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VENTURE CAPITALISTS' VS. PHILANTHROPIC VENTURE CAPITALISTS' HUMAN CAPITAL: AN EXPLORATORY STUDY



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ABSTRACT

Philanthropic venture capital (PhVC), like traditional venture capital (TVC), provides funding and value added services to its portfolio ventures, but unlike TVC, these investees typically have a social mission. PhVC has a main ethical dimension and aims at maximizing the social return on the investment. This paper examines nascent PhVC firms and, in particular, focuses on its human capital (HC), offering a comparative analysis with nascent TVC firms. Results show that both at a general and at a specific HC level, PhVC firms are different from TVC firms. With respect to general HC, PhVC firms tend to exhibit lower levels of education at the BS and MBA levels but a higher number of graduate technical degrees, suggesting the existence of a substitution effect in education. At the specific HC level, PhVC firms exhibit lower experience than TVC firms, except for governmental, and non/profit experience; differences at firm level between commercial and social specific HC hold significant.

INTRODUCTION

Social entrepreneurship has evolved as a way of addressing social needs through the adoption of sustainable market strategies. Philanthropic venture capital (PhVC) has in tandem evolved an innovative form of financing for social enterprises. First presented by Letts, Ryan, and Grossman (1997), PhVC applies the venture capital (VC) investment model (Gompers and Lerner, 2001; Tyebjee and Bruno, 1984) to the funding needs of social enterprises, with funding being accompanied by stewardship services that aim to add value to backed organizations. The goal of PhVCs is to ensure that their investments aid SEs in their sustainability, growth, and ultimately, social impact. PhVC is also an example of an organization that pursues dual objectives. This makes PhVC firm's organizational identity dualistic because it borrows distinctive elements from both the social and commercial sector (Austin et al., 2006; Certo and Miller, 2008).

Given that PhVC is a new field, it is less researched than TVC. Recent studies have focused on the relationship between the PhVC investor and the investee. More specifically, research has addressed issues like the selection of social enterprises by PhVC firms (Miller and Wesley, 2010; Scarlata and Alemany, 2010) or on the deal structuring phase of PhVC investments (Scarlata and Alemany, 2011). However there is a dearth of research on how identity at the organizational level and identity at the individual level interrelate in PhVC as opposed to TVC. In addition, little is known about PhVC fundraising and how it may differ between PhVC firms and successful nascent TVC firms as proposed by Walske and Zacharakis (2009) and Zarutskie (2010). For example, in initial interviews with founders at PhVC firms, they have commented that their role is often

a hybrid one, where they serve as money managers and investors for wealthy individuals. This differs from traditional TVCs that raise funds from mainly institutional investors (i.e., insurance companies and college foundations) rather than accredited, wealthy individuals. While TVC firms and PhVC firms follow a similar process in their funding decisions, they have different value propositions. VC firms maximize economic value to garner a high return on investment; PhVC firms are also concerned with a return on investment, but have an additional goal of ensuring that their investments have social impact.

Following Letts et al. (1997) definition, it might be the case that the same human capital (HC) characteristics that are present in TVC firms are also in place in PhVC firms in order for them to apply the VC model to their funding process. An example in PhVC is Jaqueline Novogratz, founder of Acumen Fund, a New York based PhVC firm that invested more than \$50 million in philanthropic capital in 50 companies across five countries over the period 2001-2010. Prior to founding Acumen, Novogratz worked in the financial sector, as consultant and an entrepreneur herself when she founded the first microfinance institution in Rwanda. Acumen is known for being a “patient investor” that backed, among other social enterprises, Aravind Eyecare. Through its capital and counsel, Acumen helped the organization scale and become sustainable. In Novogratz’ case, she exhibits many of the same HC factors that TVCs do. She has finance and entrepreneurship experience which are also commonly represented amongst TVCs (Walske & Zacharakis, 2009). However, we also suggest that given the social mission of PhVC firms, the founders at these firms may have different types of HC than traditional TVCs. Given the lack of research on PhVCs, we know little about who becomes a PhVC and how their profile is similar or different from that of successful nascent TVCs, as proposed by Walske and Zacharakis (2009) and Zarutskie (2010).

Using the resource based view perspective (Barney, 1986) and taking into account Becker’s (1984) distinction between general and specific HC, TVC scholars have analyzed how these factors influence the heterogeneity and persistence in TVC firm performance (Kaplan and Schoar, 2005). Walske and Zacharakis (2009) show the probability of profit-maximizing TVC firms being successful increases when new funds are started by people with TVC, senior management, or consulting experience, while it decreases in those funds started by people with entrepreneurial experience. Their results are in-line with Zarutskie (2010) who finds that the strongest predictors of first-time TVC firm performance relates to management’s specific HC. Prior experience of VCs in TVC firms includes senior management, consulting, finance, and technology (i.e., in medical and engineering fields). However, Zarutskie does find that management teams of TVC firms with more MBAs perform on average worse than those TVC firms with fewer MBAs.

This paper contributes to the creation of a theory on PhVC by focusing on its dual organizational identity and its relationship with HC. By focusing on the HC in place in PhVC firms, the analysis conducted here offers a better understanding on who PhVC investors are, empirically demonstrating what types of HC is common in PhVC firms. It also demonstrates how the investors at TVC and PhVC firms differ. Furthermore, this paper informs those interested in setting up a PhVC firm with the types of expertise common in this particular industry. Specifically the identification of similarities between VC and PhVC firms may facilitate TVC firms in transferring their expertise to the PhVC environment. Finally, better understanding of PhVCs will be beneficial for those social entrepreneurs seeking capital, enabling them to better understand the types of investors they will find within PhVC firms.

The paper is structured as follows. First, the definition of the PhVC investment model is presented to set the stage for this research; also, conceptual issues on HC are discussed as they relate to PhVC and TVC firms. This leads to the formulation of a set of hypothesis. Second, the methodology of the research is presented. Third, the paper reports the results of the study. Last, conclusions are presented and opportunities for future research are proposed.

CONCEPTUAL ISSUES: PHILANTHROPIC VENTURE CAPITAL AND HUMAN CAPITAL THEORY

Greater understanding of the PhVC investment model started in the late nineties with the publication of Letts et al. (1997) article. Given the accumulation of wealth among socially conscious internet entrepreneurs, the growth of PhVC firms has been exponential. . At that time, many practitioners started debating the effectiveness of traditional forms of philanthropic financing, acknowledging that, although many organizations had succeeded in developing solutions to a particular social problem, their organizations were not scalable (Morino, 2000). On the other hand, there was a trend in that *“many of today’s tech millionaires and billionaires are applying to philanthropy the lessons they have learned as entrepreneurs. One solution has been the founding of philanthropic venture capital funds which use the same aggressive methods as VC firms, whose money typically comes with technological expertise and experience at running lean, efficient organizations. This new breed of philanthropist scrutinizes each charitable cause like a potential business investment, seeking maximum return in terms of social impact (Greenfeld, Blackman, Fulton, Jackson, and McLaughlin, 2000: 48).”*

Elaborating on Letts et al. (1997) definition, Scarlata and Alemany (2010) argue that PhVCs are active investors that, like TVCs, are faced with high levels of asymmetric information and become specialized investors deploying capital and value-added activities to backed social enterprises. While TVC and PhVC firms follow a similar process in their funding decisions, they have different value propositions. TVC firms maximize economic value to garner a high return on investment. PhVC firms maximize social impact through enabling social enterprises to become financially self-sustainable; in some cases the PhVC investment model also leaves room for economic return considerations as well, which is in direct contrast with purely non-profits. The main assumption underlying the PhVC’s value proposition is that, just like in TVC, size matters: higher capital levels are a sign of success and relevance. As such, creating organizations that scale is a legitimate and worthy goal for philanthropic funders. The basic commitments are grounded in the belief that philanthropic funds need to be applied to important social problems and that funders must strive to maximize the social impact of their investment. In PhVC investments, sustainability can be the link between growth and social impact maximization: only if social enterprises become financially self-sufficient, can they focus their efforts on the pursuit of their social mission. As such, social impact is implicitly created and maximized in cases where the social enterprise is able to grow, become self-sustainable, and thereby survive in the long-term. This also means that such hybrid investors are also looking for hybrid SEs. They want to fund organizations that are not dependent on financial gifts alone (which is more in keeping with non-profit enterprises) but instead want to provide startup capital to SEs until they become self-sufficient.

An example of a PhVC funded investment is the Nest Collective (Nest Collective, 2011). This firm has received substantial PhVC (and TVC) to fund its expansion into consumer based food products for young children, with a social mission of providing organic, fresh, portable food, that is not available in the marketplace. In order to fund their growth, the founders of Nest Collective

sought capital from PhVCs that would support the higher cost of goods sold associated with this type of mission. The capital from these PhVCs also enabled Nest Collective to scale quickly as they purchased two existing businesses, Plum Organics and Revolution Foods. Simon Equity Partners, an investor in Nest Collective, states the following on its website “As a family office without limited partner pressure, we are able to structure investments we believe are most closely aligned with company founders (Simon Equity Partners, 2011).” They also sought capital from two non-PhVC firms, using a hybrid fundraising strategy.

Prior TVC based research has extensively examined the investment behaviour of TVC firms, from fundraising till the final exit stage, identifying which resources lead to a sustainable competitive advantage. Austin, Stevenson, and Wei-Skillern (2006) have thus called for research to better understand the behaviour of investors with dual organizational identities. Albert and Whetten (1985) define organizational identity as the shared and collective sense of an organization and state it as typically singular in focus. In the case of PhVC, organizational identity is intrinsically dualistic because it borrows distinctive elements from both the social and commercial sector (Austin et al., 2006; Certo and Miller, 2008).

Theory and research in organizational identity have indicated a close relationship between individual identity and organizational identity (Ashfort and Mael, 1989; Dutton et al., 1994; Elsbach and Kramer, 1996; Scott and Lane, 2000). More specifically, there exists a reciprocal relationship between individual and organizational identities: organizational identities influence individual behaviour, and individual behaviour influence organizational identity (Pratt and Foreman, 2000). According to Empson (2004), organizational identity at the individual level represents the distinctive attributes which individuals associate with their membership of a particular organization. At the organizational level, on the other hand, identity is formed by the agglomeration of the distinctive attributes of individual members. Therefore organizational members both shape and are shaped by their organizational membership through this dynamic dialectic process.

In an effort to build a theory of HC in PhVC, this paper generates hypotheses based on arguments and results presented by previous research on TVC. TVC studies on HC have grounded the discussion in upper-echelon theory (Finkelstein and Hambrick, 1990; Hambrick and Mason, 1984) and the resource based view of the firm (Penrose, 1959). The fundamental premise of upper-echelon theory is that the top management team matters for firm performance: the cognitive models of top management team members determine how managers perceive their task environment, and these perceptions mediate the effect of the objective environment on strategic choice. At the same time, based on the resource based view, there must be some limit to the ability of fund managers to obtain the HC known to improve investment performance. The resource based view explains the difference of a firm’s competitive advantage and performance with the heterogeneity of its resources and capabilities (Barney, 1991): superior performance is associated with the possession of resources that are valuable, rare, inimitable, and non-substitutable.

A key issue in this discussion lies in the definition of HC itself, which according to Becker (1964) can be disentangled into two categories: general and specific HC. General HC typically indicates the acquisition of knowledge through formal education. In contrast, specific HC is related to the notion of tacit knowledge (Polanyi, 1967) acquired in a “learn by doing” fashion. As such, specific HC represents the knowledge and skills that make individual actions and decisions difficult to replicate, given that such experience is highly contextualized.

In the TVC field, scholars have investigated the role of HC in an effort to explain differences and persistence in investment performance of established TVC firms (Dimov and Shepherd, 2005) as well as nascent ones (Walske and Zacharakis, 2009; Zarutskie, 2010). Dimov and Shepherd (2005) suggest that in established TVC firms, general HC is positively associated with the proportion of portfolio companies that exhibited higher rate of success, measured by the proportion of TVC investments that go public. More specifically, Dimov and Shepherd (2005) show that top management teams with education in humanities and in science have higher proportions of success in their portfolios as “[...] *the firm knowledge built around the shared education in these areas enables the VC firm to successfully respond to and mitigate new technological advances, and to successfully anticipate the market acceptance of the commercial products on such technological advances* (Dimov and Shepherd, 2005: 16).” For first-time TVC firms, Zarutskie (2010) finds that general HC in science and engineering is also positively related to fund performance as it aids fund managers in understanding high-tech industries. Zarutskie (2010) also identifies puzzling evidence that a greater fraction of fund managers having an MBA lowers performance whereas Walske and Zacharakis (2009) show that for each founder of a TVC fund with an MBA, the nascent TVC firm raised 1.5 additional funds, but it also took a year-and-a-half longer to raise it. Dimov and Shepherd (2005) report that portfolios of established VC firms with greater proportions of top management teams with MBA and law education present lower proportions of bankruptcies.

In PhVC, the value proposition combining the pursuit of social objective with economic considerations might require PhVC firms to have broad knowledge at the social and economic level instead of technical, domain specific knowledge. For instance, PhVC firms need to understand how business strategy and economics influence the social enterprise’s ability to survive in the long-term, with few financial subsidies. At the same time, it is key for PhVC firms to understand which social needs are most pressing, and how to better address them, understanding communities’ social needs and norms. As such, TVC firms might find present amongst its partnership education in science/engineering at the BS level, reflecting the TVC’s unique value proposition of investing in innovative start-ups, compared to PhVC firms that have higher levels of education in non-technical fields given their focus on social value maximization. Therefore, we test the following:

Hypothesis 1a: *PhVC firms exhibit lower BS education amongst its founders than founders at nascent TVC firms.*

Hypothesis 1b: *PhVC firms exhibit lower MBA education amongst its founders than founders at nascent TVC firms.*

At the specific HC level, both Walske and Zacharakis (2009) and Zarutskie (2010) show that task-specific HC, measured by past VC experience at TVC firms and as executives at start-up companies, increases the probability of having a top quartile fund. As Zarutskie (2010) argues, fund managers with experience in managing funds will likely have learned skills necessary for running a fund through trial and error and thus they are better able to understand which companies to back, how to get better access to them, and how to actively manage those investments. Based on (Austin et al., 2006), “*in many ways, the human and financial capital inputs essential to the entrepreneurial venture are quite comparable between social and commercial entrepreneurship* (Austin et al., 2006: 11).” As such, it might be the case that the similarity between social and commercial entrepreneurship makes nascent TVC firms and PhVC firms similar as well. However, as Sahlman (1996) and Hart, Stevenson, and Dial (1996) argue, two key determinants of whether or not a commercial entrepreneur succeeds are that he knows the industry in which he is seeking

to garner resources and is known by others for his abilities. Transposing this argument to PhVC, the expectation is that PhVC firms' managers will need to exhibit past VC experience in order to apply the TVC investment practices to the financing of social enterprises.

At the same time, Walske and Zacharakis (2009) report that finance experience facilitates the deal structuring phase of TVC investments as it offers a rich understanding of market dynamics and market financial instruments. In PhVC, Scarlata and Alemany (2011) show that deals are less structured than in TVC as there is a strong substitution effect between covenants and trust, which is in line with the stewardship services PhVC firms provide. Also, as mentioned previously, PhVCs are likely to have fewer "funds" in comparison to TVC firms. Consequently, our expectation is that PhVC firms will evidence less finance experience than TVC firms:

Hypothesis 2a: *PhVC firms exhibit similar levels of venture capital experience amongst its founders in comparison to founders at nascent TVC firms.*

Hypothesis 2b: *PhVC firms exhibit lower levels of finance experience amongst its founders in comparison to founders at nascent TVC firms.*

Entrepreneurial experience, defined as founding a for-profit commercial enterprise, enhances TVC firm knowledge of market entry and potential agency problems between entrepreneurs and investors. First, entrepreneurial experience helps TVC managers in knowing about potential challenges associated with unforeseen market development and market entry and how those challenges can be overcome. Second, entrepreneurial experience aids TVC firms' managers in mitigating agency risk, as they are better able to judge the (opportunistic) behavior of entrepreneurs and the decisions they make. As Hellmann and Puri (2002) and Gompers (1995) argue, foreseeing opportunistic behavior allows partners at TVCs to replace ineffective entrepreneurs with more effective external managers, that have a focus on building the startups' value. However, Walske and Zacharakis (2009) find a negative relationship between entrepreneurial experience and success. This is in keeping with concerns expressed by Limited Partners (LPs) of TVC firms, that entrepreneurs may be capable at creating one successful company but incapable of managing a portfolio of companies. Having no experience in managing a portfolio or fund, in essence, might make entrepreneurs ill-suited for venture capital.

In PhVC, as prior research has shown, the market selection mechanisms in the social sector are less prone to competitive pressure to invest, and investments occur over a longer period of time (Austin et al., 2006). From a public eye perspective, PhVC firms are started by dot-com entrepreneurs who wish to give back to society part of the wealth they were able to create with their successful business (Greenfeld, Blackman, Fulton, Jackson, and McLaughlin, 2000) enterprises. The expectation for PhVC, though, is that the market selection mechanisms may be less driven by competitive pressure and prior experience in running entrepreneurial firms, and more driven by expertise in non-profit sector. Therefore it follows:

Hypothesis 2c: *PhVC firms exhibit lower levels of entrepreneurial experience in their founders than founders at nascent TVC firms.*

Hypothesis 2d: *PhVC firms exhibit higher levels of non-profit management and leadership experience in their founders than founders at nascent TVC firms.*

As TVCs must screen for good investments and, during the post-investment phase of their model, they may counsel backed entrepreneurs to professionalize the firm (Hellmann and Puri, 2002) in an effort to increase firm value (Sapienza, 1992), both Walske and Zacharakis (2009) and Zarutskie (2010) find that having senior management and consulting experience aids fund performance. In PhVC firms the expectation is that similar levels of senior management and consulting experience is present, compatible with the stewardship services that PhVC firms provide to backed social enterprises, as explained by Scarlata and Alemany (2011). Thus, the following hypotheses are suggested:

Hypothesis 2e: *PhVC firms exhibit similar level of consulting experience in their founders in comparison to founders at nascent TVC firms.*

Hypothesis 2f: *PhVC firms exhibit similar level of senior management experience in their founders in comparison to founders at nascent TVC firms.*

To incorporate the peculiar value proposition of PhVC, which might create the strongest difference between TVC and PhVC firms top management team HC, the analysis includes other types of measures of specific HC. Compatible with policy-making theory, according to which governments appear to be more effective in solving social problems than other actors (Lindblorn and Woodhouse, 1993), the expectation is that PhVC firms need to exhibit high experience in governments and governmental development agencies. Based on Lindblorn and Woodhouse (1993), the political elite and policy analysis professionals hold the keys to improved social problem-solving and emphasize the policymaking role of ordinary citizens, and interest groups. As such, a signal of PhVC success and social return can be the impact of the activity of backed social enterprises at a national policy-making activity, resulting in the following hypothesis:

Hypothesis 2g: *PhVC firms exhibit higher government experience than nascent TVC firms.*

METHODOLOGY

From a methodological point of view, this paper builds on Walske and Zacharakis (2009) analysis and expands their results to the top management team of PhVC firms, namely “general partner,” “partner,” “president,” “executive vice-president,” and other such titles. It thus compares measures of general and specific HC for TVC and PhVC firms using the non-parametric Mann-Whitney U test for differences.

Data on TVC top management were collected using VentureXpert Capital IQ, Zoom Info, company websites and Internet searches. We used the Walske and Zacharakis (2009) dataset to determine the HC of TVC firms. Furthermore, a screening of the members of the board of directors of the PhVC firms identified by the above mentioned sources was done. The analysis of PhVC top management teams focused on the American and European regions, as these are the two main areas where the PhVC industry is established and developed. The population of PhVC funds was identified by consulting the databases of the American National VC Association and the European Venture Philanthropy Association. To minimize undercoverage error, the list was integrated with Morino Institute (2000) for the United States and John (2006) for Europe. However, given that both Morino Institute (2000) and John (2006) present a list of organizations highly engaged in social enterprises including consultancy firms, these consultancy firms were eliminated from the

final data set of PhVC firms. Last, other sources including newspapers articles and web pages were consulted for a total of 74 firms, of which 36 are in the United States and 38 in Europe.

To test Hypothesis 1, general HC was measured following Walske and Zacharakis (2009) classification. As such, educational variables were classified into the following degree types: undergraduate Bachelor of Science (UGBS), undergraduate Bachelor of Arts (UGBA), graduate technical (i.e., MS, MD, and Ph.D.), graduate Masters in Business Administration (MBA), and Juris Doctor (JD). When an undergraduate degree was not clearly a BS or BA, it was coded as "other undergraduate". Each founder received a "1" for each degree type, in keeping with prior research (Beckman and Burton, 2008; Carpenter, Pollock, and Leary, 2003).

To test Hypotheses 2, specific HC was measured by prior work experience. Again, the classification employed here mimicked that presented by Walske and Zacharakis (2009) and included the following experience types: TVC, entrepreneurial, finance, senior management, and consulting experience. TVC and entrepreneurial experience indicate that the person has prior work in a TVC firm or as a for-profit entrepreneur. Financial experience included a wide range of experiences such as investment banking, options trading, foreign exchange management, commercial banking, and mutual fund portfolio management. An individual was coded as having senior management experience if she or he had been a Chief Executive Officer (CEO), Chief Operating Officer (COO) or a CFO. Consulting experience includes prior work in strategic and management consulting firms. Each founder again received a "1" for each experience type consistent with what was done in prior research (Beckman and Burton, 2008; Carpenter et al., 2003).

New measures of specific HC were added to the set proposed by Walske and Zacharakis (2009) to reflect common PhVC experience types. Top management of PhVC firms was found to exhibit prior work experience in government agencies or government branches, as well as in international governmental organizations aiming at promoting economic development and social progress. Furthermore, experience at starting up a non-profit organization or managing one, including grant-making foundations, were included in the analysis and coded as "Non profit experience".

Hypothesis 1 and Hypothesis 2 were tested using the Mann-Whitney U test for differences for two independent samples. The comparison analysis was first addressed at a single variable level, meaning that each education background was compared singularly, and then at a firm aggregate level. To this respect, education at BS, BA, and Other level was grouped into the variable "Undergraduate studies", whereas graduate technical, MBA, and JD under "Graduate studies".

RESULTS

Table I and Table II report descriptive statistics of sample of TVC firms and PhVC firms at the firm, founder, and first fund level. Results show that TVC firms were founded prior to PhVC ones, with the highest number of TVC firms founded in 1994 (SD = 2.04) as opposed to PhVC firms which were founded in 1999 (SD = 5.24). Also, TVC firms tend to be founded by a median of two people as opposed to one for PhVC firms. On the contrary, among those PhVC firms that are not started by individuals, these tend to be founded by institutions such as governments (e.g., five PhVC firms), foundations (e.g., one PhVC firm), financial institutions (e.g., one PhVC firm), or members of different families operating in a certain region (e.g., one PhVC firm). A chi-square test was run to understand if these differences were statistically significant; for all the variables the difference was found to be highly significant with $p < 0.001$.

Comparison variables – General human capital

Table III presents demographics of general HC in TVC firms and PhVC firms. It clearly shows that in TVC firms higher education levels are present in PhVC firms at the BS level and MBA level, with 58.1 percent of TVC firms presenting at least one top manager holding a BS and 66.3 percent holding at least an MBA; PhVC firms instead exhibit one BS and one MBA in 20.3 and 48.6 percent of the cases.

In addition, PhVC firms have Other education background in 1.3 percent of the cases, as opposed to 22.7 percent in TVC firms and higher levels of post-graduate education (40.5 percent of PhVC firms exhibit at least one member of the top management holding a MS, MD, or PhD vs. 29.1 percent in TVC firms). Similar to each other though, both PhVC and TVC firms present equivalent levels of education at the BA and JD level.

Comparing single variables and the pattern presented in Table III, results reported in Table IV show that PhVC and TVC firms share similar general undergraduate HC at BA level and similar graduate HC at JD level; on the contrary, the significant lower level of BS supporting Hypothesis 1a. At graduate level, significant difference is found at MBA and graduate technical education level, making PhVC firms general HC significantly different from TVC firms and lending support for Hypothesis 1b.

At a firm level, undergraduate studies stay significantly different between PhVC and TVC firms. This is mainly due to the impact of BS education which is of key importance for VC firms. However, when looking at firm level, a substitution effect comes into play for MBA and graduate technical education as the top management team in PhVC firms exhibit lower MBAs but higher graduate technical education.

Therefore, Hypothesis 1 is supported. There are significant differences between PhVC and TVC HC, with PhVCs having fewer founders with MBA and BS degrees. However, founders of PhVCs have a greater number of graduate technical degrees amongst its founders. While not stated in the form of a hypothesis, founders of both VC firm types have similar levels of BA experience amongst its founders.

Comparison variables – Specific human capital

Table V reports the specific HC that is present in PhVC and TVC firms at a single variable level. Accordingly, PhVC firms exhibit less TVC, entrepreneur, finance, and senior management experience with respectively 20.3, 27.3, 24.3, and 27 percent of PhVC firms having at least one member of the top management with those experiences, as opposed to 55.2, 39.5, 55.8, and 44.7 percent in TVC firms.

Table VI presents the Matt-Whitney U test testing for Hypothesis 1 and 2. Hypothesis 2e, suggests that there is no difference for consulting experience in PhVC and TVC firms; this hypothesis is supported. There is a significant difference between TVC and PhVC firms, in the level of finance, senior management, and entrepreneurial experience, lending support for 2b, 2c & 2f. There was a significant different between the level of VC experience, such that hypothesis 2a is not supported. There is also a significant difference in government and non-profit experience, supporting 2g and 2e. *Therefore, hypothesis 2 is considered largely supported.*

LIMITATIONS

A limitation of this study is the composition of the TVC sample and the PhVC population. The TVC sample considered in this analysis included only US-based nascent TVC firms; the PhVC population, on the contrary, includes PhVC firms based both in the US and in Europe. In addition to this, firms in the TVC sample included only independent ones, whereas in few cases PhVC firms were not founded by individuals and, thus, not truly independent firms.

A second limitation lies in the identification of the population of PhVC firms. Despite efforts in trying to identify all firms active in the field, our population is still subject to undercoverage error: the absence of a PhVC association in the US makes the identified US population subject to sampling error. Furthermore, not all PhVC firms that are active in Europe might be part of the European Venture Philanthropy Association. Sources used to integrate the NVCA list of PhVC firms and that provided by EVPA were integrated with additional databases, which, however, were published earlier than the analysis conducted here.

CONCLUSIONS

This paper introduces the first analysis the HC dimension that is present in PhVC firms. PhVC stems from the TVC investment model and it aims at improving the efficiency of the funds channeled to backed SEs. As such, the PhVC industry is a unique sector in the financial service industry as it combines the pursuit and maximization of social objectives with a profit motive. This combination facilitates the process through which SEs become sustainable, and in the long-term, maximize their social impact.

The paper addressed the following question: is the PhVC HC different from that characterizing TVC firms, due to the different value proposition of the two investment models? The statistically significant difference between measures of both general and specific HC makes PhVC firms indeed different from TVC ones. In particular, PhVC top management teams tend to have similar education at BA and JD level, but exhibit lower levels of education at BS and MBA levels. At the same time, PhVC firms tend to have higher education at graduate technical level. Also graduate education differs between the two firm types; MBAs are more prevalent in TVCs and graduate technical studies are more prevalent in PhVCs. At the specific HC level, PhVC firms have greater levels of consulting, governmental, and non-profit experience.

This study makes several contributions for both researchers and practitioners. From a scholarly perspective, it is the first academic study on the HC of PhVC firms and responds to a call for research on the topic (Austin et al., 2006). As such, this paper opens up a wide path for future research opportunities. Amongst others, the analysis presented in this paper suggests a line of research questioning how the HC of PhVC firms affects performance, and what types of HC are better predictors of PhVC success in fundraising. A subsequent comparison with successful factors for TVC firms (Walske and Zacharakis, 2009) could provide more insights into how PhVC firms differ from TVC firms, and how they signal their commitment to social return through their team composition. In addition to this, further research could investigate the determinants and consequences of investor activism in PhVC, as well as whether an active investment matters for the success of portfolio companies.

On a professional level, our results provide those interested in setting up a PhVC firm with a guideline of the type of expertise found in this particular industry. Moreover, the identification of similarities between VC firms and PhVC firms could facilitate venture capitalists in transferring their expertise to the philanthropic environment. It also may cause those in the PhVC sector to question if they should increase their level of expertise in areas less familiar (i.e., venture capital experience). Finally, better understanding who PhVC firms are will be beneficial for those social entrepreneurs seeking capital, enabling them to better understand the types of investors they will deal with while looking for PhVC backing.

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Table I: Descriptive statistics – TVC firms sample.

	No.	Mean	Median	VC		
				SD	Min	Max
Year of creation	172	1994	1995	2.04	1990	1997
Number of individuals as founders	172	1.79	2.00	0.89	1.00	5.00
Capital managed	172	62.50	40.00	105.04	0.10	1158.50

Table II: Descriptive statistics – PhVC firms sample.

	No.	Mean	Median	PhVC		
				SD	Min	Max
Year of creation	74	1999	2000	5.24	1981	2008
Number of individuals as founders	59	1.89	1.00	2.36	1.00	18.00
Capital managed	55	42.85	16.00	102.63	0.10	706.00

Table III: Demographics of VC firms and PhVC firms general human capital.

	TVC	PhVC
UGBS	0.581	0.203
UGBA	0.541	0.581
UG-Other	0.227	0.013
MBA	0.663	0.486
JD	0.157	0.081
Graduate technical	0.291	0.405
Number of observations	172	74

Table IV: Test for difference - General human capital in PhVC firms and VC firms.

	Mann-Whitney U test
UGBS	3781.50***
UGBA	5825.00
UG-Other	4938.00***
MBA	5079.00*
JD	5816.00
Graduate technical	5458.00**
Undergraduate studies	4074.500***
Graduate studies	5688.000

*** Coefficient significant at 0.01 level; ** Coefficient significant at 0.05 level; * Coefficient significant at 0.1 level.

Table V: Demographics of VC firms and PhVC firms specific human capital.

	TVC	PhVC
Finance experience	0.558	0.243
VC experience	0.552	0.203
Senior management experience	0.447	0.270
Entrepreneur experience	0.395	0.273
Consulting experience	0.221	0.311
Government experience	-	0.203
Non-profit experience	-	0.527
Other experience	0.459	0.149
Commercial specific human capital	0.983	0.716
Social specific human capital	-	0.595
<i>Number of observations</i>	172	74

Table VI: Test for difference - Specific human capital in PhVC firms and TVC firms.

	Mann-Whitney U test
VC experience	4182.000***
Entrepreneur experience	5612.000*
Finance experience	4209.000***
Senior management experience	5158.000**
Consulting experience	5794.000
Government experience	5074.000***
Non-profit experience	2924.000***
Other experience	4338.000***
Commercial specific human capital	3153.500***
Social specific human capital	2580.000***

*** Coefficient significant at 0.01 level; ** Coefficient significant at 0.05 level; * Coefficient significant at 0.1 level.