurial activity in the target country
Z	-5.561(a)
Asymp. Sig. (2-tailed)	**.000**

a Based on positive ranks.

b Wilcoxon Signed Ranks Test.

Appendix 6

Wilcoxon Signed Rank Test on the Five Most Important Criteria

Test Statistics(c): Expected Deal Flow vs. others

	Presence of qualified GPs - Expected deal flow	Protection of property and investors' rights - Expected deal flow	Bribing and corruption - Expected deal flow	Entrepreneurial management quality/skills of local people - Expected deal flow
Z	-1.783(a)	-2.742(a)	-1.363(b)	-1.588(a)
Asymp. Sig. (2-tailed)	.075	**.006**	.173	.112

a Based on negative ranks.
b Based on positive ranks.
c Wilcoxon Signed Ranks Test.

Test Statistics(c): Presence of Qualified GPs vs. others

	Protection of property and investors' rights - Presence of qualified GPs	Bribing and corruption - Presence of qualified GPs	Entrepreneurial management quality/skills of local people - Presence of qualified GPs
Z	-1.003(a)	-2.893(b)	-.341(b)
Asymp. Sig. (2-tailed)	.316	**.004**	.733

a Based on negative ranks.
b Based on positive ranks.
c Wilcoxon Signed Ranks Test.

Test Statistics(b): Protection of Property and Investors' Rights vs. others

	Bribing and corruption - Protection of property and investors' rights	Entrepreneurial management quality/skills of local people - Protection of property and investors' rights
Z	-4.594(a)	-1.993(a)
Asymp. Sig. (2-tailed)	**.000**	**.046**

a Based on positive ranks.
b Wilcoxon Signed Ranks Test.

Test Statistics(b): Bribing and Corruption vs. Expected Entrepreneurial Management Quality and Skills

	Entrepreneurial management quality/skills of local people - Bribing and corruption
Z	-3.045(a)
Asymp. Sig. (2-tailed)	**.002**

a Based on negative ranks.
b Wilcoxon Signed Ranks Test.