MASTER THESIS
Copenhagen Business School
MSc in FSM and MSc in IMM

An Empirical Examination of Leader Human Capital Composition and Investment Behaviour in Corporate Venture Capital

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Date of Submission: May 14, 2023

Number of Characters: 271,651
Number of Characters (including tables): 290,787

Number of Physical Pages: 107
Number of Character Pages: 119,41

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List of Abbreviations

1. CVC - Corporate Venture Capital
2. IVC - Independent Venture Capital
3. HC - Human Capital
4. SHC - Strategic Human Capital
5. IP - Intellectual Property
6. IPO - Initial Public offering
7. RBV - Resource-based view

Abstract

This thesis investigates the leaders of corporate venture capital units and examines their corresponding investment behavior. Utilizing theories on strategic human capital, micro-foundations, and the resource-based view, we analyze the relationships between the professional and educational backgrounds of individual CVC leaders and their respective investment behavior. Correspondingly, this thesis highlights micro-level analysis, emphasizing the human capital nested in the upper echelons of CVC units. The objective of this research is to theoretically develop and empirically examine the associations between various aspects of human capital and investment behavior.

To this purpose, we collect demographic data on 894 CVC leaders from 1990-2022 and subsequently align them with their corresponding CVC-unit, parent corporation, and the respective individual investments they have overseen. The results of this study exhibit that:

i) The educational and professional backgrounds of CVC leaders are highly diverse.

ii) Individual leaders' human capital is based on heterogeneous knowledge, skills, and abilities, may manifest as different types of human capital resources, and help explain variances in investment behavior and individual investment outcomes.

iii) Specific human capital exhibited a greater propensity to predict investment behavior and selection relative to general human capital.

The results suggest that the human capital of CVC leaders is associated with variance in individual's investment behavior and investment outcomes. The results and limitations presented in this thesis also highlight the underlying complexities pertaining to the microfoundations of investment behavior and suggest several avenues for future research.

Keywords: Corporate venture capital; Human capital, Microfoundations; Resource-based-view; Investment behavior; Leadership

Acknowledgment

Primarily, we wish to express our gratitude to our supervisor, Associate Professor Francesco di Lorenzo, for imparting his extensive expertise on corporate venture capital and providing guidance throughout the process. Your encouragement to maximize our potential as analysts have been invaluable, and we carry the leanings and knowledge with us in our future careers.

Chapter 1

Introduction

In recent years, the field of Corporate Venture Capital (CVC) has experienced a remarkable confluence of events akin to the developments typically observed over much longer durations of time. 2020 marked the apex of the highly active decade. In 2020-2021 CVC financing reached an all-time high across various measurements. CVC participation in global venture financing came to 24%, and CVC capital deployment peaked at USD 73 billion, stipulating an increase of 13% annually since 2013 (CBInsights, 2020). In 2021, CVC funding more than doubled (142%), solidifying yet another milestone of 169.3 billion U.S. dollars deployed (CBInsights, 2021), ultimately making up more than a quarter of all venture financing.

CVC has notably experienced multiple cycles of growth and decline, with the downturns frequently precipitated by periods of economic stagnation and financial turmoil. Most recently, the Dotcom bubble of the 2000s and the global financial crisis of 2008/9 (PwC, 2018). This tendency goes back to the inception of CVC, as authors argue that CVC activity is strongly correlated with the overall economic state (P. Gompers & Lerner, 2000). Advancing to the recent COVID-19 pandemic, the CVC landscape exhibits a striking contrast as it does not show signs of substantial activity reductions amidst the pandemic-induced disruptions (PwC, 2018).

Scholars have responded promptly, as research on CVC has seen a steady increase. In particular, studies have emphasized factors influencing the adoption of CVC (Basu et al., 2011; Dushnitsky & Lenox, 2005a; Wadhwa & Kotha, 2006), value creation (Chemmanur et al., 2014; Dushnitsky & Lenox, 2006; H. D. Park & Steensma, 2012, 2013; Yang et al., 2014), innovation implications (Alvarez-Garrido & Dushnitsky, 2016; Chemmanur et al., 2014; Ernst et al., 2005; Keil, Autio, et al., 2008), corporate knowledge acquisition (M. Maula et al., 2003; Sykes, 1990; Yang et al., 2009) and CVC performance (Birkinshaw et al., 2002; Fels et al., 2021; P. Gompers & Lerner, 2000).

At the core of this dyadic relationship between corporations and ventures is the resource-based view. By establishing an equity relationship with new innovative ventures, a corporation may appropriate external resources like knowledge and innovative capabilities that are not available internally. Similarly, new ventures seek out CVCs to access two types of resources. Firstly, emerging entrepreneurial ventures inherently face resource constraints, necessitating financial capital for growth and evolution. Secondly, and more significantly, these ventures engage with CVCs to acquire complementary strategic resources

(H. D. Park & Steensma, 2012).

Correspondingly, the CVC unit plays a pivotal role in this relationship and ultimately acts as an intermediary in managing the relationship between a corporation and a new venture. A relationship where the two entities exhibit distinct differences in terms of their goals, requirements, and operational models (Dushnitsky & Lenox, 2005a; Ernst et al., 2005). The CVC unit stewards capital deployment and ultimately serves as a conduit for the continuous and dynamic exchange of resources (tangible and intangible). Fundamentally integral to any CVC unit are its decision-makers, and their respective capacity to manage this duality is inherently heterogeneous. As such: *"the people who actually make up the firm — may account for much of often widely varying differences in performance"* (Mollick, 2012, p.1001).

Interestingly, very few studies emphasize the embedded characteristics that constitute CVC leaders. Notably, scholars have almost exclusively emphasized macro-level analysis, overlooking the important microfoundations related to individual leaders' abilities, skills and knowledge - frequently referred to as human capital (R. Coff & Rickley, 2021).

In independent venture capital (IVC), the substantial observable disparity in fund performance has prompted an emphasis on better comprehending the microfoundations that can explain such variance (De Clercq & Dimov, 2012). In several studies, IVC integrates a human capital perspective to understand the influence of partners' individual skills or expertise on investment selection, behavior, and outcomes. For example, D. P. Dimov and Shepherd (2005), Zarutskie (2010), and Milosevic (2018) find evidence suggesting the specific educational and professional backgrounds impact the financial performance of IVC. Ewens and Rhodes-Kropf (2015) shows a similar connection between investor skills and characteristics and variations across investment outcomes. Bottazzi et al. (2008) suggests that the individual attributes of IVC investors make them more likely to be proactive and value-adding. Moreover, Patzelt et al. (2009) argues that IVC's education and professional experience influence their respective investment behavior and allocation strategies.

Nevertheless, such research avenues have been almost completely ignored in CVC. It is crucial to note that CVC and IVC exhibit significant differences in terms of the investment entity, its underlying motivations, and the collaboration dynamics between the investing organization and the entrepreneurial venture (M. Maula et al., 2005). Specifically, while IVC aims to maximize financial performance to satisfy its limited partners, CVC primarily focuses on strategic value maximization to fulfill the objectives of the parent company (Dushnitsky & Lenox, 2006; Hellmann & Puri, 2002). As such, their respective human capital is unlikely to be homogeneous.

This presents a fundamental question that remains unexplored in the existing literature: *Who are the leaders of corporate venture capital units, and how does their respective human capital influence their investment behavior?*

Our research seeks to address this gap by analyzing the human capital attributes and characteristics of CVC leaders and examining how these factors may shape the investment behavior strategies pursued. To this purpose, we synthesize insights from established theories pertaining to the resource-based view, strategic human capital, and microfoundations. This integration enables a strong foundation aimed at tackling the two primary research questions:

Research Question 1: What are the key individual characteristics and qualifications of Corporate Venture Capitalists leaders?

Research Question 2: What is the relationship between the human capital of Corporate Venture Capital leaders and their investment behavior?

The nascent nature of the research field necessitates the amalgamation of multiple methods. Initially, we draw upon the extant body of CVC and human capital literature, providing thorough reviews of articles and studies related to the research domain. Moreover, we consult existing IVC literature to distinguish and compare IVC and CVC leaders, as the vast majority of literature concerning investors' human capital is predominantly situated within the IVC domain. Furthermore, we rely on the literature on strategic human capital, microfoundations, and the resource-based view to provide the necessary theoretical foundation.

Furthermore, we adopt a quantitative methodology developing a sample of 258 CVC units that actively deployed capital between 1990 and 2022, amounting to 14,172 investments. Subsequently, we determine 894 associated individual CVC leaders within the designated time frame, documenting their individual educational backgrounds and professional experiences, along with any observed leadership transitions. To the best of our knowledge, the detailed characteristics and magnitude of this data set have not been previously observed in the existing literature (Drover et al., 2017; Röhm, 2018).

We develop various measures to trace the individual types of human capital and operationalize individual investment behavior. The results show associations between different types of human capital and variances in investment behavior and the strategies pursued by individual leaders. The results are confirmed through a series of robustness checks using different measures. The findings provide several contributions for both practitioners and academics, not least showcasing the relevance of adopting a microfoundational perspective in the field of CVC (Felin & Foss, 2005).

1.0.1 Delimitation

The aim of this thesis is to explore the human capital attributes and demographic features of CVC leaders and how these factors are associated with specific investment behaviors and strategies. To achieve this, we undertake an empirical study with a sample of CVC units, ventures, and biographical leader information.

It is important to highlight that the primary objective of this thesis is not to establish a causal or directional link between CVC investors and their respective investment behavior. Instead, the aim is to gain a broad understanding of the attributes and characteristics that are pertinent to CVC leaders and explore how these are associated with variance in investment behavior. In other words, this thesis does not seek to offer a detailed account of why or how the human capital of CVC leaders influences investment behavior or strategies, but rather seeks to provide valuable insights into relevant human capital attributes associated with specific types of CVC investments.

We employ an industry-agnostic approach to foster cross-sector learning and to deepen our understanding of how diverse but contextualized industry experiences influence individual leaders' conditions for investment behavior.

1.0.2 Structure

In order to address our primary research inquiry, this thesis is organized into 7 chapters. The structure of the thesis is as follows: Following this introductory chapter, the second chapter offers a comprehensive overview of the extant literature pertaining to CVC and Human Capital Theory. Chapter two contains two main components: First, it outlines the definition of CVC, traces its historical evolution, and explores the objectives and implications for both the corporate parent and the entrepreneurial venture. Second, emphasis is put on the fragmented domain of human capital literature to establish consensus on terminology, definitions, and the application of different types of human capital. The chapter concludes by outlining literature that has previously integrated human capital with the context of IVC and CVC. The third chapter introduces pertinent theories and perspectives, namely the resource-based view, strategic human capital theory, and microfoundations. This will provide a solid foundation for the subsequent chapters. Chapter four outlines our methodology in detail, explicating the research philosophy and design, data collection methods, data set construction process, and the selection of variables. In Chapter 5, we present our descriptive statistics, the empirical analysis, and the associated results. First, the data is presented in the descriptive statistics section, followed by the main regression model results and subsequent robustness tests. Following, in chapter 6 we discuss the outcomes, limitations, future research, and implications that ensue thereafter. Finally, chapter 7 concludes and summarizes the study's findings.

Chapter 2

Literature Review

This literature review encompasses: i) a comprehensive examination of extant literature pertaining to corporate venture capital (CVC) , ii) a meticulous analysis of scholarly articles concerning Human capital (HC), iii) presents a concise evaluation of the current state of research on HC in relation to IVC and CVC.

2.1 Corporate Venture Capital

2.1.1 Definition of Corporate Venture Capital

CVC has been attributed various definitions in the literature and throughout its history. Commonly, CVC specifies a corporate minority equity investment in an autonomous entrepreneurial venture (H. W. Chesbrough et al., 2002). In other words, an equity-linked investment in a novel privately held venture proposed by a financial intermediary of a non-financial corporation (M. V. Maula, 2007). Nevertheless, this classification is not exhaustive, nor does it authorize complete academic consensus.

Accordingly, there are different approaches to characterizing and mapping CVC activities. Dushnitsky (2008) categorizes CVC as *"A minority equity investment by an established corporation in privately-held entrepreneurial ventures."* (p.388). Further, he stipulates three commonalities pertaining to all CVC investments. First, capital deployment is often motivated by strategic objectives rather than financial returns. Second, the focal venture operates independently and privately. Third, investments are categorized as minority stakes. Keil (2000) expands on this definition by classifying CVC activity as dual-focused corporate programs that *"provide funding and related services to entrepreneurial firms in return for an equity stake."* (p.11). These related services include all value-added activities beyond the initial capitalization and thus may describe the CVC's "degree of involvement" with the venture (Wadhwa & Kotha, 2006).

H. W. Chesbrough et al. (2002) stipulates that allocating CVC resources necessitates an external approach devoid of any third-party involvement, specifically from the parent corporation. Röhm (2019) refines this conceptualization by including externally managed funds in which the parent corporation functions as the only limited partner (LP), thereby permitting a degree of influence and participation. In

support of these suggested interpretations of CVC activity, Ernst et al. (2005) emphasizes that the CVC unit should, in fact, be legally separated yet still governed by the parent corporation.

Sykes (1990) defines CVC in more detail by including the concept of strategic intent, referring to investments: "*[...]undertaken for the primary purpose of assisting corporate new business development*" (p. 39). As such, corporate investment vehicles that operate exclusively for financial return should not be categorized as CVC. A strategic investment orientation is also supported by Rind (1994), who elaborates by unfolding the strategic motivations inherent to the parent corporation. As a result, CVC theoretically stipulates a mutually beneficial partnership between venture and corporation that can i) stimulate corporate innovation (Ernst et al., 2005), and ii) provide funding for new ventures (M. V. Maula et al., 2001).

Schween (1996) provides perhaps the most detailed and rigorous description stipulating nine specific characteristics which define CVC operations: (1) equity funding, (2) that is distributed by an industrial corporation, (3) for technology start-ups that are (4) independent, (5) newly established and (6) hold hyper-growth potential. (7) A CVC provides support and guidance to the start-up, (8) is long-term oriented, and (9) and seeks strategic as well as financial returns. Notably, most of these attributes align with the definitions by Dushnitsky (2008), H. W. Chesbrough et al. (2002), and Keil (2002).

Importantly, CVC constitutes a sub-category of corporate venturing, which encompasses a broader array of distinct internal and external avenues through which established corporations can cultivate innovation, expansion, and competitive advantage by collaborating with new ventures (H. W. Chesbrough et al., 2002).

2.1.2 A Topology of Corporate Venture Capital

To gain a more comprehensive understanding of CVC, it is key to understand its placement within the broader corporate venturing landscape and, in turn, refine the delimitation of corporate venturing.

In its broadest form, corporate venturing specifies the *"overall activity of building new businesses in an established organization"* (Keil, 2000, p. 9). Sharma and Chrisman (1999) categorizes corporate venturing into external and internal dimensions. Internal corporate venturing is described as "*activities that result in the creation of organizational entities that reside within the existing organizational domain"* (Sharma & Chrisman, 1999, p. 9). These entities are often R&D departments and similar product and business model-advancing initiatives. External corporate venturing specifies "*activities that result in the creation of semi-autonomous or autonomous organizational entities that reside outside the existing organizational domain"* (Sharma & Chrisman, 1999, p.9). The channels of external corporate venturing include transformational agreements, venturing alliances, and CVC (Keil, 2000; Sharma & Chrisman, 1999).

While internal corporate venturing activities concentrate on developing new businesses within the current organizational boundaries, external modes of venturing, such as CVC, look beyond this frontier (Keil, 2000; Narayanan et al., 2009). This study only emphasizes CVC modes, but this classification can be decomposed into pooled funds, self-managed funds, and dedicated funds. We exclude dedicated funds as these are typically operated by external parties (e.g. IVCs). We only include CVCs where the parent corporation is operationally linked to the CVC unit (self-managed and pooled funds) (Keil, 2000; McNally, 1997).

Moreover, it is important to note that CVC shares a certain resemblance to IVC. P. Gompers and Lerner (1999a) defines IVC activity as similar to CVC as equity investments in private companies, with fund managers actively involved. The primary distinction between CVC and IVC lies in the strategic objectives underlying CVC investments, as initially stated by H. Chesbrough and Tucci (2002). However, CVCs and IVCs tend to syndicate their investments in new ventures, suggesting low friction between the two types of capital providers (Riyanto & Schwienbacher, 2006).

Conclusively, by consolidating previous literature on the definition of CVC and corporate venturing, this study finds that Dushnitsky (2012) provides a complete definition. For the purpose of this thesis, this definition is adopted, and CVC is defined as: *An external venturing activity whereby an established corporation places a minority equity investment in a privately held entrepreneurial venture pursuing a mix of strategic and financial objectives.*

2.2 Antecedents to Corporate Venture Capital

The historical evolution of CVC spans approximately 60 years and has evolved in a particularly cyclical manner, where five distinct waves of CVC are recognized in the literature (Dushnitsky, 2012). Outlining the evolution of CVC provides an important foundation for understanding its present-day relevance and current configuration.

The first wave

Literature suggests that the first wave of CVC began in the 1960s as predominantly large US corporations started deploying more capital into private ventures (P. Gompers & Lerner, 1999b). American corporations such as Exxon, DuPont, and Boeing started CVC units, and by the end of the 1960s and beginning of 1970s, over 25 percent of all Fortune 500 companies engaged in some type of CVC activity (P. Gompers & Lerner, 1999b). CVC literature tends to attribute this rapid development to three main motives. First, large corporations increasingly sought opportunities to diversify operations (Dushnitsky, 2012). Second, CVC effectively enabled improved distribution of slack resources. Third, the impressive performance of IVCs at the time inspired corporations to participate opportunistically in similar capital deployment strategies

(Dushnitsky, 2012; P. Gompers & Lerner, 1999b). Thus, corporations rarely established formalized CVC units but often participated indirectly as LPs in IVC funds, or by sporadically funding ventures launched by employees (P. A. Gompers et al., 2002). In 1973, the market for initial public offerings collapsed, and the favorable returns of venture capital disintegrated, leading to the dissolution of most CVC activity (Dushnitsky, 2012).

The second wave

The second wave has its inception in the 1980s. The resurgence of CVC was predominately due to its adoption as a diversification strategy within the corporate sector. This revitalization of CVC activity is primarily associated with two critical macro-catalysts. First, favorable regulatory changes better-enabled institutions (e.g. pension funds) to participate in high-risk investments due to the reduced capital gain taxation scheme (P. A. Gompers et al., 2002). This, in turn, fueled capital injections into new ventures. Secondly, the accelerated advancement of technology, specifically in semiconductors and personal computing devices, facilitated a proliferation of investment prospects. In 1986 this flourishing investment activity peaked as 12 percent of all venture-investment activity derived from CVC (P. Gompers & Lerner, 1998). Nevertheless, the management of these CVC units was not advanced, and many failed or were discontinued after the economic crash in 1987.

The third wave

In the latter half of the 1990s, CVC activity began to resurface, but this time in a significantly more explosive manner than previously observed. The adaptation of CVC happened at a much larger scale, in absolute and relative terms, when compared to IVC (P. Gompers & Lerner, 2001). The main driver was the incredible pace of technological development and corporations' commercial interest in benefiting from this while acknowledging their own incapacity to match said pace through internal R&D or corporate innovation. Moreover, the inherent characteristics of rapidly expanding technology enterprises necessitate preliminary external financing, thereby increasing the demand for additional financing sources. Corporations quickly established CVC units, adoption was multinational, and competitive dynamics in the funding landscape started to increase (Dushnitsky, 2012). Moreover, corporations exhibited a particular inclination towards imitating strategies employed by IVCs (Hill et al., 2009; M. Maula et al., 2005). An economic crash once again halted the high adaptation curves and with the bursting of the dot-com bubble in 2000, CVC activity effectively decelerated(Dushnitsky, 2012).

The fourth wave

As public markets recovered in the mid-2000s, CVC activity accelerated (Dushnitsky, 2012). Again, the overarching corporate motive was to absorb value from the rapid technological advancements taking place, as well as attain early indications of changing competitive landscapes by establishing a link to new companies in related industries and markets (Keil, 2000; M. Maula & Murray, 2000). The upswing was amplified by increasing international adoption outside the US. Notably, the fourth wave represents the improved duration and robustness of the CVC units as its average lifetime increased from three

years to beyond four years (Dushnitsky, 2012). This illustrates a fundamental shift in how corporations understand their innovation activities, moving away from high dependency on internal R&D departments towards external knowledge acquisition through corporate venturing (P. Gompers & Lerner, 2001). The fourth wave cements CVCs' capacity as an essential strategic exercise for technological and innovative corporate advancement (Dushnitsky, 2012).

The fifth wave

Most literature typically highlights four distinct phases in the evolution of CVC. Nonetheless, recent academic discourse has posited the emergence of a fifth wave in 2011, often characterized as the "Golden Age" of CVC (Battistini et al., 2013). During the 2007-2008 Global Financial Crisis, investment activities, and the overall economy experienced a profound contraction across various sectors (International Monetary Fund, 2009). However, as the economy began to rebound in 2011, many corporations created and launched new CVC programs (Kanbach, Stubner, et al., 2016). In contradistinction to prior waves of CVC activity, which were often characterized by periodic economic downturns, the fifth epoch has thus far demonstrated a sustained duration suggesting a degree of maturation (Weiss & K. Kanbach, 2022). Advancing to the recent COVID-19 pandemic of 2020, the CVC landscape exhibits a striking contrast to previous macroeconomic shocks, as it does not show signs of radical activity reductions or program dissolutions (PwC, 2018).

2.3 The Objectives of the Focal Corporation

Academic literature primarily focuses on identifying the fundamental strategic and financial drivers. Many researchers have examined the determinants of CVC adoption and the underlying logic that drives corporations to allocate considerable financial resources to such initiatives. The strategic dimension has been widely accepted within academic discourse as paramount in defining corporate investor objectives. However, it is also generally agreed that financial considerations should continue to play a significant role (H. W. Chesbrough et al., 2002; P. A. Gompers & Lerner, 2004). Notably, the interdependence between strategic and financial objectives is not mutually exclusive but complementary, as they interact in complex dynamic coordination (P. Gompers & Lerner, 1998; M. V. Maula, 2007).

2.3.1 Strategic Objectives

P. Gompers and Lerner (1998) proposes that a robust strategic emphasis is vital for the success of CVC initiatives. Programs lacking a well-defined strategic focus tend to exhibit reduced stability, often discontinuing operations following a limited number of investments.

One overarching strategic objective is innovation. As competitive markets increase in complexity and

volatility, corporations must continuously improve their innovative competencies to remain competitive (H. Chesbrough, 2010). Dushnitsky and Lenox (2005a) describes how innovation can persist as a central competitive advantage in various ways but ultimately suggest that a firm's ability to innovate will significantly impact its competitive position in the market. The start-up ecosystem is considered an epicenter of innovation and technological advancement, which makes CVC an excellent "window" for corporations to accumulate innovation (Dushnitsky & Lenox, 2005a; Keil, 2000). Consequently, CVC serves as a channel for accessing external knowledge, thereby facilitating an expedited process of organizational learning. Dushnitsky and Lenox (2005a) perceive CVC investments as a component of a parent corporation's ideal innovation strategy, wherein organizations evaluate the marginal innovative yield of CVC endeavors relative to in-house R&D. Their findings indicate that both industry-level determinants (such as technological turbulence, patent activity, the significance of complementary assets, and intellectual property regulations) and firm-specific resources (including absorptive capacity, organizational learning, and available cash flow) serve as catalysts for CVC initiatives (Drover et al., 2017; Dushnitsky & Lenox, 2005a). This relationship is supported by Keil, Autio, et al. (2008), who describes organizational learning as a process through which corporations attain new competencies and capabilities by active participation in the start-up ecosystem. Pinkow and Iversen (2020) outlines more pragmatic elements of organizational learning and categorizes the strategic objectives of CVC into three fundamental groupings:

i) *Expanding* the corporate business footprint by exploring novel technological opportunities. This resonates with the findings of Siegel et al. (1988), who finds that the highest-scoring strategic objectives were access to new markets and product development. Sykes (1990) adds the discovery of relevant acquisition targets as an important strategic objective. As such, CVCs may be mobilized by the focal firm to pursue opportunities that reside outside its core business (Benson & Ziedonis, 2009; Dushnitsky & Lenox, 2006) or to pinpoint nascent markets and imminent technology platforms that enable diversification initiatives and expedite market penetration (H. Chesbrough & Tucci, 2002).

ii) *Strengthening* the focal corporations existing business by recalibrating its current strategy. CVC is an effective monitoring and alert mechanism that can make the corporation more responsive to external volatility and technological advancements and disruptions (H. W. Chesbrough et al., 2002; M. Maula et al., 2013). Souitaris and Zerbinati (2014) elaborates on this strategic objective and describes the notion of detecting new technology at the earliest stage possible to leapfrog competitors as a competitive advantage. To capitalize on current technologies and platforms, the corporate parent may invest in new ventures to increase demand (Dushnitsky & Lenox, 2005a) and transform idle or non-essential technologies into marketable products (H. Chesbrough & Tucci, 2002).

iii) *Supplementing* their current resources and capabilities by leveraging complementary assets. This is supported by Brandenburger and Nalebuff (2011), suggesting that growth can be generated by investing in ventures that offer complementary products.

These three core strategic objectives can be nuanced with the four categorical types of CVC investments stated by H. W. Chesbrough et al. (2002): enabling, driving, emergent and passive investments, describing the extent of operational linkage between the venture and the corporate parent.

2.3.2 Financial objectives

In contrast to profit-maximizing IVCs, CVCs aim to foster innovation and enhance market value for their parent corporations by facilitating strategic synergies with ventures (Dushnitsky & Lenox, 2006; Hellmann & Puri, 2002). That being said, they are not immune to the considerations of financial performance.

Keil (2000) characterizes CVC as a form of venture capital wherein corporations engage in the private equity market, which suggests an inherent expectation of financial returns. Nonetheless, as delineated earlier, corporations frequently elect to pursue a more extensive array of strategic objectives in addition to financial gains (H. Chesbrough & Tucci, 2002). Researchers like Dushnitsky and Lenox (2005a) and Keil, Autio, et al. (2008) observe that strategic objectives tend to surpass financial objectives in importance. Alternatively, some CVC units driven by financial motives do not anticipate strategic outcomes and are assessed based on similar metrics as IVC (H. Chesbrough & Tucci, 2002).

Siegel et al. (1988) showed in their survey that financial return was important and exhibited the highest average rating, while strategic objectives had much more variance. Nevertheless, as the CVC ecosystem has developed, so have the priorities and objectives of the CVC units. For example, in 1996, 83% of CVCs exclusively emphasized a strategic orientation, while it was found to be 42% in the early 2000s (C. Weber & Weber, 2002).

2.4 The Objectives of the Entrepreneurial Venture

Recently, a shift has occurred in the scholarly discourse regarding the power dynamics between CVCs and entrepreneurial ventures. This has led to the emergence of two distinct academic perspectives (Wadhwa & Kotha, 2006).

The first and most traditional literary camp recognizes the CVC unit as the dominant partner in the dyadic relationship (Dushnitsky & Lenox, 2005a). The principal reason for this is that the CVC unit, in theory, possesses a real option to invest or not (Katila et al., 2008).

In the second camp, the literature indicates a dynamic relationship and even argues that the venture may hold superior bargaining power (M. V. Maula et al., 2009). Enhanced venture bargaining power may derive from i) The ventures operating strong technological capabilities and attractive intellectual

property (IP) creating competitive deal formation dynamics.(P. Gompers & Lerner, 2000), ii) The ventures also possess a real option of accepting funding or not, and often have alternatives, such as access to other sources of funding (e.g. IVC, family offices) (Katila et al., 2008) iii) When ventures and their respective management team are knowledgeable members of the funding ecosystem and can distribute the capitalization table at their own discretion. Effectively, the ventures' own objectives and motivation to pursue capital is an important consideration.

As with the objectives for the CVC, the venture's objectives also consist of financial and strategic objectives. The financial component is uncomplicated, as most new high-growth ventures require external capital to commercialize initial ideas, build an organization, and develop the necessary capabilities (Cassar, 2004). Correspondingly, CVCs may potentially enhance innovation output by alleviating financial constraints as the accessibility of additional financial resources bolsters investments in product development compared to ventures without CVC funding (Bertoni et al., 2010).

While some new ventures decide to bootstrap[1], the rapid development of most radical innovation is inhibited by its requirement for capital (Sahlman et al., 1998). Inherently, these types of ventures are also enormously risky and thus are usually unable to attain large amounts of traditional sources of capital (banks, credit institutions.). As such, IVC and CVC are the predominant suppliers of financial resources, and their ability to do so is homogeneous. However, most new ventures also anticipate more comprehensive verticalized strategic and operational contributions from the CVC (M. Maula et al., 2005). As such, these contributions should align with the venture's strategic objectives. H. D. Park and Steensma (2012) shows that under specific circumstances, CVC-funded ventures could outperform IVC-backed counterparts as a result of such a strategic fit. Through an examination of initial public offering (IPO) and failure rates of various ventures, the study illustrates that new ventures, particularly those in search of specialized complementary assets or operating in uncertain environments, benefit from the involvement of a CVC unit (H. D. Park & Steensma, 2012; Röhm, 2018). Aligning with these findings, Ivanov and Xie (2010) finds that CVCs only add value to ventures when there is strategic alignment/fit with the corporate parent.

Importantly, CVC investments do not guarantee added value, and establishing an equity link to CVCs can also be destructive (H. D. Park & Steensma, 2012). CVCs may decide to produce competing products (Hellmann & Puri, 2002) and/or expropriate valuable IP (Dushnitsky & Shaver, 2009). Additionally, this type of equity link can inhibit the accessibility of future funding from other CVCs, as well as IVCs[2]. Moreover, ventures collaborating with CVCs could encounter pitfalls due to the often limited autonomy of CVCs and their lower level of fund-management experience (Dushnitsky & Shapira, 2010).

[1] Bootstrapping is when an entrepreneur starts a business without external funding and grows it organically.

[2] As other investors recognize the potential risks of having CVCs on the capitalization table due to risk of appropriation and conflicting objectives.

2.5 The Performance Implications of Corporate Venture Capital

The sections above discuss the strategic and financial objectives and motivations for CVC and ventures to engage in the investment landscape. This section will outline the literature that examines how these objectives influence performance outcomes and the methods used to evaluate and measure performance. Importantly, this section elucidates the potential heterogeneity in performance implications for both the venture and the CVC, underscoring the absence of a guaranteed mutually beneficial outcome in their relationship (Dushnitsky, 2012).

2.5.1 The Implications for the Corporate Investor

Strategic implications

A considerable body of research has delved into the strategic ramifications emanating from CVC activity (Basu et al., 2011; Yang et al., 2009). Accordingly, some studies concentrate on the concept of learning channeled by CVC-units (Keil, 2004; Keil, Autio, et al., 2008; Wadhwa & Kotha, 2006). For example, Keil (2004) exhibit how corporations employ a dual learning process: i) Learning within the CVC triad as learning by doing, ii) Learning from industry peers by filling open positions with seasoned managers. Wadhwa and Kotha (2006) and Dushnitsky and Lenox (2005a) elucidate how CVC capital deployment expands the focal corporation's innovation capacity, especially when the IP protection in the target industry is weak. Wadhwa and Kotha (2006) extends this notion as they show that this relationship is contingent on CVC activism and portfolio involvement.

Portfolio induced strategic implications

Literature on CVC portfolio composition emphasizes portfolio diversity, the knowledge embedded in portfolio companies, and relatedness between the corporate parent and portfolio companies (Fels et al., 2021). The diversity of portfolio composition has been subject to examination by various scholars, and it is usually measured in terms of industry, investment stage, geography, or deal structures.

Yang et al. (2014) investigates CVC portfolio diversification and its impact on value-creation in the corporate parent corporation. Yang et al. (2014) contends that the net present value of CVC investments can be treated like any other financial asset and should align with portfolio theory, where increased industry diversity positively impacts the overall financial value of the portfolio. Second, the authors also suggest that portfolio industry diversity is negatively associated with the strategic value of the portfolio. This is because the strategic relevance of each investment becomes progressively ambiguous and challenging to manage, unlike a highly concentrated portfolio with investments limited to a few industries. Correspondingly, Yang et al. (2014) suggests that portfolio diversification stipulates an asymmetric U-shaped relationship between

portfolio industry diversity and value. Similarly, Narayanan et al. (2009) finds little association between the CVCs historical portfolio diversity and its capability to pick strategically viable ventures in the future. Lin and Lee (2011) exhibit different results in their study. Their findings suggest a positive correlation between the diversity of portfolio industries and the overall value of the portfolio. A more industry-diverse portfolio may show an expanding degree of technological innovation and improve the corporate parent company's ability to translate these technological opportunities into value (Lin & Lee, 2011).

Wadhwa et al. (2016) extends the research by emphasizing innovation rather than financial performance as the dependent variable. They uncover an inverted U-shaped relationship between the industry diversity of portfolios and the innovation performance of the corporation. Keil, Maula, et al. (2008) expands on this notion and reveals how industry-relatedness may expedite knowledge exchange, as they observe a positive correlation between industry-relatedness and innovation outcomes.

In terms of geographic diversification (Belderbos et al., 2018) underscores two core advantages. First, geographic diversity provides greater exposure to unique technological innovations within similar industries as the focal firm. Heterogeneous cultures, regulatory environments, and institutional contexts often lead to distinct innovation trajectories across geographies and tend to remain local or continental (Belderbos et al., 2018; Jaffe et al., 1993). Second, acquiring knowledge from a diverse array of geographic sources can mitigate the risk of learning traps (Belderbos et al., 2018; D. A. Levinthal & March, 1993). Nevertheless, geographic distant opportunity discovery can also be costly due to the high complexity of integration. Consequently, the authors propose that geographic diversity exhibits an inverted U-shaped relationship with the corporation's innovative performance (Belderbos et al., 2018). Elevated diversification within portfolios configurations augments the degree of engagement with innovative technologies, enhances the propensity of ventures within the portfolio to share resources collectively, and mitigates corporate resource limitations (Belderbos et al., 2018; Fels et al., 2021; Wadhwa et al., 2016).

Financial Implications

The scholarly consensus regarding the fiscal consequences of CVC investments indicates sub-optimal financial returns for the parent company. Allen and Hevert (2007) shows that only approximately 1/3 of CVCs deliver an economically positive return to the sponsoring parent companies. Dushnitsky and Lenox (2006) show similar below-par performance and suggests that CVC financial returns are inherently much more volatile than that observed for IVC. The findings of Kanter and Richardson (1991) are particularly assertive by positing that the greater number of CVC initiatives culminate in financial failures. The majority of academic literature contends that CVC entities forgo financial performance in their quest to attain strategic objectives (H. Chesbrough & Tucci, 2002).

Owing to the strategic orientation, the assessment of financial implications may be perceived as sub-

jective and ultimately contingent upon the overarching objectives associated with the CVC unit (Sykes, 1990). In a separate study, Al-Laham and Souitaris (2008) examined the relationship between a corporation's external venturing activities and financial outcomes. The authors find that investments executed by means of CVC funds are positively associated with a company's return on equity (ROE) and revenue growth. This data point emphasizes the absorptive capacity of a corporate investor, meaning that the ability to effectively leverage external information positively moderates the association between CVC activity and financial performance (Al-Laham & Souitaris, 2008).

2.5.2 The Implications for the Entrepreneurial Venture

While the predominant amount of academic literature has focused on the performance implications for the CVC, more attention has recently gravitated toward the perspective of the venture. Some literature delineates the relationship between CVCs and new ventures as predominantly advantageous for the venture, albeit accompanied by certain inherent performance-related risks (P. Gompers & Lerner, 1998; Keil et al., 2010).

First, the financial performance implications of the venture are investigated by P. Gompers and Lerner (1998), which exhibits how ventures supported by CVC possess equal probabilities of obtaining high valuations or going public. This propensity is amplified by increasing strategic complementarity/strategic fit. Resulting, CVC-backed ventures can often command a premium (Ivanov & Xie, 2010). The study conducted by Guo et al. (2015) endorses these findings and reveals that ventures backed by CVC tend to outperform those funded by IVC financially.

Second, the strategic performance implications of the venture emphasize innovative capabilities. H. D. Park and Steensma (2013) establishes that ventures that receive CVC funding demonstrate higher levels of innovative competencies before and after receiving funding. In particular, the post-investment innovation likely derives from accessing the CVC's complementary assets and resources (Keil et al., 2010). Chemmanur et al. (2014) and Alvarez-Garrido and Dushnitsky (2016) find a similar acceleration of the ventures' innovation and technology post-CVC investment. Chemmanur et al. (2014) describes that this is likely a result of the technological fit and industry knowledge shared with the venture. Evidently, the venture's access to the corporate complementary assets and resources holds benefits, amplified by the degree of strategic and technological fit (H. W. Chesbrough et al., 2002). A more recent study by Shuwaikh and Dubocage (2022), also finds that venture innovation and strategic performance are responsive to the complementary assets of the corporate investor. The authors also find that geographic proximity increases the accessibility to the corporate investor's complementary resources.

B. Weber and Weber (2007) shifts the focus and finds that the relational connection between the corporate investor and the venture constitutes the fundamental driver of performance outcomes. The

authors characterize this relational fit as a product of social capital and knowledge-based relationships and find that the flow of knowledge and information increases as the relationship improves. As such, B. Weber and Weber (2007) expands on relatedness to include social and network-based intricacies. M. Maula et al. (2009) also investigates the importance of social ties between the corporate investor and venture. The authors discover that increasing complementarity between the respective partner's resources increases social engagement, leading to improved learning implications for the venture. Conversely, a weak or unsuitable partnership can lead to negative performance outcomes.

Performance implications for the venture may also be of a more negative nature post-CVC involvement. Alvarez and Barney (2001) and Pahnke et al. (2015) outline potential negative performance implications due to abusive exploitation or sub-optimal commercialization. Katila et al. (2008) emphasizes misappropriating knowledge, resources, and IP as a core performance threat when engaging with CVCs. Dushnitsky and Shaver (2009) expand upon this by concluding that when IP regimes are weak and industry overlap is significant, entrepreneurs are reluctant to engage with CVC units. Rønde and Di Lorenzo (2021) suggests that ventures are actually more inclined to partner with corporate investors possessing sub-optimal complementary assets if IP rights and other protection mechanisms are weak. Yet, ventures ultimately benefit the most from partnering with CVC with a strong technical and strategic fit (Chemmanur et al., 2014; Thornhill & Amit, 2001). This underlines the paradox of corporate venture capital Dushnitsky and Shaver (2009).

2.6 The Investment Process

The responsibilities of a CVC unit can be broadly defined as investing in a portfolio of new ventures and exiting those investments while creating strategic and financial value for the corporate parent (M. Maula et al., 2005). The uncertainty surrounding potential financial and strategic advantages complicates effectively selecting and accurately appraising portfolio companies for CVC programs (Yang et al., 2009). As a result, CVC initiatives are characterized by quick turnovers (P. Gompers & Lerner, 2001), fluctuating objectives, and challenges in attracting and retaining skilled leadership (P. Gompers & Lerner, 1998).

IVC literature examines investment decision-making processes in great detail and outlines how evaluation and selection criteria are not highly formalized or structured (Proimos & Wright, 2005; Shepherd et al., 2003). In particular, the presence of "gut feeling" in the decision-making processes suggests that the embedded individual capabilities and competencies of the decision-makers are particularly pertinent to investment behavior (Proimos & Wright, 2005; Yang et al., 2009).

Investment tasks can be distinguished as pre- and post-capital deployment activities (De Clercq & Dimov, 2012). For example, Sahlman et al. (1998) describes a list of standard IVC contributions: i)

assistance in securing further financing, ii) strategic planning guidance, iii) recruitment of management personnel, iv) operational planning support, v) facilitating connections with potential clients and suppliers, and vi) addressing compensation-related matters. Nevertheless, recent studies suggest that CVC contribution is different (Hellmann & Puri, 2002; M. Maula et al., 2003; M. V. Maula et al., 2001). For example, M. Maula et al. (2005) suggests CVC investors are superior commerce builders as they provide revenue-expanding opportunities.

2.7 Human Capital Theory

Human Capital (HC) has long been a focal research area for academics in a multitude of different fields, as it is associated with organizational performance and competitive advantage. HC was popularized in the economic context by Stigler (1961), Becker (1964), and Schultz (1961) emphasizing the individual's own investment in developing abilities and knowledge. However, HC has undergone substantial scholarly development, and the contemporary interpretation is more nuanced and complex (Ployhart et al., 2014). While this study emphasizes the more contemporary understanding of HC, it is important to understand its development and current status in the strategic management body of literature.

2.7.1 Delineating and Defining Human Capital

The definition of HC remains fragmented, and there does not appear to be strong academic consensus. Proposed definitions tend to be either too restrictive or too vague to be effectively measurable. This section aims to outline and consolidate definitions from prominent literature to provide accurate applicability in this thesis. HC originates from two primary academic disciplines: psychology and economics. In this study, we emphasize the economic body of literature.

The economic perspective emphasizes the notion of the individual's allocation of time and capital to acquire improved knowledge, skills, and abilities. Mincer (1958) was one of the early contributors to HC theory, and initially proposed a simple and somewhat restrictive interpretation of measuring HC by the number of years under formal education. Schultz (1961) was also an early pioneer of HC theory and one of the first scholars to more comprehensively argue how individual investments in education, training, and relevant experiences amplify individual productivity and earnings.

Becker (1964) defines HC as the knowledge and skills individuals acquire through education, on-the-job training, and various relevant experiences. This definition places more emphasis on micro-level dynamics rather than macroeconomic ones. He posited that individuals would adopt a pragmatic approach when determining their investment in developing HC. People would assess future earnings from various career

paths and weigh them against the costs associated with acquiring the necessary education for those careers (Becker, 1964). Becker et al. (2002) later relaxes some of the more stringent assumptions and broadly proposes that HC encompasses: *"the knowledge, information, ideas, skills, and health of individuals"* (p. 3). More contemporary studies similarly suggest that HC is linked to individual experiences, education, skills, and knowledge (Garavan et al., 2001; Rastogi, 2002; Youndt et al., 2004). As a result, at its core, HC theory seeks to elucidate the individual and organizational returns on education and experiences by considering it as a form of investment in human capabilities/resources (Aliaga, 2001).

Early scholars in HC theory contextualized the findings in economic theory by establishing links to economic growth and income differentials. They regard HC as one form of input that contributes to the production of goods and services. However, HC transcends the role of a static input due to its more complex and dynamic characteristics. For example, HC embodies an inherent aptitude to adapt or modulate itself, but also influence other inputs (Pasban & Nojedeh, 2016). Blaug (1976) provides some additional nuance to the definition, as he argues that HC represents the concept that individuals invest in themselves in various ways, such as acquiring education and training, not for immediate gratification but for future financial and non-financial rewards. Importantly, HC may not only derive from formal education or corporate participation. Psacharopoulos and Woodhall (1985) finds that ongoing informal opportunities for learning and skill development also represent HC. So, HC can be explained as an accumulative process where individuals gather knowledge and skills through heterogeneous mediums (Kai Ming Au et al., 2008). For example, Gundlach (1997) illustrates the important differences in the input quality, suggesting the type and quality of education matter greatly. Weatherly (2003) considers HC the collection of features that include more soft variables like creativity, energy, personal character, and motivation. Heckman and Kautz (2012) also studies the influence of soft skills like personality, goals, motivations, and preferences on HC. The authors find that these soft skills are often inadequately addressed or wholly neglected in the current body of literature but are essential parts of HC nonetheless. Ployhart and Moliterno (2011) describes these soft variables as non-cognitive knowledge, skills, abilities, and other characteristics (KSAO, considered antecedents of HC). Please see appendix 5 for a non-exhaustive overview of definitions of HC.

Evidently, there appears to be an absence of a shared framework and definition of what HC is. To establish uniform applicability, this paper applies Ployhart and Moliterno (2011) four variables that reflect what individuals "can do"; i) Mental and cognitive abilities, ii) Experience, iii) Knowledge, and iv) Skills.

Mental and cognitive abilities relate to the intelligence of individuals and serve as an indicator for future educational and professional outcomes. It reflects the capacity of individuals to process information related to their skills, knowledge, and abilities. *Experience* describes the opportunities for learning and acquiring new skills, knowledge, and abilities based on previous professional, educational, or personal experiences. *Knowledge* is the ability of an individual to comprehend processes, data, and concepts. It can take the form of specific to generic knowledge and is often granted through education or experience. Lastly, *Skills* refer to the ability to acquire an increasing amount of information and to have the necessary capacity to deploy

the information within an organization at a growing pace. Such a description of "what people can do" may be classified as their bundles of KSAOs (knowledge, skills, abilities, and other characteristics) (Ployhart & Moliterno, 2011). Throughout this thesis, the term will be utilized to consistently characterize the diverse attributes and qualities that constitute an individual's antecedents of HC resources. As such, we do not emphasize non-cognitive KSAOs, such as personality, interest, and values (Ployhart & Moliterno, 2011).

Noe et al. (2006) elaborate on the sequentiality of KSAOs. The authors suggest that knowledge is a prerequisite for executing any task, while skills pertain to the individual's capacity to execute said task, which improves with experience. Abilities represent a more expansive notion, encompassing a diverse array of task-related proficiency applicable to various job functions (Noe et al., 2006).

2.7.2 The Types of Human Capital

Historically, HC has been categorized into two classifications: general HC and firm-specific HC. In more recent studies, other types of HC have gained recognition. The following sections concisely consolidate the diverse and expansive scholarly applications of popular HC concepts and terminologies.

General Human Capital

General HC refers to skills and knowledge that can be applied in a variety of contexts and across multiple organizations (Becker, 1964). As such, general HC is not explicitly tied to a specific job and includes more context-generic knowledge and experiences (e.g. education). General HC is regarded as universally valuable for all organizations, constituting an underlying assumption that it is readily accessible in the factor market—widespread and plentiful (Becker, 1964). Moreover, it assumes that individuals' reservoirs of general HC can exhibit variations in quantity but not in composition [3] Correspondingly, general HC is versatile and can be utilized in various settings. Its value is not isolated to one firm and is acknowledged in the factor market (R. W. Coff, 1997).

Firm-specific Human Capital

Firm-specific HC has been traditionally regarded as an essential category of HC. This is because there is a limited supply of individuals possessing competencies that align with an organization's specific idiosyncratic requirements. Such firm-specific attributes exhibit causal ambiguity, social complexity, and path dependency, which, in turn, may constrain individual mobility (Becker, 1964). As a result, firm-specific

[3]The statement implies that general HC's composition (skills) remains constant despite variations in quantity. As such, everyone has the same general HC skills, regardless of quantity.

HC is believed to contribute to a sustained competitive advantage, while general HC does not (Hatch & Dyer, 2004). Firm-specific HC enhances an employee's productivity within their current organization but does not necessarily increase their productivity in other companies. This creates a mutually exclusive relationship between the employee and the organization, establishing a bilateral monopolistic setting (Lazear, 2009). For example, firm-specific HC may pertain to contextualized knowledge of the organizational processes and structures (Lazear, 2009). Furthermore, Kor and Mahoney (2005) extends these findings by investigating managers' firm-specific HC and its impact on their resource allocation and configuration abilities. They discover that firm-specific HC improves resource allocation.

Importantly, there exists some term confusion when distinguishing general and specific HC. For example, Gimeno et al. (1997) defines general-HC as generic education and experiences and specific-HC as education and experience within a specific industry associated with the focal firm. Dissimilarly, Pennings et al. (1998) attributes general-HC to industry-specific education and experiences, while specific-HC is linked only to internal firm-specific experience.

Modern studies suggest that the importance of firm-specific HC is relatively less significant than what traditional perspectives advocate. This will be discussed in chapter 3. At the same time, the relevance of task, industry, and occupation-specific HC has gained increased prominence.

Task-specific Human Capital

Gibbons and Waldman (2004) defines task-specific-HC as the accumulation of knowledge and skills acquired from performing a distinct set of tasks and assignments within a particular setting, not being specific to the firm in which these tasks take place. Task-specific HC resembles the concept of specialization, which is not a novel concept. Becker and Murphy (1992) suggests that output returns improve for employees that specialize and emphasize the importance of few but distinct tasks. Importantly, task-specific HC is transferable across professions, especially for highly skilled individuals (Gathmann & Schönberg, 2010).

Unger et al. (2011) undertakes a meta-analysis of 70 empirical studies emphasizing task-specific-HC. The authors demonstrate how task-specific HC exhibits a significant association with firm outcomes. In contrast, general-HC, with its low specificity to embedded tasks, showed weak relationships. They also find the outcomes of investments in task-specific HC. Put differently, the empirical research indicates that occupation-specific and task-specific-HC, often used interchangeably, are stronger predictors of corporate performance and outcomes.

Industry and Occupation-specific Human Capital

Industry- and occupation-specific HC share several characteristics with task-specific HC. These types of HC are tailored to the characteristics of the work rather than being exclusive to the firm. Gibbons and Waldman (2004) offers an explanation for the difference in distinction:

> *"The main difference between the idea of task-specific human capital and occupation- and industry-specific human capital is in how the idea is applied. We argue that task-specific human capital has much wider applicability than suggested (so far) by the occupation- and industry-specific human-capital literature's."* (p.203).

The primary difference between industry- and occupation-specific HC and task-specific HC lies in the broader applicability of the latter. Industry- and occupation-specific HC contains a higher degree of contextualization to the setting of experience accumulation. Neal (1995) argues that the impact of industry-specific HC is under-explored. He suggests that this type of HC may constitute a significant part of an average employee's HC accumulation. He further identifies how employees gain remuneration from KSAOs that aren't specific to a firm nor general but instead unique to companies offering similar products and services. As such, specific skills and abilities are closely linked to a particular occupation or industry rather than to a specific firm or a specific task. The study by Neal (1995) demonstrates that compensation reductions for displaced employees are significantly reduced when there is no alteration in the industry. Kambourov and Manovskii (2009) demonstrates similar dynamics in terms of occupation-specific HC. The authors show the benefits of occupation-specific HC as significant and may result in wages increasing 12-20 percent.

Sub-conclusion

The various conceptualizations of the specificity of HC are interconnected, as distinct aspects of HC may be deemed more or less important based on their respective channel of acquisition and the context of the application. Nonetheless, they are all nested within each other, contributing to an individual's overall HC: either through deep expertise or a diversity of experiences. Becker (1964) and Schultz (1961) labor-economic-based perspective stipulate that the level of specificity depends on the context in which the HC is applied. As such, these classifications of HC may be special types of general HC that turn specific under different settings and contexts[4].

[4]For example, knowledge gained in the life science industry is considered general HC when applied outside of this industry, but within the life science industry, it is considered industry-specific HC.

2.7.3 The Impact of Human Capital

The recognition of the significant impact of HC in organizations was initially driven by the book *Organizations in Action* written by James D. Thompson (Thompson, 1967). Thompson (1967) display a comprehensive framework for understanding organizations as complex and open systems where HC ultimately drives organizational actions and outcomes. Hambrick and Mason (1984) extends this examination by focusing on the upper echelons of HC. They suggest that managerial background, experiences, and demographic characteristics are highly relevant to managerial discretion, decision-making, and strategic preferences. Put differently, the authors outline how organizational direction and outcomes ultimately remain reflections of the top management teams. These assertions also resonate with Finkelstein and Hambrick (1996), that similarly underscores the impact of HC, specifically the top executive, on firm performance and strategic choices. The authors also find that the impact of HC is moderated by the degree of managerial discretion, which in turn depends on mechanisms like industry and governance structures. Further research produces similar findings and ultimately highlights the significant impact HC has on firm outcomes and performance(Huselid, 1995; Pennings et al., 1998; P. M. Wright et al., 1994). The literature also suggests that HC, specifically pertaining to top managers, plays an important role in achieving desired strategic outcomes. In particular, Cao et al. (2010) and Sinha (2019) find that individual leadership can impact organizational ambidexterity. Further, Lei et al. (1996) suggests leaders' HC is a facilitation mechanism for the implementation of firm strategy and argues that HC enables organizations to seize strategic opportunities. Ployhart (2021) present similar arguments and stipulate that it is: *"[...]the prescribed and discretionary behavior of employees that implements the firm's strategy and contributes to value creation."* (p.1778).

2.7.4 Level of Analysis

HC theory has been extensively examined at both the macro (firm)-and micro (individual) level of analysis, which has created some confusion regarding its application and interpretation (Ployhart & Moliterno, 2011). As HC theory originates from labor economics, it implies a micro-level focus that examines individual HC within the framework of established firm processes (e.g. the internal labor market) (Lanza & Simone, 2020). The logic is that individual productivity increases due to investments in HC. Correspondingly, to maximize corporate profits, employers will favor the most productive individuals and reward productive HC with advancements and promotions in the internal market (Sicherman & Galor, 1990). Similar dynamics are applicable in the external labor (Heckman & Kautz, 2012; Mincer, 1974). This type of research emphasizes HC and micro-level of analysis by attempting to establish a connection between individuals' KSAOs and individual-level performance (Ployhart & Moliterno, 2011; P. M. Wright & McMahan, 2011). The micro-level stipulates that organizational outcomes are linked to individual actions and that variances in these outcomes can be explained by the heterogeneous individuals who constitute

the organization (Foss, 2011).

Second, the macro-level analysis aggregates the individual KSAOs to the organizational/unit-level collective resources, which enables the examination of a broader range of macro-level phenomena (Lanza & Simone, 2020; P. M. Wright & McMahan, 2011). This builds on the assumption that firm-level factors drive individual decisions and actions and that the behavior of individuals is the outcome of routines, processes, structures, and roles put in place by the organization (Coleman, 1990; Felin & Hesterly, 2007). Accordingly, macro-level constructs generally regard individuals as more homogeneous (Felin & Hesterly, 2007). The macro-level of analysis has been mostly occupied by strategy and management scholars seeking to understand the aggregated level of HC and its connection to competitive advantages and firm performance (Ployhart et al., 2014). Many scholars apply a simple aggregation methodology when transforming the individual HC to the collective level (R. W. Coff, 1997; Hitt et al., 2001). This approach entails making strong assumptions, as HC is not simply the sum of its parts. This notion has catalyzed the concepts like emergence and dispersion (Barney & Felin, 2013; Ployhart & Moliterno, 2011; Ployhart et al., 2014).

Emergence: Ployhart and Moliterno (2011) catalyze the idea of emergence in HC. The authors suggest how HC at the unit level involves an additional degree of complexity due to the underlying configurations and combinations of various individual KSAOs. Emergence suggests that HC emanates from heterogeneous individual members but is transformed and enhanced due to contextual, social, and structural components as it becomes a collective unit-level resource (e.g., individual vs. team) (Ployhart & Moliterno, 2011). Transformation may occur as a result of knowledge-sharing, while enhancement can be a result of motivational or structural variables that improve the deployment of HC (Boon et al., 2018). Ultimately, emergence argues that environmental and contextual factors impact the development and deployment of HC. The perspective also challenges the *"more is better"* assumption that the simple aggregation methodology incorporates.

Dispersion: Similarly, literature acknowledges that modern organizations comprise various groups of employees, with diverse KSAOs and, subsequently, heterogeneous firm impact (Lepak & Snell, 1999). This emphasizes the varied strategic influences that individual employees can exert within an organization (Nyberg & Moliterno, 2019). Overall, there is a clear dispersion of HC embedded in firms.

Evidently, several scholars have researched HC's influence on organizations and its antecedents by applying different levels of analysis and contexts, which in turn have created polarized academic consensus and two distinct and segmented research domains. This study does not set out to reconcile HC literature but remains conscious of theory application and heterogeneous perspectives in the analysis and the discussion.

2.8 Human capital: Independent Venture Capital & Corporate Venture Capital

Extensive literature underlines how the significance of HC increases in knowledge-intensive industries characterized by few physical assets, like professional service industries such as financial intermediaries (Hitt et al., 2001). Both IVC and CVC fall under this category of knowledge-intensive industries. As a result, the type of KSAOs apparent in each of these respective entities likely share certain commonalities while also exhibiting distinct differences. There is limited literature emphasizing the KSAOs of investors in both IVC and CVC but with notably less development in the area of CVC. Consequently, the current body of literature on IVC can guide the application of HC within the investor context and provide a foundation for its integration with CVC.

2.8.1 Human Capital in Independent Venture Capital

In the context of IVC and through the lens of HC, a leader's ability to accurately depict, forecast and adapt to internal and external changes should improve overall portfolio outcomes (D. P. Dimov & Shepherd, 2005). As such, individual HC is particularly significant in IVCs as they often consist of only a few individual partners that spearhead pre-and-post investment activities (De Clercq & Dimov, 2012; Gupta & Sapienza, 1992). The long-term performance of the fund, e.g., the investor's capacity to consistently deliver favorable financial returns to their respective LPs, is significantly reliant on the available HC. Put differently, the literature suggests that IVC partners who possess more advanced HC achieve better outcomes when carrying out tasks in the pre-and post-investment cycles (D. Dimov & De Clercq, 2006).

Scholars have primarily focused on elucidating how HC attributes influence investment behavior and performance (Brown & Goetzmann, 1995; Kaplan & Schoar, 2005). Two distinct research domains do emerge: HC's influence on fund performance and its influence on portfolio composition. Correspondingly, HC is usually restricted to i) their educational background, ii) their previous professional experiences, and iii) the experiences they attain within the focal IVC by making investments in specific industries, geographies, or stages of venture maturity (De Clercq & Dimov, 2012; D. P. Dimov & Shepherd, 2005). The vast majority of literature employs a unit-level analysis and focuses on the partnerships/investment committee.

P. Gompers et al. (2005) analyzes IVC investors and finds that past experience with deal flow improves IVC's capacity to seize favorable opportunities, ultimately improving financial performance. Sitkin and Pablo (1992) stipulates that high domain familiarity, accumulated through specific experience or education, reduces the perceived associated risk and improves the accuracy of the perceived depiction of future gains and losses. Similarly, Dutton and Jackson (1987) claims that the ability of an investor to effectively

navigate a funding landscape filled with threats and opportunities depends on the perception of control over and possession of relevant HC. Furthermore, as IVCs often deploy capital in novel and emerging industries and technologies, the perception of risk and opportunities also depend on one's ability to accumulate new knowledge quickly. This, in turn, relies on the existing reservoir of knowledge attained through experiences and education (Cohen & Levinthal, 1990).

The findings of D. P. Dimov and Shepherd (2005) on HC are particularly comprehensive. The authors find that IVCs with a higher percentage of top management team members possessing MBA degrees, law education, and consulting experience tend to have fewer bankruptcies in their portfolios. This aligns with Pennings et al. (1998), who states that industry-specific HC reduces the likelihood of portfolio venture insolvency. This also indicates a positive relationship between venture survival and specific HC (Gimeno et al., 1997). Furthermore, D. P. Dimov and Shepherd (2005) finds top management with experience in academic disciplines such as humanities or science had an inflated amount of successful outcomes in their respective portfolios. Scientific and humanities studies specify a specialization and thus improved opportunity recognition (Gimeno et al., 1997). These profiles also showed higher numbers of bankruptcies. P. Gompers et al. (2006) strengthens these claims, as they find a significant positive relationship between individual IVC specialization and portfolio performance.

Bottazzi et al. (2008) also investigates the link between HC and IVC performance but emphasizes investor activism. They find that entrepreneurial/founder experience positively impacts portfolio performance. They also suggest that IVCs show a higher degree of value-added investor activism compared to CVCs. Zarutskie (2010) provides a more extensive elaboration on this topic. The authors find managing partners' task-specific HC, as indicated by a more significant number of managers with prior experience as IVC capitalists and/or start-up leaders, produce more successful portfolio exits. Additionally, Zarutskie (2010) argues that industry-specific HC improves portfolio performance, whereas general HC (e.g. education) deteriorates performance.

In a subsequent study, D. Dimov et al. (2007) found that leaders with greater financial expertise possess an increased capacity for managing financial risks and complexity, particularly those associated with later-stage investments. Milosevic (2018) expands the experience perspective and finds that investment banking and R&D backgrounds are positively related to improved portfolio performance.

Milosevic (2018) emphasize the importance of task-specific HC (abilities associated with choosing, cultivating, and exiting ventures). They define task-specific HC as: *"[...] accumulated experience related to specific tasks of importance for VC performance."* (p.51). In other words, the investment experience gained by IVC partners in specific industries or distinct venture stages can crucially enhance their understanding of their firm's current investments (De Clercq & Dimov, 2012). Such knowledge allows the firm to better guide the development of its portfolio companies (Wright Robbie, 1998).

Industry-specific HC may enable the identification and interaction with essential industry stakeholders, such as customers, suppliers, or management recruitment firms. This, in turn, could yield considerable advantages for the portfolio companies (Gupta & Sapienza, 1992). Correspondingly, De Clercq et al. (2008) discover a positive correlation between the industry-specific HC of IVCs and the performance of the portfolio companies (Shane & Venkataraman, 2000). Additionally, IVC partners with specialized industry-specific HC may decrease the likelihood of bankruptcy (D. Dimov & De Clercq, 2006; Gupta & Sapienza, 1992).

Bygrave and Timmons (1992) stipulates that people tend to enter the IVC sector only after they have accumulated a substantial amount of experience from multiple industries and domains to accommodate the diverse nature of the job effectively. Furthermore, the previous experience of IVC investors influences the type of industry they tend to invest in (Spithoven et al., 2010). As such, these studies indicate how the HC impacts their investment behavior and portfolio strategies. Patzelt et al. (2009) shows that IVC leaders with management educations construct more diverse portfolios in terms of the industry, likely as they perceive diversification rather than specialization as the strategy to minimize risk. The authors also show that leaders with scientific or engineering education backgrounds are more inclined to deploy capital at earlier stages. Franke et al. (2006) extends this core notion by investigating IVC's similarity bias. The authors find that IVCs possessing expertise in engineering or management fields demonstrate a higher propensity to allocate investments to venture teams that show similar attributes.

Studies also outline how IVCs rely on their respective HC in both pre-and-post investment activities (De Clercq & Dimov, 2012). For example, Patzelt et al. (2009) finds that when IVCs possess more significant amounts of HC, their perceived ability to successfully execute investments increases, leading them to undertake riskier investment choices. Consequently, IVC partners exhibit a higher propensity to embrace risk when they perceive themselves as proficient and well-informed instead of experiencing a sense of inadequacy or lack of knowledge.

Conclusively, HC in IVC does appear to explain performance variance to some degree, as well as distinct portfolio compositions. Put differently, the heterogeneity between the capabilities and knowledge embedded in the IVC unit and the partner's own KSAOs is blurred and likely less significant (Ewens & Rhodes-Kropf, 2015)

2.8.2 Human Capital in Corporate Venture Capital

HC in the context of CVC is not very researched, and only a handful of studies attempt to address the actual micro-foundations of CVC. The gap in research can be attributed partly to the scarcity of data and partly to the emphasis on organizational-level dynamics commonly found in corporate environments (Drover et al., 2017).

(Dokko & Gaba, 2012) seeks to contribute to the scarce body of literature in this domain by primarily concentrating on the professional experiences of managers. In particular, Dokko and Gaba (2012) emphasizes the relevance of manager HC, as the authors show that the career backgrounds of the individual responsible for overseeing a given CVC unit has a significant impact on the venture strategies employed by the unit. Correspondingly, the individual characteristics and attributes of the manager influence organizational practices. Dokko and Gaba (2012) explicates that task-specific HC (IVC experience) increases the financial orientation of the CVC unit and gravitates towards investing in early-stage ventures across a broad range of industries.

Unsurprisingly, these attributes coincide with P. A. Gompers and Lerner (2004) description of the practices of IVC. Second, Dokko and Gaba (2012) focuses on the fit-specific experience. They find that CVC leaders with firm-specific experience and/or technical/engineering experience tend to shift orientation away from financial objectives to strategic objectives. This also prescribes a more focused and verticalized investment behavior in terms of investing in a more narrow set of industries. While Dokko and Gaba (2012) advances the research agenda concerning HC within CVC, the authors do not thoroughly underscore the comprehensive association between HC attributes and investment behavior, and capital deployment strategies.

More recently, Strebulaev and Wang (2021) collected detailed demographic data on top management teams in CVC. The authors survey 70 active CVC managers and compare that to IVC findings. The most notable differences are a generally shorter tenure of CVC managers, a high probability of previous CVC experience, and, typically, they have PE or IVC experience. Strebulaev and Wang (2021) also underlines that IVCs are much more likely to have experience from entrepreneurial ventures.

Chapter 3

Theoretical Foundation

This thesis adopts a pragmatic and open-ended theoretical approach, which is well-suited to complement the research methodology and novel nature of the study domain. This allows for various perspectives and interpretations. As a result, we do not formulate hypotheses but apply more unrestricted operationalized research questions to guide the thesis.

3.1 The Resource-Based View

The Resource-Based View (RBV) emerged as a complementary component to the industry-based view. Seminal works by Bain (1968), Demsetz (1973) and Stigler (1961) served as catalyzing forces behind its early adoption in the academic literature. During this period, the RBV played only a minor role in strategic management literature, as the emphasis was primarily on the external environment as the key determinant of firm performance. Contrarily, RBV explicitly stipulates that sources of superior firm performance and competitive advantages are derived from internal firm resources. This concept was initially developed by Penrose (1959), and later refined and popularized by Rumelt (1984), Dierickx and Cool (1989) and Barney (1991).

The core analogy of RBV is derived from Ricardo's economic principles, emphasizing the heterogeneity and immobility of resources that generate competitive capabilities and produce economic rent within markets (Barney, 1991). These markets exhibit reasonable predictability and tend to move towards equilibrium, while information regarding the future value of a resource is unevenly distributed (Kraaijenbrink et al., 2010). Correspondingly, if managers can accurately anticipate the future value of a resource, either through expertise or luck, and do so more effectively and consistently than their competitors, they can establish a competitive advantage. Alternatively, a competitive advantage can also be achieved by deterring competing firms from achieving the future value of resources. As such, according to the RBV, variance in firm performance can be attributed to variances in firm resources and competencies.

RBV is reductionistic as it perceives the firm as an uncomplicated distinct bundling of resources that can provide a competitive advantage when displaying specific characteristics referred to as VRIN.

These characteristics are: i) valuable (exploitative, explorative or threat-deterrent), ii) rare, iii) perfectly inimitable, and iv) not substitutable (Barney, 1991). Grant (2021) deconstructs the bundling of firm resources and proposes a broad-ranging categorization of three types: i) tangible (physical assets), ii) intangible (technology, IP, brand), and iii) human (skills, knowledge, experiences).

Correspondingly, several scholars have applied the RBV to investigate the relationship between the individual and aggregated HC and organizational outcomes, performance, and competitive advantages (Barney, 1986).

3.2 Human Capital as a Competitive Advantage

The RBV is a macro-level construct, and its subsequent application to HC theory encounters certain limitations, as HC is primarily focused on the individuals (Becker, 1960). Nevertheless, a substantial body of strategic literature has embraced the macro-level orientation, predominantly overlooking the distinct and individualized characteristics inherent to HC theory (Nyberg et al., 2018).

To this point, literature acknowledged the significance of HC as a firm-level resource and the management of said resource as an imperative strategy to attain superior organizational outcomes (Peteraf, 1993; Stiles & Kulvisaechana, 2003). Youndt et al. (1996) describes HC in the context of RBV, and as a source of competitive advantage, using the following description from Snell et al. (1996): *"If the types and levels of skills are not equally distributed, such that some firms can acquire the talent they need and others cannot, then (ceteris paribus) that form of human capital can be a source of sustained competitive advantage"* (p.65). Crook et al. (2008) and Crook et al. (2011) solidify HC's positive relationship to firm performance in their cumulative meta-analysis of over 200 empirical studies. In addition, many researchers propose that the knowledge embedded in HC, as part of the KSAO, inherently and universally fulfills the VRIN requirements (P. M. Wright & McMahan, 2011).

The fundamental concept posits that HC may serve as a source of competitive advantage for two core reasons: (i) a company's accumulation of HC can significantly impact the quality of outputs and/or operational efficiency, indicating that HC resources possess value (Boon et al., 2018), and (ii) HC is distributed unevenly across different organizations and deployed in a distinct way (P. M. Wright & McMahan, 2011).

As outlined in section 2.7.2, firm-specific HC has been traditionally regarded as the essential category of HC, possessing the capacity to generate a competitive advantage (Chadwick & Dabu, 2009). To this point, the RBV places significant importance on the economic utility of firm-specific HC, as well as its strategic purpose (Boon et al., 2018). Ultimately, the RBV offers a theoretical foundation for understanding when firm specific-HC can lead to lasting performance benefits and superior strategic outcomes (P. M. Wright & McMahan, 2011). Put differently, the perspective outlines a conceptual bridge between HC theory and

macro-level performance constructs.

3.3 Strategic Human Capital Theory

The literary stream of strategic human capital (SHC) is relatively new. Still, it has evolved rapidly during the past decade, emerging from the RBV that recognizes that HC possesses distinct characteristics compared to other resources, which makes it increasingly strategic (R. W. Coff, 1997).

Correspondingly, the evolution of the distinction between SHC and HC shows similarities to the development observed of RBV. At its inception, RBV stipulated that resources included: *"[...] all assets, capabilities, organizational processes, firm attributes, information, knowledge, etc., controlled by a firm [...]"* (Barney, 1991, p.101). Later, the specification of resource value was contextualized to its dynamic link to the market (Peteraf & Barney, 2003). Similarly, HC is, in broad terms, considered strategic if it uniquely generates firm value in a given context (P. M. Wright et al., 2014). Put differently, not all HC is valuable or relevant all the time, and thus not strategic.

Traditionally, many strategic management scholars have researched HC at the macro-level through the lens of RBV and by leveraging the assumptions proposed by Becker (1964). The traditional notions of HC theory have faced criticism, as literature has increasingly outlined a multitude of underlying complexities and interconnections associated with HC and its heterogeneous and dynamic impact on organizational outcomes (B. A. Campbell et al., 2012; R. W. Coff, 1997). Consequently, current academic discourse suggests that general and specific HC could potentially act as sources of competitive advantage (B. A. Campbell et al., 2012).

3.3.1 The Traditional Perspective: Limitations of Becker's (1964) Human Capital Theory

Firm-specific Human Capital

The traditional notion that only firm-specific HC can constitute a competitive advantage is deeply rooted in the original conceptualization of HC by Becker (1964). This theory has been further reinforced by subsequent efforts to integrate it with the RBV but entails some theoretical complications.

First, HC theory proposes that while the external labor market compensates employees for their general HC, it does not do so for firm-specific HC. This leads to the assumption that individuals with high firm-specific HC receive a discounted wage from companies, as their respective HC only holds value to the focal corporation (Becker, 1964). Thus, the focal firm may isolate its talent (reduce mobility) and capture

quasi-rents (e.g., a larger portion of the discrepancy between the employees' utility value within the focal firm and their most favorable external offer) (B. A. Campbell et al., 2012). The issue with this logic is that it creates *a holdup hazard*. Individuals are not incentivized to invest in accumulating firm-specific HC, which marginalizes the firm value. In fact, risk-averse employees exhibit a greater propensity to invest in general HC, as it presents a lower likelihood of diminishing or restricting the value of their HC investment (Wang & Barney, 2006). This exhibits a paradox as firms typically cannot acquire talent that already hold firm-specific HC. Consequently, HC factor markets exhibit several imperfections and hazards. B. A. Campbell et al. (2012) also challenges the value of firm-specific HC and its role as an isolating mechanism, primarily due to labor market imperfections and because the factor market is typically not as efficient as theorized. Morris et al. (2017) and Raffiee and Coff (2016) also find that firm-specific HC does not act as an isolating mechanism and thus does not reduce mobility or support a sustainable competitive advantage. Furthermore, Bidwell (2011) suggests that competing firms will attempt to acquire a focal firm's talent based on firm-specific HC, which in theory, should be non-transferable. Evidence suggests that firm-specific HC is, in fact, valuable to several firms regardless of inherent transferability obstacles, which should restrict any competitive advantages (Loewenstein & Spletzer, 1999). To this point, Nyberg et al. (2018) goes as far as to argue that dichotomous distinctions between general and firm-specific HC should cease entirely. This is mainly because the difference between general and firm-specific HC is increasingly blurred and contextual, meaning firm-specific HC alone does not guarantee competitive advantage (Lazear, 2009). Nonetheless, it is important to recognize the prevalent belief that organizations possess diverse capabilities, necessitating the implementation of specific KSAO (R. Coff & Rickley, 2021). Consequently, firm-specific HC may constitute a competitive advantage in certain settings, even if the traditional black-and-white-based HC theory is over-simplified.

General Human Capital

According to traditional HC theory, general HC cannot constitute firm value or a competitive advantage (Becker, 1964). Nevertheless, contemporary SHC theory contends this notion for three core reasons (R. Coff & Rickley, 2021).

First, Ployhart and Moliterno (2011) argues that the conventional interpretation of HC specificity is outdated (e.g. as delineated above). The authors suggest that general HC often empowers the development of firm-specific HC through emergence. Thus, two firms possessing equivalent levels of individual-level human HC may exhibit disparities in unit-level HC due to the emergence and manifestation of these resources. Second, numerous bundles of KSAO are scarce. For example, considering a top-tier university education, which may be considered general, its rarity lends it a unique distinction (Nyberg & Moliterno, 2019). Third, individuals are not endowed with varying levels of identical general HC. Instead, they possess distinct unique combinations of general HC (Lazear, 2009). Correspondingly, firms select idiosyncratic

combinations of general HC in accordance with their specific needs and preferences, which in turn may derive a competitive advantage (Molloy & Barney, 2015). Raffiee and Byun (2020) recently investigated this notion empirically, discovering that new employees containing general HC configurations absent in the focal firm exhibited improved integration and utilization of said resources compared to firm-specific HC. Finally, B. A. Campbell et al. (2012) argues that general HC can generate a competitive advantage if there are inefficient factor markets. They illustrate how demand-side inefficiencies due to inaccurate valuation of general HC may lead firms to depend on firm-specific HC signals presumably irrelevant to the focal firm. On the other side, supply-side inefficiencies stipulate switching costs connected to changing jobs (B. A. Campbell et al., 2012). Supply-side inefficiencies may also occur when employees are ignorant about their own firm-specific HC or the complex value of their respective general HC. These examples highlight the intricate process of matching general HC with organizational requirements (R. Coff & Rickley, 2021).

3.3.2 The Contemporary Perspective: Human Capital Resources

In response to these critiques, scholars have proposed alternative theoretical models. Notably, the HC resource model emerges (Ployhart et al., 2014).

Ployhart et al. (2014) explains how individual differences represent the diverse attributes and characteristics that vary among individuals and, in turn, constitute distinct bundles of KSAOs. However, KSAOs alone do not stipulate HC; they must be economically valuable to be considered HC. Individuals may possess numerous KSAO bundles, allowing them to perform various tasks (B. A. Campbell et al., 2012). When the configurations of individual KSAOs are economically valuable and accessible for unit-relevant purposes, they are referred to as HC resources. In the proposed framework, HC is considered resources only if they are accessible to the unit, and their relevance is determined by their impact on the performance construct (Ployhart et al., 2014). HC resources target the unit-level objective of achieving *performance parity*. When HC resources are accessible and relevant for a *competitive advantage*, they are characterized as strategic HC (SHC) resources. Accordingly, the KSAOs of leaders can be operationalized and directed toward either performance parity (classified as HC resources), competitive advantages (classified as SHC resources), or may remain unutilized (classified as HC, if deemed economically valuable) (Ployhart et al., 2014).

Evidently, Ployhart et al. (2014) contests the notion of differentiating between general and firm-specific HC. They replace it with context-generic HC, which is applicable to different tasks and firms, and context-specific HC, which is applicable only to particular tasks and firms. The authors stipulate that these definitions are more suitable for micro-level analysis. Nevertheless, the biggest difference is that context-specific HC stipulates a benefit for a specific task and firm, while firm-specific HC only generates benefits in the specific firm.

Performance parity and competitive advantages

While numerous types and combinations of HC may hold economic value, they only transform into a (strategic) resource when accessible and relevant to a designated unit's purpose. (e.g. to achieve performance parity or a competitive advantage). The difference between competitive parity and advantages is important to outline. A competitive advantage is defined as the ability of a unit "*[...] to create more economic value than the marginal (break-even) competitor in its product market.*" (Peteraf & Barney, 2003, p.314). Competitive advantage stemming from SHC resources occurs when this "greater economic value" is attributable to the firm members' collective or individual KSAOs (R. Coff & Kryscynski, 2011; Ployhart et al., 2014).

Competitive parity stipulates on-par performance with competitors, meaning the unit creates value no greater than the marginal (break-even) competitor (Ployhart et al., 2014). As such, the KSAO configuration that renders certain HC resources "non-strategic" stems from its lacking ability to deliver surplus value sustainably to the organization (P. M. Wright et al., 2014). R. Coff and Kryscynski (2011) suggests a similar definition and argues that competitive advantage arises when the net economic benefit generated exceeds those generated by a firm's competitors.

Importantly, this also specifies a significant departure from the RBV view as merely possessing VRIN-denoted human resources does not guarantee a competitive advantage (Barney, 2001). Furthermore, this underscores the significance and uniqueness of HC resources to the organization. Unlike other types of resources, HC cannot be owned, and thus it is a strategic objective for firms to attract, mobilize and retain valuable HC, as this creates surplus rents (R. W. Coff, 1997). SHC explicates the organizational ambition to generate and capture these rents (Nyberg & Moliterno, 2019; Peteraf, 1993).

Complementarity

Moreover, Ployhart et al. (2014) suggests that HC resources manifest in amalgamations, displaying complementary characteristics. As such, some HC resources may turn more economically valuable if complimentary e.g. if they are causally related (Jensen, 1998), or if they stipulate underlying interactions (Witt et al., 2002). Put differently, HC resources are complementary if their respective configuration generates an improved outcome than they would independently (Ployhart et al., 2014). B. A. Campbell et al. (2012) outlines a similar dynamic and suggests that heterogeneous employee productivity across various organizations is propelled by complementary assets, which enables organizations to generate and capture HC rents (Chadwick, 2017). Correspondingly, SHC suggests that configurations of superior complementarity may generate a competitive advantage (Ployhart & Moliterno, 2011).

Isolating Mechanisms

Finally, Ployhart et al. (2014) suggests that the intrinsic complexity of HC resources, stemming from numerous potential complementarities and combinations, inherently constrains the efficiency of factor markets. This is mainly due to i) social complexity pertaining to intricately connected individuals (Barney, 1991; Boon et al., 2018), ii) complementarity increases complexity, making it more difficult for competitors to replicate (R. Coff & Kryscynski, 2011), iii) casual ambiguity making it challenging to establish causal relationships between specific resources and organizational performance (B. A. Campbell et al., 2012). To this point, SHC stipulates synergies between an individual employee's HC and the other human or non-human resources managed by the organization (Nyberg & Moliterno, 2019).

Proximity to performance behavior and outcomes

Ployhart (2021) later broadens the scope of HC resource theory by introducing an alternative methodology for comprehending the specificity of HC. The author stipulates that the RBV perspective insufficiently addresses the conditions under which different HC resources relate to diverse performance behaviors and organizational outcomes (Ployhart, 2021). Performance behavior pertains to the individual's actions and decisions that contribute to achieving the organization's goals (J. P. Campbell & Wiernik, 2015; Ployhart, 2021).

This notion acknowledges that the relationships between individual KSAOs and the performance constructs are dynamic. So, if the performance construct alters, the HC resources associated with that performance must change as well (or, similarly, the relative weights between KSAOs and performance change) (Ployhart, 2021). Consequently, HC resources do not inherently hold value, but their value is connected to the extent they relate to individual performance behavior and firm outcomes. Should the nature of job performance shift due to time or contextual factors, the relationship between resources and performance behavior may also change. For example, the KSAOs required for efficient performance behavior as the leader of a pharmacy unit will be different from the KSAOs required as the leader of an automotive unit (Ployhart, 2021). As there are various types of HC, the performance behavior and organizational outcomes must be impacted heterogeneously (R. W. Coff, 1999; Ployhart et al., 2014). This notion stipulates a functionalist rather than a reductionist view embedded in RBV. Thus, the applicability and significance of HC resources are gauged by the strength of their connections to performance behavior and organizational outcomes.

As such, Ployhart (2021) argues that HC resources attain specificity the closer it is to performance behavior, which drives firm outcomes. Evidently, the specificity of HC resources derives from its distance to organizational outcomes and performance behavior rather than its inherent characteristics (as stipulated in the RBV and traditional HC theory logic) (Ployhart, 2021).

A multitude of different types of HC occupies a continuum from distal to proximity to performance behavior and organizational outcomes.

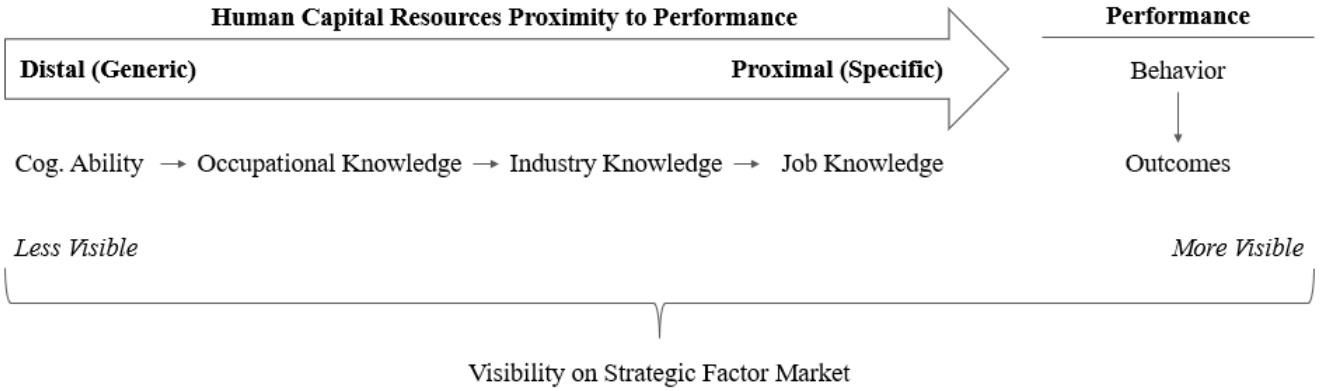

Figure 3.1: Illustration of Ployhart Arrow, adapted from Ployhart (2021)

Cognitive abilities are the most general/context-generic type of HC resource due to its diverse organizational applicability (e.g. matching high intelligence with many firms in many contexts is easy). Other KSAOs, such as knowledge and skills, are more closely associated with a particular context (such as an occupation or industry) but remain adaptable. These KSAOs can be identified as increasingly firm-specific (context-specific) resources (Ployhart, 2021). Furthermore, Ployhart (2021) describes job knowledge as the most significant predictor of organizational outcomes. This type of HC is more contextualized to the firm-specific dynamics. These characterizations of HC can be transferred to varying degrees based on their proximity to performance behavior and organizational outcomes. These arguments align with R. W. Coff (1997) and Lepak and Snell (1999).

3.4 The Microfoundational Perspective

In strategic management, much of the literature concentrates on the macro level that attempts to explain firm performance heterogeneity from the organizational perspective, such as firm processes and routines (Nelson & Winter, 1982), organizational capabilities (Teece et al., 1997), or firm resources (RBV) (Barney, 1991). Moreover, many studies of HC remain at the firm level, identifying the firm's collective bundles of HC resources without tracing the individual resource antecedents (Barney & Felin, 2013; Hitt et al., 2001; Mollick, 2012). As such, most dependent and independent variables in strategic management remain macro-constructs.

These examples underline what ultimately led to the call for microfoundations in strategy. Felin and Foss (2005) primarily critiqued the perceived over-application of macro-constructs lacking clear microfoundations such as individual capabilities, knowledge, skills, and behavior as "*Organizations are made up of*

individuals, and there is no organization without individuals."(Felin & Foss, 2005, p.441).

For example, consider competitive strategy. Examining the competitive interplay between companies, one can observe it from a macro perspective as a composition of offensive and defensive actions taken by firms. Nonetheless, these actions should be understood through the decisions made by individuals within those companies. The decision-making process is influenced by various individual attributes, such as perceptions, cognitive capacity, and skills, which contribute to the overall competitive interaction between firms (Foss et al., 2010).

The authors maintain that the connection between constructs such as (firm-level) "capability" and the abilities, expertise, actions, and interactions of organizational members remained fundamentally ambiguous (Foss et al., 2010). While many definitions have been offered, Foss (2021) provides an intuitive definition: *"[...] microfoundations are fundamentally about understanding aggregate—which in strategy typically means firm- or industry-level—phenomena in terms of the actions and interactions of individuals, notably organizational members."* (p.560).

Correspondingly, a firm possessing specific capabilities essentially represents a complex combination of underlying individual actions and behaviors related to attributes, competencies, and knowledge of those individuals (Foss, 2011). As a result, the aggregate behavior of a system (e.g. a firm) arises from the actions and interactions of its constituent elements.

Microfoundations is a logical progression to expand the applicability of RBV (Ployhart, 2021). The focus of the RBV is on a company's tangible, intangible, and human resources. These HC resources are grounded in individual psychological and demographical attributes and traits (e.g. KSAO). When combined, these approaches present a highly complementary framework to address questions regarding the emergence of HC resources and their potential contributions to explain variances in operational and strategic performance (P. M. Wright et al., 2014).

Microfoundations underscore a central tenet of strategic management: empowering managers to attain a competitive advantage rooted in individual decision-making and strategic actions (Molina-Azorín, 2014). For example, Felin and Hesterly (2007) explores individual-level heterogeneity and its impact on firm value creation and suggests that a collectivist perspective insufficiently explains new value and knowledge creation. Bridoux et al. (2017) specifies how variance in individual-level social motives and interactions impact firm performance. Aggarwal et al. (2017) applies a similar approach to investigate individual heterogeneity in adaptive capacity. Subsequently, in specific organizational contexts, it may be plausible that an organization's performance can be relatively directly ascribed to the aptitudes of particular individuals within the organization (Foss & Linder, 2019). Situations with minimal interdependence among individuals serve as prime examples (Barney & Felin, 2013).

Teece (2007) shows how firm dynamic capabilities (opportunity discovery and creation) can derive

from microfoundations and, specifically, the cognitive and creative abilities of individuals. The authors argue that these individual capabilities ultimately stipulate firm-level sensing, seizing, and reconfiguring capacities. Helfat and Peteraf (2015) delve deeper into Teece (2007)s concepts of "sensing," "seizing," and "reconfiguring" which are themselves microfoundations of dynamic capabilities based on routines. The authors identify heterogeneous types of cognitive capabilities at the individual level, particularly within top management, which influence strategic alteration in the firm. Specifically, they explain how variance in cognitive capacity influences managers' ability to sense, seize, and reconfigure opportunities and install strategy changes in firms.

Evidently, the microfoundational perspective may manifest itself in different ways. The most straightforward way is to analyze how specific individual actions and decisions lead to specific outcomes (Barney & Felin, 2013). However, the actual translation from micro to macro is highly complex (e.g. due to the time dimension and underlying interactive mechanisms) (Foss & Linder, 2019). To maintain simplicity, the *Coleman Bathtub model* illustrates the fundamental idea of micro-foundations (Coleman, 1990).

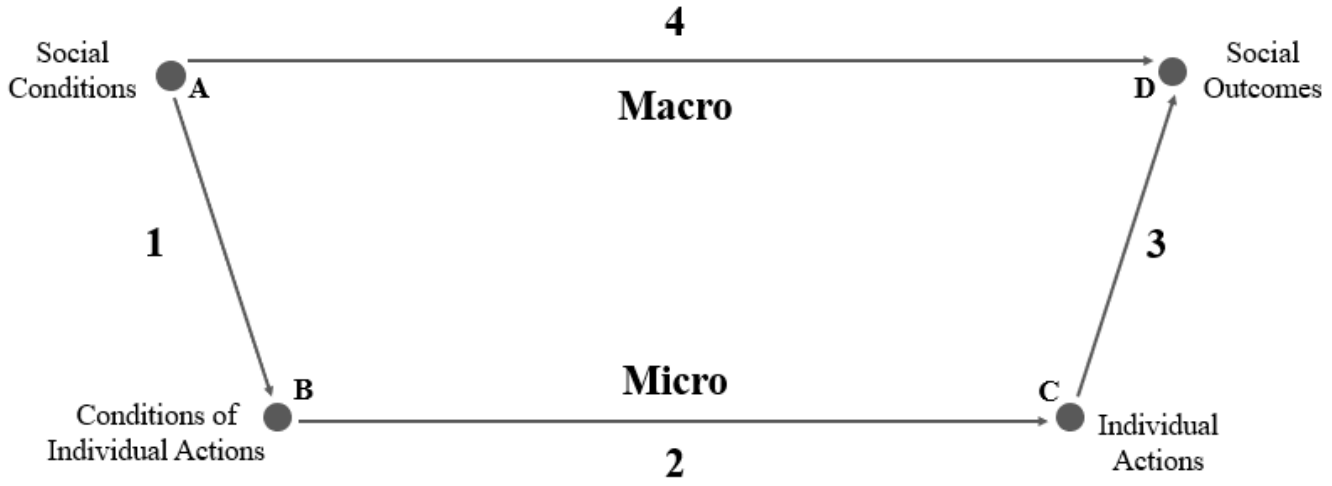

Figure 3.2: Illustration of Colemans Bathtub, adopted from Coleman (1990)

In the model, macro-level variables refer to actions or outcomes at the society, firm, department, unit, or industry level (e.g. higher-level outcomes). Subsequently, the figure explicates why and how specific macro-events may occur.

Node A posits how formal and informal institutions (e.g. education or organizations) impose downward casual causation on the behavior, preferences, and predisposition of individuals (Foss & Linder, 2019). This means that heterogeneous institutional configurations, organizational antecedents, and other macro-level factors have a varying influence on the individual conditions (Kozlowski & Klein, 2000). The contextualized individual conditions (Node B) regulate cognition and motivation while also translating the opportunities that the individual confronts, which impacts actions and decisions illustrated by Node C. Conclusively,

these individual actions and decisions eventually shape macro-level/social outcomes, as illustrated by Node D.

Foss and Linder, 2019 elaborates on the arrows:

1. *macro-micro relation (arrow 1)*: How firm or societal actions and antecedents influence individual conditions for decision-making. (e.g how the firm strategy influences the individual employee's context for making decisions and taking action)
2. *micro-micro relation (arrow 2)*: How the individual context and conditions subsequently impact the behavior and interactions of the individual
3. *micro-macro relation (arrow 3)*: How the individual behavior and interactions constitute firm performance and organizational outcomes.

Arrow-4 lays down the macro-macro explanations (Foss & Linder, 2019). This outlines how macro-conditions (e.g., in a firm, these may be HR systems, policies, and governance structures) impact its performance (macro-outcome). While social ontology stipulates that all macro-macro relationships are inherently mediated by micro-level factors, this does not mean all explanations must follow a macro-micro-macro structure.

Coleman's bathtub shows how microfoundational explanations suggest intra- and inter-level causation (Foss & Linder, 2019). The arrows point toward nodes that specify a casual relationship with downward and upwards causality. Furthermore, there is an inherent sequentially to the events, and this sequentially must always trace back to micro-level components.

The previously stated concept of the HC theory may be considered microfoundational as it sequentially outlines how individual KSAOs transform into (S)HR resources that influence performance behavior and firm outcomes. The theory emphasizes the important distinction between performance behavior and HC resources. Within the RBV context, HC studies frequently blur the lines between individual heterogeneity and the corresponding actions and behaviors. However, failing to distinguish between resources and behavior is akin to not differentiating between cause and effect (Ployhart, 2021). HC resources are not behavior, just as conditions for individual activities are not individual actions. Instead, HC resources represent the capacity for different types of behaviors (Ployhart, 2021). Put differently, HC resources do not directly generate value; rather, they indirectly create value to the extent that they contribute to performance behaviors that drive favorable organizational outcomes (Ployhart, 2021). Therefore, in the setting of CVC, it's imperative to understand the intricate relationship between individual HC resources and investment behavior to infer its potential impact on individual outcomes as well as the impact on the focal corporation.

3.5 Conceptual Development

Drawing from the theoretical discourse on RBV, HC theory, microfoundations, and its associated concepts, it is apparent that a firm's HC resources are linked to outcomes like performance parity and competitive advantage through performance behavior (e.g. the actions and decisions of individuals) (Barney, 1991; Ployhart, 2021). This is especially pertinent for organizations that are people and knowledge-intensive, such as CVC units. In recent decades, the literature on HC theory has undergone significant development, leading to a reevaluation of academic interpretations. This evolution has progressed from the initial distinction between general and firm-specific HC, to a more comprehensive appreciation for dynamic and changing contexts, the mediating role of performance behavior, and the importance of tracing the microfoundations of individual firm members HC (KSAO's) (Ployhart, 2021; Ployhart et al., 2014).

Specifically, the individual KSAOs have garnered greater attention as the critical antecedents of firm performance and outcomes (Ployhart et al., 2014). In particular, how individual heterogeneous knowledge and attributes manifest and emerge as different types of HC resources. Despite the importance of the subject, there has been minimal research focusing on HC within the context of CVC. Only a limited number of empirical research help enhance our peripheral understanding of individual heterogeneity in terms of professional and educational backgrounds (Dokko & Gaba, 2012).

The context of CVC is ideal for the application of microfoundation and SHC theory. CVC extends firm/macro-level strategies beyond organizational boundaries for strategic objectives. Drover et al. (2017) elaborates and describes the need for CVC research in the microfoundation arena:

> *"[...] CVC practices expand the scope of the firm to engage in knowledge-sourcing strategies that expand the firm beyond its traditional boundaries, and individual-level variables likely play a significant role in these decisions. More research is needed to explore how these firm boundaries decisions are enacted, and individual-level variables will clearly be important to these studies."* (p.1841).

Correspondingly, mapping the KSAOs of CVC leaders is an important preliminary step toward a more comprehensive understanding of the role of HC in CVC. Consequently, our first research question arises:

Research Question 1: What are the key individual characteristics and qualifications of Corporate Venture Capitalists leaders?

As highlighted in the literature review and theoretical foundation, there is a significant academic agreement on the critical role of HC as a central firm resource and as a crucial component in shaping financial and strategic outcomes for organizations. In the strategic management literature, numerous

scholars have explored and asserted this connection through macro-level analysis by aggregating individual HC and examining it as a collective firm resource grounded in the RBV. An issue associated with macro-level interpretation is missing probable micro-level variances that, to some degree, are explanatory to most macro-level observations (Foss & Hallberg, 2014). The extensive reliance on macro-level constructs is also evident in the context of CVC, as scholars emphasize a variety of strategic and financial objectives and implications of the corporate parent and entrepreneurial venture.

Similarly, numerous studies have emphasized that not every type of HC is inherently relevant or valuable. Instead, its significance arises from the extent to which it is associated with performance behavior and the outcomes that enable performance parity or a competitive advantage (Ployhart, 2021). In other words, the sequence in which societal institutions (e.g., education and professional experiences) influence individual cognition for decision-making and subsequently shape the individual's context and conditions for behavior and actions has been largely overlooked. This argumentation fosters a more dynamic comprehension of the role of (S)HC resources. Evidently, performance behavior and individual outcomes play a crucial role in fulfilling operational and strategic objectives but have received relatively scarce attention in the HC and RBV literature (Felin et al., 2015; Ployhart & Moliterno, 2011). Consequently, our understanding remains somewhat limited about why and how different types of HC resources relate to heterogeneous performance behaviors and firm outcomes.

Within the context of CVC, these theories can be suitably adapted to provide a systematic approach to test our second research question:

Research Question 2: What is the relationship between the human capital of Corporate Venture Capital leaders and their investment behavior?

Research concerning the investment actions and strategies (e.g, investment behavior) of CVCs has primarily concentrated on macro-level analysis, pertaining to the manner in which the units collectively allocate and deploy capital influenced by macro-dynamics like legal environments, corporate objectives, industry relatedness, and more (Röhm, 2018). We derive motivation and inspiration from these studies due to a lack of micro-studies in CVC. However, we adopt and modify macro-level constructs to enable the pursuit of microfoundations. As such, we assume that variance in strategic and financial objectives and implications in CVC are, to some degree, founded in individual actions and decisions.

Accordingly, to effectively establish a micro-level analysis, we operationalize our second research question regarding investment behavior by breaking it down into three sub-questions, designed to capture the presumed micro-micro-association between individual leaders KSAO and their investment behavior (Barney & Felin, 2013). For our study, we adopt the deconstructions of investment behavior from P. A. Gompers et al. (2020) and Dushnitsky and Shapira (2010). We adhere to the authors' proposed core tenets concerning the deal-related decisions investors encounter. This includes the investment stage, investment

role, geographical and/or industry specialization, and individual exits.

Research Question 2.1: How do CVC leaders invest?

Leaders may decide to emphasize investments in early or late-stage ventures, indicating different levels of venture development and maturity. Correspondingly, investing in different stages of venture development stipulates different challenges, opportunities, and risks (Sapienza, 1992; Wright Robbie, 1998). Early-stage investments include substantially higher agency costs, (Sapienza & Gupta, 1994), increased technology and product risks (Patzelt et al., 2009) and a high liability of newness (Stinchcombe, 1965). Ultimately, the risk-reward dynamic is more extreme early stage as an investor can expect lower entry valuations but also a higher likelihood of failure (Gupta & Sapienza, 1992; Wright Robbie, 1998). Technological and product risks are lower at a later stage as business model maturity suggests a solid product-market fit and a solidified stakeholder ecosystem (D. Dimov et al., 2007). As such, the development stage of the venture may influence the degree of technological fit (e.g. operational link) between the ventures and corporate parent (H. W. Chesbrough et al., 2002).

Leaders may also decide to lead investment rounds or follow another financial intermediary (e.g. IVC). As a lead investor, you may receive a board seat, which in turn improves monitoring and control rights (P. Gompers & Lerner, 2000; Yang, 2012). Furthermore, it may also stimulate knowledge acquisition through the assimilation of information related to industry tendencies and technological advancements (Röhm, 2018). Leading investments usually requires investing over 50% of the total (Hopp & Lukas, 2014). A higher level of investment in an entrepreneurial venture may lead to an increase in the focal corporation's rate of innovation (Dushnitsky & Lenox, 2005b). Ultimately, control, insights, and absorption may increase with a leading role. However, leading investments often include spearheading negations, due diligence, and closing processes (e.g. more invested HC and financial capital). Leaders can instead decide to follow, which is more common (Manigart et al., 2002). This, in turn, reduces risk exposure and workload. For example, De Haan (1999), Sapienza (1992) and Sorenson and Stuart (2001) find that advantages to syndication are risk-sharing, synergies, and increased resource availability for the venture. There may also be an embedded referral rationale when syndicating, meaning an expected increase in quality deal-flow catalyzed collaboration across the ecosystem (Sorenson & Stuart, 2001). Alternative motivations for syndication might include reducing the chances of executing a sub-optimal investment (Dushnitsky & Shapira, 2010), as syndication partners provide a sanity-check/second opinion (Bygrave, 1987).

Research Question 2.2: Where do CVC leaders invest?

Leaders may invest in geographically proximate ventures or explore more distant opportunities (Fritsch & Schilder, 2008; Gupta & Sapienza, 1992). Numerous studies have examined the intrinsic trade-off between developing a geographically diversified or concentrated portfolio. Ultimately, investing internationally may be more costly due to increased agency costs (Belderbos et al., 2018) and liability of foreignness

(Ghemawat, 2001). The distance may also challenge the effective appropriation of knowledge (Belderbos et al., 2018). Advocates for a broad portfolio, however, argue that it enables improved opportunity discovery and better deal flow (Hall & Tu, 2003; Patzelt et al., 2009).

Leaders may decide to allocate investments to particular industries strategically, for instance, by diversifying their individual portfolio or maintaining a concentrated focus within a select few industries (Gupta & Sapienza, 1992; Patzelt et al., 2009). More specifically, leaders may pursue industry overlap with the parent corporation or not (Dushnitsky & Shaver, 2009). The degree of industry overlap or relatedness can influence the market fit between ventures and the corporate parent (H. W. Chesbrough et al., 2002). Moreover, the degree of diversification can impact portfolio risk, strategic synergies, resource accessibility, knowledge absorption, and opportunity discovery (Lin & Lee, 2011; Narayanan et al., 2009; Wadhwa et al., 2016; Yang et al., 2014).

Research Question 2.3: What is the outcome of individual CVC leaders' investments?

The investment behavior of leaders will inevitably lead to an organizational outcome, which in turn stipulates financial and strategic implications for the involved stakeholders. In terms of financial outcomes, IVC literature has emphasized the relationship between HC and fund performance (D. P. Dimov & Shepherd, 2005; Zarutskie, 2010); however, it remains mostly unaddressed in CVC literature.

Chapter 4

Methodology

In the following section, the research design and methodology applied to address the research questions is described. Firstly, the research design is described. Secondly, the methods for collecting, constructing, and consolidating all data sets are outlined. Lastly, the relevant variables are described and operationalized for the purpose of analysis.

4.1 Research Design

This section will outline the scientific approach and methodology selected to address the research questions. The research philosophy applied throughout the thesis is explained. The research approach adopted in this study is thoroughly explained, and its justification is provided. Furthermore, the methodology selected and the strategy employed for conducting this study are also elucidated.

4.1.1 Research Philosophy

When conducting any type of research or scientific study, a guiding framework that defines the scope of the overarching procedures, principles, and assumptions is necessary to answer the defined research question(s). To establish strong principles for the entire research process, this paper adheres to the framework proposed by Saunders et al. (2016).

Establishing and communicating the best research philosophy, approach, and strategy ensures the study aligns with the researcher's philosophical assumptions, which increases the thesis's validity and reliability (Creswell & Creswell, 2017). The "Saunders onion," a six-layer research philosophy framework, provides a comprehensive and guiding structure for the thesis. Research philosophy, the onion's outermost layer, is ontological and epistemological. The researchers' assumptions about reality can be grouped into four main philosophies: positivism, realism, interpretivism, and pragmatism (Saunders et al., 2016). Positivism, which holds that reality is independent of human perceptions, is used in this thesis. Positivism helps researchers see the world objectively (Bhaskar, 2013). The positivist research philosophy allows this

thesis to focus on the phenomenon's underlying patterns and mechanisms (Pawson & Tilley, 1997).

4.1.2 Research Approach

The research approach may adopt either inductive or deductive methods, both of which serve as means for formulating theories and testing hypotheses. This thesis employs the inductive approach. Although identifying a research gap is based on established theory, the initial step in the inductive approach involves data collection and analysis. Subsequently, the gathered empirical data is utilized to derive insights about a specified phenomenon (Lodico et al., 2010). By employing this approach, insights into the subject matter are generated through the interpretation of empirical data, which can then be utilized to formulate theories, hypotheses, or research questions (Woo et al., 2017). This approach is frequently employed in fields of study that have not been extensively explored, as it enables the development of new theoretical insights based on data.

Furthermore, the inductive methodology may adopt either a descriptive or explanatory format in the context of academic inquiry (Saunders et al., 2016). Descriptive research addresses the question of *what*, identifying a potential phenomenon and its characteristics and connected variables. Explanatory research addresses the question of *why*, identifying correlations and establishing causal explanations for how specific variables affect each other and the phenomenon in question (De Vaus, 2001). Given the scarcity of previous research and literature surrounding the research questions, this thesis aims to establish a baseline on CVC leadership and their individual investment behavior in their associated CVC units. The primary purpose of the thesis is thus to explore theoretical concepts and test if they are significantly associated with the investment behavior of CVC leaders while acknowledging that the included variables do not exclusively explain relationships or variance. Consequently, this thesis adopts a descriptive research approach. The value of conducting descriptive research is contextualizing the phenomenon in question and analyzing the landscape in which it exists, thereby identifying new avenues for further research.

In chapter 5, descriptive statistics and regressions provide insight into what the data tell us. The statistical analysis, paired with the theoretical foundation, paves the way for a theoretical discussion on how the HC of leaders shapes their individual investment behavior. However, the thesis makes no claims of causal inferences, nor does the thesis develop specific hypotheses that are confirmed or rejected. Instead, it utilizes the results of the analysis to explore associations between the variables.

Research Strategy, Methodological Choice and Time Horizon

According to De Vaus (2001), the applied method of either quantitative-, qualitative- or mixed-research method should be determined without the influence of the research design. However, confident choices

of research methods often complement and can enhance specific research designs (Matthews & Ross, 2010). The research method for this thesis was determined to be quantitative, with data gathered through structured observations from multiple databases. To ensure the validity, reliability, and trustworthiness of the secondary data, the analysis restricts the included data to be from recognized and credible sources (Veal & Darcy, 2014).

The statistical analysis in analysis II is based on a cross-sectional research method, which treats the variables in the regression as time indifferent. An important aspect to emphasize when utilizing cross-sectional data is the interpretation of relationships between variables. As the temporal aspect is eliminated, the direction of relationships can be challenging to identify (D. T. Campbell & Cook, 1979). However, as this thesis simply aims to identify relationships, not state direction or causality[1], this is not an issue. A compelling argument for the appropriateness of utilizing a cross-sectional analysis can be attributed to the diverse nature of the experiences of CVC leaders. The professional and educational experiences that characterize leaders are inherently fixed from when the leader is granted their leadership position to their last investment. These experiences encompass a long time horizon, which is represented in the cross-section data. This is due to a sufficient time period being necessary for the relationships to be observed (Rouse & Daellenbach, 1999).

4.2 Data Collection

In order to address the research questions, data pertaining to CVC units, their investments, leaders, and parent companies were collected. Further, the geographic and industrial scoping of data collection is outlined below. Three unique data sets were assembled; A data set on all investments made by relevant CVC units (section 4.2.3), a data set with parent company information of the CVC units (section 4.2.4), and a comprehensive data set with detailed information on current and former leaders (section 4.2.5). Subsequently, these individual data sets were merged to conduct the analysis.

4.2.1 Geographic and Industrial Scope

Previous literature on CVC and IVC has often scoped their research to specific geographic locations and/or industries. The following section describes the scope of this thesis in terms of geography and industry, as well as outlines previous literature on the subject while providing arguments for our deviation from scoping our sample based on these two metrics.

While cross-regional investment studies exist, most empirical studies on investment focus on a specific

[1]This thesis does not fulfill the requirements for causality presented by D. T. Campbell and Cook (1979).

geographic scope due to regional differences in market size, growth rates, labor market characteristics, institutions, fiscal policies, and culture (Audretsch et al., 2014). Due to the exploratory nature of the research questions, global observations are optimal to capture a larger sample, and are therefore included. By not limiting the data sample to a specific geography, more investment and leader characteristics are included in the analysis, providing a complete picture of CVC leaders and their investment behavior. Specific industry characteristics have been confirmed to influence the performance of CVC units by authors such as Bertoni et al. (2019) and MacMillan et al. (2008). Certain other empirical studies have therefore chosen to isolate their studies to a unique industry to limit the variation and effect of these unique contexts (Alvarez-Garrido & Dushnitsky, 2016; Dushnitsky & Lavie, 2010; Wadhwa et al., 2016). Nonetheless, the aforementioned rationale remains applicable in the industrial context as well (Yang et al., 2014).

4.2.2 Data Sources and Search Methods

Throughout the thesis and methodology, information from various sources has been synthesized to establish a comprehensive and novel set of data. This thesis leverages EIKON and LinkedIn as its core data sources, but it is complemented with the additional databases Crunchbase, Factiva, PitchBook and Bloomberg. Table 4.1 shows a concise overview of databases, their purpose, and their main contribution to the paper.

EIKON

EIKON-datastream (henceforth referred to as EIKON) is a database product from REFINITIV (formerly Thomson Reuters) that collects data on venture capital deals by utilizing VentureXpert. In previous literature surrounding venture capital and CVC, VentureXpert is one of the most frequently used databases across cited authors (Basu et al., 2011; Chemmanur et al., 2014; Dushnitsky & Lenox, 2005a; Hill et al., 2009; M. Maula et al., 2003; Wadhwa & Kotha, 2006). EIKON was utilized to gather data on CVC investments between 1990 - 2022.

LinkedIn

A multitude of previous litterateur has utilized LinkedIn as a source of information on individual professional data. Utilizing LinkedIn with complementary databases provides insights into individuals' professional and educational experience across industries (Davis et al., 2020; Dokko & Gaba, 2012). This thesis extrapolated data from LinkedIn to build the data set described in section 4.2.5, where specific leaders of each CVC unit were identified and their individual characteristics recorded. The table below gives an overview of the utilized data sources, and for a more detailed explanation of the search strategies employed, please see Appendix 11.

Table 4.1: Data sources

Source	Type	Purpose	Contribution
EIKON	Financial and investment database	Provides financial data, analytics, and news	Provided investment data and information on CVCs and ventures
CompuStat Global	Financial database	Offers global financial data for public companies	Provided financial data on parent companies located outside the US
CompuStat North America	Financial database	Provides financial data for North American companies	Provided financial data on parent companies located in the US
Bloomberg	Financial database and news source	Offers financial data, analytics, news, and research	Provided insights into CVC unit and parent company match, and CVC leader identification
Factiva	Financial News source	Aggregates news and data from global media sources	Provided insights into CVC unit and parent company match, and CVC leader identification
LinkedIn	Professional Social Media	Connects professionals and offers company information	Provided data on human capital characteristics for CVC leaders
CrunchBase	Venture Capital and investment Database	Provides data on startup companies and investors	Provided insights into CVC unit and parent company match, and CVC leader identification
Pitchbook	Venture Capital and investment Database	Offers data on private equity, venture capital, and M&A activity	Provided insights into CVC unit and parent company match, and CVC leader identification
Preqin	Investment database	Supplies data on alternative assets and investments	Provided data on alternative assets and investments

4.2.3 Data Set 1: CVC Investment Data

The first data set consists of venture information, investment details, and basic information on the corporate unit associated with each investment. This first data set serves as the basis for assembling the subsequent two data sets.

The first iteration of investment data was extracted from EIKON, scoping the universe "*Private Equity/VC*" which includes all investments classified as Private Equity or Venture Capital (including CVC). Next, "*Investments*" serve as the relevant filter to identify investment-specific data, generating observations for the individual investment that matches the information on the investor and the investee. Next, by applying the filter "*Corporate PE/Venture*" we exclude non-corporate investors from the data extraction process. This results in a data set encompassing all private equity and venture capital investments from corporate investors from 1990 to 2022. The long timeline allows us to capture the events described in section 2.2, specifically the most recent waves of CVC activity. In particular, the fourth wave represents a sharp increase in the internationalization of CVC units (Dushnitsky, 2012). This reasoning is consistent with D. P. Dimov and Shepherd (2005), who apply a similar time horizon, to ensure the inclusion of time-sensitive observations.

Lastly, due to incomplete data or restrictions on data collection in the EIKON database, certain firm-level descriptive information was unavailable. These instances were recorded as an "Undisclosed Firm" These firms were excluded from the data set as identification of CVC leadership was infeasible. The extracted list comprised 601 discrete CVC units.

Importantly, we include follow-on investments in the data sample. This diverges from some previous IVC studies, such as Milosevic (2018) and Bottazzi et al. (2008). Nevertheless, we assume that leaders of CVC units act as rational financial agents which would disregard biases in terms of making an initial versus follow-on investment. The rational financial agent's assumption refers to the notion that individuals participating in financial markets behave rationally when making investment decisions (Muth, 1961; Simon, 1955). As such, every investment decision (initial and/or follow-on) should imply the same mental and cognitive models. With that said, we acknowledge that this is rarely the case in practice, as investors are biased and bound rationally.

To verify that all corporate investors were indeed CVCs and compliant with the definition described in section 2.1.1, each corporate investor was manually screened and validated using the mix of databases described in table 4.1. The observations within the data set that did not fulfill the stipulated CVC definition were subsequently excluded.

Ultimately, the first data set of CVCs and its investments included 511 unique CVCs that executed 23,997 investments in the specified time horizon.

4.2.4 Data set 2: Corporate Parent Financial Data

Analyzing the contextual landscape surrounding CVC units requires accurately matching each CVC unit with its respective parent corporation. The link between the CVC unit and the parent company permits this thesis to map and link three central stakeholders, namely the individual leaders, the CVC unit, and the parent corporation (Keil, Maula, et al., 2008). Furthermore, it enables access to the financial information of the parent company, which constitutes crucial control variables for the empirical analysis. Consequently, the second dataset incorporated the pairing of the CVC unit and parent corporation, along with the integration of financial information of the parent firm.

By using the validated CVC units found in data set 1 as a starting point, each parent company was identified. A methodology similar to the one described in section 4.2.3 is employed for this purpose.

To incorporate financial data from the parent company, Compustat Global and Compustat North America databases were utilized. This database provides extensive financial data on publicly traded companies. It has established itself as a reliable and robust source of data for academic research across a wide range of disciplines (Almeida et al., 2004; Fama & French, 1992; La Porta et al., 2000). Correspondingly, GVKEYs for all parent companies were required to be identified. GVKEYs are an 8-digit identification code defined by CompuStat to help identify, analyze and extract specific financial data from the associated corporations. A list of GVKEYs for all public companies included in the CompuStat database, along with their respective corporation names, was extracted.

Due to subtle differences in naming conventions between the corporation names in data set 2 and the downloaded list from CompuStat, the GVKEYs were manually paired with the correct parent company in data set 2 to ensure validity and reliability. As GVKEYs are only available for public firms, the number of CVCs with parent companies that received a GVKEY amounted to 321. In contrast, 190 CVC units with parent companies lacking GVKeys were excluded from this data. Excluding non-public corporations from receiving available and reliable data is aligned with previous research (Wadhwa & Kotha, 2006). Financial information for each year the parent company had an active CVC unit was extracted. All financial information extracted from CompuStat North America is represented in US Dollars, while CompuStat Global represents the financial data in the relevant local currency of each parent company. To make comparisons, the exchange rates for each currency for each relevant year were used to convert all currencies in the dataset to US Dollars.

Ultimately, data set 2 consists of all CVC units that have an identified parent company, where the parent company is also a public corporation with an available GVKEY. From an initial 511 unique CVCs, 321 unique CVCs had a verifiable match with their parent company, where the parent company's financial information was available through Compustat.

4.2.5 Data set 3: CVC Leader Demographic Data

The third data set encompasses the comprehensive HC details on the leaders. The purpose of this data set is to include individual characteristics of leaders, such as educational and professional backgrounds. Moreover, by documenting and incorporating the leadership tenure, the thesis can construct individual investment portfolios associated with particular leaders.

The choice of one leader

The data set initially consisted of all the validated CVCs identified in section 4.2.3, which amounted to 511 unique CVC units. Dates of the CVC unit's initial and final investments were included in the data set to establish the timeframe for which leaders needed to be identified.

Firstly, we emphasize microfoundations, meaning focusing on the individual leaders' HC resources as a source of heterogeneous investment behavior (Barney & Felin, 2013; Felin & Foss, 2005). This thesis adopts the perspective that the highest-ranking individual within the CVC is likely to have a substantial influence on the majority of investments, as they are responsible for the overall investment strategy and have significant influence over the investment decision process (Basu et al., 2011; Dushnitsky & Lenox, 2005c).

Defining the leader

To incorporate the characteristics of leaders into the data set, it was crucial to comprehensively identify the current and former leaders of the CVC units. As CVC entities apply diverse governance structures and management systems, the leadership titles and the associated responsibilities are not homogeneous across our data. It was necessary to establish clear "rules" to avoid term confusion and distorted data. We follow P. Gompers and Lerner (2000), who stipulate that identifying the highest ranking individual requires insights into firm-specific hierarchies and division of roles, and utilizing a hierarchical classification system aligns with similar studies in IVC literature (D. P. Dimov & Shepherd, 2005; Patzelt et al., 2009). Correspondingly, the starting point for this hierarchical discovery process is defined as follows: "CEO" or "President"[2], "Global Head", "Managing Partner", "General Partner", "Partner", "Managing Director", "Director", "Principal" and then "Investment manager".

[2]While the title of "CEO" or "President" is not common in North American or European CVC units, it is prevalent in Japanese CVC units.

Identifying the leader

Current leaders of CVC units from large parent companies proved the easiest to identify, as specialized LinkedIn searches often gave an initial indication of the identity of the leader. In these cases, the individual in the leadership position was often validated through the CVC's own website, which outlined the specific roles held by individuals within the CVC. For CVC units with websites disclosing their management team, this was used as the basis for identifying and validating the current leader of the CVC unit. This approach aligns with previous scholars (D. P. Dimov & Shepherd, 2005; Dokko & Gaba, 2012).

For past leaders or CVCs without websites, the application of Crunchbase and PitchBook provided some information assistance. Using these two databases for identifying specific investment details and the names of individuals from CVCs that lead investments proved to be a fruitful method for indicating leaders. For CVC units where such methods did not generate a result, a more investigative approach was necessary. Here Factiva and Bloomberg News sometimes contained remarks on public deal announcements. Ultimately, 952 unique leaders were identified.

Documenting leader characteristics

LinkedIn serves as a repository for information pertaining to an individual's professional and educational experiences and effectively presents an overview of people's respective professional trajectories. However, there is also a high level of personal discretion regarding the validity and accuracy of the data represented, which may result in varying levels of validity and accuracy concerning the information depicted. With that said, scholars like Guillory and Hancock (2012) found that people are disinclined to be dishonest or misrepresent information in professional settings.

We exhaustively recorded information pertaining to the individual's full career experiences before the CVC leadership inception. This included detailed characteristics of all individual professional experiences in various organizations. For every trajectory change, we recorded the company name, position, location, industry, function, and duration. Similarly, we documented all relevant information pertaining to individual educational backgrounds. The core attributes include the name of the educational institution, the degrees received, and the field of study. We also document additional data such as gender, followers, skills, and endorsements. Using LinkedIn to provide biographical data for academic research and studies has previously been done in the context of entrepreneurial HC (Banerji & Reimer, 2019) and corporate HC (Pisano et al., 2017).

While 952 unique leaders were found, the final data set containing HC characteristics contains 894 individual leaders. The reduction in observations is due to 58 leaders not having indicated any experiences prior to their employment in the relevant CVC unit. Ultimately, the HC data set consists of 511 unique

CVCs with 894 leaders with characteristics of each individual. Previous comparable literature in the IVC and CVC present similar or smaller-sized data sets (D. P. Dimov & Shepherd, 2005; Patzelt et al., 2009; Zarutskie, 2007).

4.2.6 The Final Data Set

To discern relationships between the individual characteristics of leaders and the investments they oversee, each investment must be attributed to the appropriate leader. STATA was used as the statistical tool to merge the data sets and conduct the statistical analysis.

The process for creating the final data involved merging the three individual data sets presented above to form a cross-sectional data set wherein every variable representing investment information, parent company financial data, and human capital characteristics is consolidated into a unique row for each leader. To carry out the regressions in section 5.2, each leader must have observable characteristics, attributable investment data during their respective tenure, and available financial data from the parent corporation.

Firstly, the CVC Investment data set (e.g. data set 1) was merged with each CVC unit's parent company's financial information (e.g. data set 2). This was done by utilizing a unique ID that consists of GVKey and year. This yielded a data set of all CVCs with public parent companies, paired with the parent company's annual financial information for each year the CVC unit is active (e.g. data set 1+2). CVCs owned by public firms were responsible for 18,159 investments, leading to dropping 5,838 investments, as data set 2 only contains information from public parent firms. To identify if any significant differences in sample characteristics exist between the dropped (private parent) investments and the retained (public parent) investments, a two-sample t-test was conducted on relevant variables from both samples. As seen in appendix 2, the majority of variables demonstrate a significant statistical difference between the dropped and retained investments. This suggests that any associations and relationships identified in the analysis cannot be generalized to CVCs associated with private parent corporations.

Secondly, the collected HC data (e.g. data set 3) is merged with the data set containing CVC investments and parent company financial information (data set 1+2). An ID using the combination of parent company name, CVC unit name, and year was created for both data sets (e.g. data set 3 and data set 1+2). In the HC data set (data set 3), the year represented each year the leader held the position as head of the CVC unit. In the data set containing CVC investments and parent financial information (data set 1+2), the year represented the year in which each investment was made by the CVC unit.

The newly created ID was used to merge data set 3 with data set 1+2. It acts as a unique ID for the data set pertaining to HC (data set 3), as the combination of parent company name, CVC unit name, and

a specific year is only associated with one unique leader. At the same time, it is a repeating ID within the merged investments and parent finances data set (due to CVCs investing in multiple ventures within the same year). Merging these two data sets based on this ID created a combined data set (data set 1+2+3) where each row showed a unique investment, the leader of the CVC unit during the time of the investment, and the associated values for their HC and parent financial information. Figure 4.1 depicts a simplified version of the merging process:

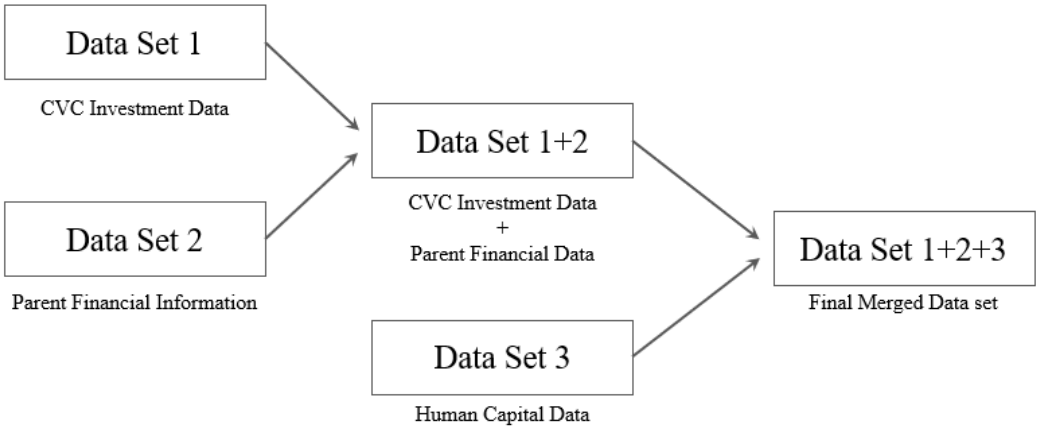

Figure 4.1: Process for Merging Data Sets

In this process, some investments were without a designated leader at the time of investment, and certain leaders had no investments attributed to them. This resulted in 2,831 additional investments being dropped. At this point, the first iteration of the final data set encompassed data for each year a leader was at the head of the CVC unit, including i) all investments made by the leader for each year ii) the corresponding parent corporations' financial data for that year, and iii) the leader's HC characteristics.

Before finalizing the data set, it was necessary to identify missing values in regard to the parent company's financial information. The missing values were dropped, resulting in a loss of 61 leaders (51 CVC units) and their associated investments (1,156)

Lastly, as the first iteration of the final data set still exhibited leader observations across multiple years, the data set needed to be collapsed to achieve a cross-sectional format. The merged data set was therefore collapsed, where each row contained i) a unique leader ii) their HC data iii) the accumulated investments and associated characteristics, and IV) the associated corporate parent financial information. Each variable was collapsed using the appropriate calculation; for instance, the number of investments was summed, while binary variables, such as gender, were determined by the maximum value. The parent company's financial information for each year the leader was active was averaged to create a single mean value for each corresponding financial variable.

The final data set contained observations on 416 unique leaders and investment data on 14,172 investments overseen during the tenure of leaders through 258 unique CVCs.

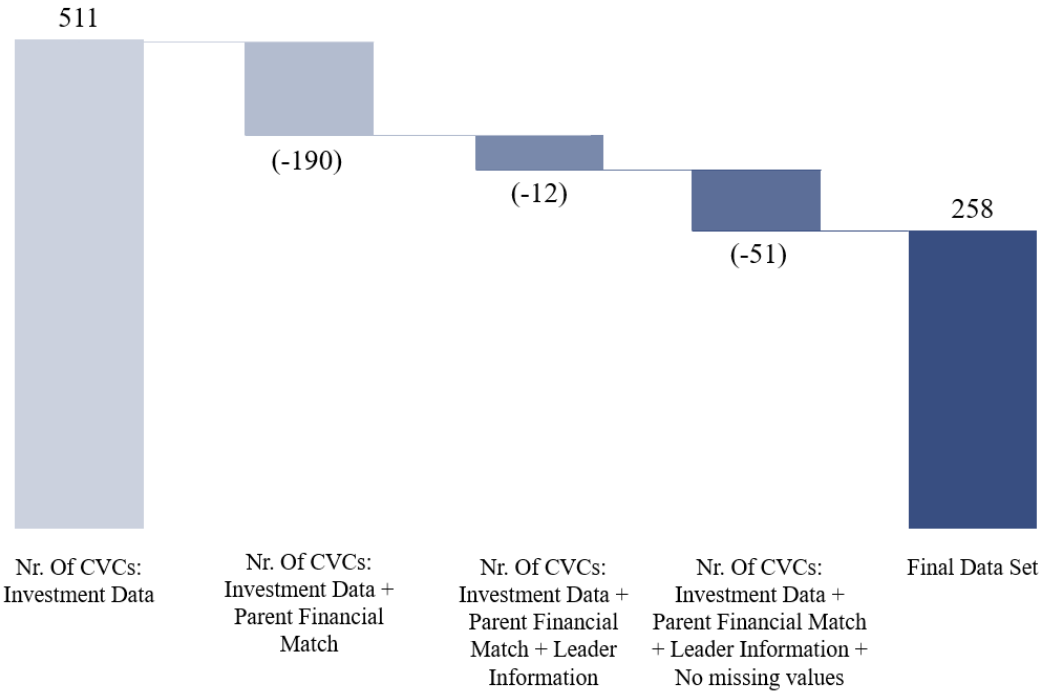

Figure 4.2: Cutting Process: CVC Units

4.3 Variables

This section delineates the variables incorporated in the thesis and provides a rationale and motivation for selection and inclusion. The dependent variables are operationalized to capture investment behavior and selection, while the independent variables reflect the leaders' heterogeneous stock of HC. Furthermore, Analysis I will incorporate all variables mentioned below, while certain independent variables in Analysis II require a degree of transformation.

4.3.1 Dependant Variables

Successful investments

As indicated in the literature review, financial performance and outcomes are not negligible in the context of CVC and, to some degree, linked with the respective individual HC (Foss & Linder, 2019). Similar inquiries have been made in IVC literature (D. Dimov et al., 2007; D. P. Dimov & Shepherd, 2005;

Zarutskie, 2010). Extending this line of research, we analyze the financial outcomes of the ventures that leaders decide to invest in. The foundation for identifying if an investment is financially successful is based on EIKON's reporting of the current status of the venture[3]. We operationalize this measurement by following D. P. Dimov and Shepherd (2005), Zarutskie (2010), and P. Gompers et al. (2009), where the status serves as a proxy to identify the financial success of the venture. Ventures with an "IPO" or "Acquisition" are deemed positive outcomes. The count of successful investments assumes that no leader divests ventures before an exit or bankruptcy.

The dependent variable *successful investments* is operationalized as the count of all investments that resulted in an IPO or acquisition. Importantly, we cannot discuss the magnitude of the respective outcomes as they are influenced by additional unknown factors such as pre-money valuation, and equity stake.

Lead Investor

As previously noted, a CVC leader may assume a leading or follower role in a financing round. Positions that suggest different commitments of resources, risk profiles, and expected returns. When undertaking a follower role, we assume that this stipulates syndication. Investment syndicates occur when a venture's financing involves the collaboration of two or more investors, pooling their respective resources (Sorenson & Stuart, 2001). To enhance our comprehension of the lead/follower role, we utilize two assumptions derived from empirical IVC research: A lead investor acquires the largest equity share and consequently commits the most significant amount of capital and/or partakes in the highest number of possible financing (Hopp & Lukas, 2014).

We operationalize this variable by following the classification system from EIKON that defines whether the leader participated as a follower or leader. Importantly, we recognize that these roles are not static but dynamic and tend to change for every new fundraising round (D. Cumming & Dai, 2013). In analysis II, this variable is utilized as the dependent variable *Lead Investments*, which counts the number of investments the respective leader has led.

Parent-Venture Industry Match

We follow the logic of Dushnitsky and Shaver (2009) and Yang et al. (2014), investigating industry overlap and relatedness between the new venture and corporate parent. We classify this as a parent-venture industry match.

To operationalize this variable, we follow the widely recognized SIC system (Pehrsson, 2006; Phillips & Ormsby, 2016). First, we deconstruct the SIC divisions such that they most accurately reflect the diverse industry experience accumulated by leaders and CVC parent corporations. We manually assign a predefined overall industry division to each leader's numerous experiences. These data points are necessary to establish consistency between a leader's respective industry experiences, the industries they invest in,

[3]The venture status is reported as "IPO", "Acquisition", "Merger", "LBO", "Pending Acquisition", "Bankruptcy Chapter 11", "Bankruptcy Chapter 7", "Defunct" or "Active"

and the industry of the focal corporation.

We classify individual human-capital industry experience as follows: 1. Financial Services (Division H) 2. Consumer Goods (Division G and F) 3. Real Estate (Division C) 4. Tele-communications, Broadcast & Media (Division E) 5. Entertainment (Division I) 6. Information Technology (Division E, I, and D) 7. Industrial Goods (Division D) 8. Life Science & Pharmaceuticals (Division D) 9. Automotive (Division D) 10.Consulting (Division I) 11.Logistics & Transport (Division E) 12.Public (Division I) 13.Oil, Gas & Energy (Division B and E) 14.Legal (Division I)

Some of these categories align with relevant literature, while some also extend the previous literary scope owing to the under-explored and granular domain of this thesis (Alvarez-Garrido & Dushnitsky, 2016; Dushnitsky & Lenox, 2006; Dushnitsky & Shapira, 2010; Pahnke et al., 2015; H. D. Park & Steensma, 2013; Schnellbächer et al., 2019).

For our 14,172 ventures, EIKON provides the text description of the associated SIC denotations. Thus, we manually inspected the SIC groups to identify the best match with the industries applied for the leaders outlined above (please see appendix 9 for a comprehensive overview of the classifications). In analysis I, the number of categories for industries is kept granular to increase the specificity in the descriptions of leader characteristics.

In empirical analysis II, the industries are grouped to eliminate potential statistical errors, such as multicollinearity or over-fitting. Sectioning the final sample into granular industries would entail small sample sizes with few observations for many industrial categories, leading to imprecise and unreliable estimates from the regression results (Hastie et al., 2009). Upon evaluating the industries that receive the most investments, it was found that information technology, life sciences, and industrial goods industries together constituted 84.8% of total investments. The industry categories used in analysis II is therefore defined as *Information technology*, *Life Science*, *Industrial Goods*, and *Other*. For an overview of descriptive statistics on the venture industries, see appendix 3.1

We operationalize *parent-venture industry match* in analysis II using a count variable that identifies the number of investments leaders make into ventures that operate within the same industry as the parent corporation.

International Investments

Unlike Gupta and Sapienza (1992) and Patzelt et al. (2009), we don't measure the geographic distance between the investor and investee but establish a binary construct to classify geographic locations as either domestic or international. "Domestic" indicates that the investee venture's location is the same nation as that of the parent corporation, while "international" means it's outside the parent corporation's domestic country. This methodology follows the IVC study by Manigart et al. (2007). This variable is operationalized as the dependent variable *International Investments* in analysis II as a count variable,

indicating the number of international investments.

Early Stage investments

Following the prevalent practice in the IVC community, the EIKON database categorizes investments into six stages, signifying progressive levels of maturation [4]. These six stages form the basis for classifying early-stage vs. late-stage ventures. While some authors utilize a more comprehensive classification of venture stages (D. Dimov et al., 2007; Kim & Park, 2017), this thesis follows the classifications of Patzelt et al. (2009). We determine whether each investment pertains to younger companies in the seed, start-up, or other early-stage phases (early-stage), or alternatively, whether each investment is directed towards more mature ventures in the expansion, later/acquisition, or other late-stage phases (late-stage).

In analysis II, this is operationalized as the count variable *Early-stage*, which is the total amount of investments the leader makes into early-stage ventures.

4.3.2 Independent Variables

To the best of our understanding, the independent variables deployed in this study have not been comparably applied within the context of CVC. Consequently, we outline the motivation, rationale, and operationalization of the independent variables below, guided by the literature review and theoretical foundation.

Other characteristics

Gender

A considerable body of scholarly literature exists that investigates the impact of gender on managerial approaches, organizational processes, and firm outcomes. Past findings show that female managers are more risk-averse as compared to males in similar roles (Barber & Odean, 2001; Barsky et al., 1997; Huang & Kisgen, 2013). This also makes female leaders less predisposed towards radical innovation, as this inherently embeds more risk (Dıaz-Garcıa et al., 2013). As such, one may assume that female leaders stray more towards exploitative modes rather than more risky explorative investments (Weigel et al., 2022). Overall, studies indicate that firms with male leadership implement bolder tactics and pursue more aggressive outcomes (Hanlon et al., 2022). In IVC, Tinkler et al. (2015) and P. A. Gompers and Wang (2017a) outline that gender and diversities impact decision-making and investment strategies in IVC. Analysis II utilizes *gender* as a binary independent variable where 1 denotes female, and 0 denotes male.

[4]The six stages classified in EKON are: "Seed", "Start-Up", "Other Early Stage", "Expansion", "Later / Acquisition" and "Other Late Stage".

Founder Experience

Entrepreneurial experience can enhance the leader's comprehension of market entry dynamics, agency frictions, and venture-specific risks and uncertainties (Patzelt et al., 2009). Correspondingly, leaders that have been founders themselves have likely developed significant entrepreneurial self-efficacy (Chen et al., 1998). They may have strong confidence in their abilities to support and contribute to the venture post-investment (Bottazzi et al., 2008; Fried & Hisrich, 1994). In both analysis I and analysis II, we measure entrepreneurial experience as the binary variable *Founder*, specifying whether a CVC leader has founded at least one venture in the past, following the approach of D. P. Dimov and Shepherd (2005).

International Experience

We emphasize the international experience that a leader may have attained in their past experiences by working abroad in an international setting (Carpenter et al., 2001). Scholars argue that international work experience may increase specific and general HC, and ultimately influence organizational outcomes and performance (Nielsen, 2010; Sambharya, 1996). Specifically in IVC, it reduces liability for foreignness and agency risk associated with distance and may lead to more geographically diversified portfolios and impact fund performance (Chemmanur et al., 2016; Li et al., 2014; Nahata et al., 2014). Following Patzelt et al. (2009) we record whether the CVC leader has international work experience as a binary variable and utilize this measure as the independent variable *International experience* in analysis II. However, we expand this binary measurement in Analysis I by recording the number of countries in which the CVC head has previously worked.

Occupations

Each leader's biographical profile includes their professional experience, encompassing their respective industries and occupational roles, prior to their affiliation with the corresponding CVCs. We set out to capture the diverse background contemporary leaders often possess Arthur and Rousseau (2001). This approach aligns with IVC literature (D. P. Dimov & Shepherd, 2005; Patzelt et al., 2009).

All occupation experience variables are operationalized as binary in analysis II, and as count variables to capture multiple nuances of multiple experiences in analysis I. Similar to Dokko and Gaba (2012), only experiences ex-ante CVC leadership are included.

Experience in Parent Company

Possessing prior experience from within the focal corporation affords a distinct level of contextual understanding and familiarity with the focal firms' unique, inherent dynamics, processes and systems (Groysberg et al., 2008; Huckman & Pisano, 2006)

In the analysis I, we operationalize this variable in two ways. First, we measure the duration of em-

ployment that the individual has maintained within the focal corporation before assuming their leadership position in the CVC. Second, we measure the number of positions occupied in the focal corporation to follow the leaders' trajectory in the internal labor market.

CVC and IVC Experience

Numerous articles in IVC literature exhibit how individuals gain significant advantages as they build experience in the venture investment domain (Shepherd et al., 2003). In line with previous research, our study seeks to measure the occupational experience of leaders in both IVC (D. P. Dimov & Shepherd, 2005; Ewens & Rhodes-Kropf, 2015) and CVC (Dokko & Gaba, 2012). We operationalize this variable in the context of CVC leaders by incorporating the variables *CVC Experience* and *IVC Experience*.

Investment Banking Experience

This thesis examines investment banking experience as an independent variable in Analysis I and Analysis II, basing our operationalization on D. Dimov et al. (2007). As CVC is a part of the overall investment ecosystem, decision-making processes are ultimately finance-induced. In IVC literature, finance-centric occupational experiences are a common entry point into IVC due to their emphasis on complex market processes and risk modeling (D. Dimov et al., 2007). While financial return metrics are considered less important in CVC, they are not irrelevant (Keil, 2000). As such, analogous conditions and dynamics may be observed in CVC, underscoring the potential similarities between financial experience and CVC activity.

Consultant Experience

Management consulting suggests proficiency in addressing business and management challenges, which may be an advantageous skill when transitioning to fund and portfolio management (D. P. Dimov & Shepherd, 2005; Patzelt et al., 2009). We postulate that these competencies and capabilities hold at least equal significance within the context of CVC and include *Consultant Occupation* in analysis I and analysis II.

STEM-related Professional Experience

Typically, research in IVC has amalgamated distinct but related technical disciplines of engineering, science, and technology into a singular variable (D. P. Dimov & Shepherd, 2005; Zarutskie, 2010) and/or only attributed STEM-specified HC in terms of educational background and not occupational experiences (Patzelt et al., 2009). The core argument in such studies is that both types of occupational experiences stipulate a high degree of technical/product-specific knowledge.

Within the context of CVC, distinguishing between scientific roles such as R&D and technology-intensive roles like software engineers can offer valuable insights due to the focal corporations' strategic orientation. Our research design in Analysis I allows for this type of granularity, and thus we distinctly identify engineers/technical and R&D occupational experiences. For analysis II, we follow the precedent of

D. P. Dimov and Shepherd (2005) and Zarutskie (2010), including both R&D and Engineering occupations, but we merge them into the variable *STEM occupation*.

Corporate Experience

The corporate category is comprised of occupations that are inherently connected to the corporate environment and are comprised of roles pertaining to: Business Development, Sales, Marketing, Strategy. Operations, Corporate Lawyer or General Council, Finance, and CEO. Our objective is to achieve a high degree of precision and granularity as individuals with heterogeneous occupational backgrounds bring different KSAOs to the CVC unit (Bunderson, 2003).

The above categorizations of occupational experiences are utilized in the descriptive statistics in analysis 1. However, analysis 2 utilizes regressions, where such a large number of independent variables could produce errors such as overfitting, multicollinearity, or interpretation issues (Hastie et al., 2009). The four different occupational categories are present in the statistical models in analysis II as the independent variables *Consultant occupation*, *Investment banking occupation*, *Corporate occupation*, and *STEM occupation* as binary variables.

Industries

There is a substantial body of literature that focuses on industries in the context of CVC, and the overarching consensus is that industry differences matter (Haslanger et al., 2022; MacMillan et al., 2008). However, there is a minimal amount of literature that specifically examines the relationship between of industry experience and investment behavior. In a similar fashion to occupations, it is essential to notice that leaders may very well have shifted industries during their professional career (Arthur & Rousseau, 2001). Furthermore, for observations where the leader exhibits industry experience in the same industry as the parent company, the binary variable *experience in the parent industry* is included to account for the leader's industry-specific knowledge pertaining to the industry of the focal firm. Analysis I, remains granular regarding the number of industries and the accumulated experience gained from industries. At the same time, analysis II introduces the variables *experience in information technology industry*, *experience in life science industry*, *experience in industrial goods industry*, and *experience in other industries*. Each industry is separately associated with each leader, following the same industry classification logic as described under the "Parent-Venture Industry Match" in section 4.3.1.

Education

The biographical data of each CVC leader included details about their formal education. We utilized this data to assess the HC variables related to education. For this purpose, the thesis coded each leader based

on the degree(s) they have achieved and their associated field of study.

Field of Study

The field of study for all leaders falls into four categories, namely business, law, social sciences, or STEM. An educational background in management, business, or economics may have several implications for market, risk, and agency perceptions (Gosling & Mintzberg, 2004). Graduating students are more risk averse, have a predisposition for controllable contexts, and rely on analytical skills more applicable in more mature stages of venture development (D. Dimov et al., 2007; Hambrick & Mason, 1984). Contrary to a business-focused education, academic pursuits in STEM equip CVC leaders with a solid foundation for comprehending technical- and product-specific analysis. This can be highly valuable as early-stage ventures frequently target novel and innovative technologies underpinning the benefit of possessing similar orientations (Wiersema & Bantel, 1992). An investor with an educational background in STEM may perceive comparatively lower technological risks when considering investments in early-stage ventures (Patzelt et al., 2009). These classifications largely align with several previous studies on HC and investor attributes in the context of IVC (Bottazzi et al., 2008; D. P. Dimov & Shepherd, 2005; Franke et al., 2008; P. A. Gompers & Wang, 2017b; Kaplan & Strömberg, 2000; Manigart et al., 2007; Patzelt et al., 2009; Shepherd et al., 2003; Tinkler et al., 2015; Zarutskie, 2010).

Degree

As educational observations are collected for each leader, the degrees recorded are Ph.D., Master, MBA, Bachelor, or No Education [5]. While certain individuals only recorded either a master's or a Ph.D., it is assumed that a prerequisite to obtaining such an advanced degree is a bachelor's and/or master's. Therefore, all individuals who hold a Ph.D. are assumed to also hold a master's and bachelor's degree, with the same logic applying for a master's degree.

Importantly, this education classification intentionally allows for the measurement of double degrees in different fields of study. Thus, we attempt to answer the call of Marvel et al. (2016), and attempt to capture the full diversity of the educational backgrounds pertaining to individual HC.

Top 25 School

Finally, the quality of the respective educations is recorded following QS World University Rankings on the basis that the quality of education matters (Gundlach, 1997; Hitt et al., 2001). Correspondingly, we extend previous IVC literature by Zarutskie (2010) and P. A. Gompers and Wang (2017b) that emphasizes Ivy League universities. The notion of educational quality ultimately builds on network theory, where Hochberg et al. (2007) finds that who you know matters for investment performance and top-university attendance ultimately improves access to quality investment opportunities. Potential empirical observations attributable to a Top 25 educational background can be most proficiently understood by employing the network or social capital theoretical frameworks and network theory. It is thus omitted in analysis II.

[5] PhD Degrees are defined as a doctorate in any field, i.e., includes MDs, JDs, etc.

The above educational data on CVC leaders are included in analysis I to provide the most insights possible. However, the number of independent variables pertaining to education proves to be excessive regarding introducing them into the statistical model. Therefore, regarding educational degrees, only PHD is introduced as the binary variable *PHD* within analysis II to capture if a leader has a high level of expertise/cognitive capacity. For fields of study, undergraduate and graduate degrees in Business, Economics Management and Finance Accounting are accumulated under the umbrella term *Business Education*. Degrees in Engineering, Mathematics, or other STEM fields are classified as *STEM Education*, and introduced as a binary variable in the statistical models, aligning with the methodology of Patzelt et al. (2009).

4.3.3 Control Variables

Our analysis incorporates multiple control variables at both the CVC and venture levels to account for potential confounding effects of extraneous variables (Schjoedt & Bird, 2014). We outline our choice of controls based on similar studies on IVC and CVC.

Number of Investments

The number of investments made by an individual is of limited significance unless the total investments made by the parent company are controlled for, as the total amount of investments will inherently influence the amount of a specific type of investment (as defined by the dependent variables). Therefore, *Investments* are introduced as a control variable representing the total amount of investments each leader has made.

Total Assets (Log)

First, we want to control the size of the parent corporation, as greater-sized firms possess an expanded resource pool that can be allocated to CVC units, potentially leading to an increased range of investment opportunities. The availability of these resources may have a significant impact on the functioning and performance of the CVC units within larger organizations. For example, resource availability has previously been found to impact innovative performance (Chemmanur et al., 2014; Wadhwa et al., 2016). While we refrain from anticipating a specific outcome for the impact of firm size, we ensure its consideration as a control variable (Dokko & Gaba, 2012). This study uses total assets operationalized as natural logarithms, following Yang et al. (2014) and Dushnitsky and Lenox (2006).

R&D Intensity

Furthermore, R&D intensity is also applied and operationalized following the approach of Dushnitsky (2004) and Anokhin et al. (2016). This metric is computed as the proportion of research and development (R&D) expenditures relative to sales.

Financial slack

Financial slack influences available resources and, as a result, corporate inclination to pursue different opportunities (H. W. Chesbrough & Tucci, 2004). D. Levinthal and March (1981) show how corporations with greater slack resources are more predisposed to pursue risky opportunities and exhibit more emphasis on early-stage venture and building broader/diverse portfolios. We operationalize this variable by measuring EBIT-margin (Slack), as a percentage of sales to effectively proxy free cash flow since it is likely to influence capital allocation to explorative initiatives like CVC (H. W. Chesbrough & Tucci, 2004).

CVC Age (Log)

Identifying the age of each CVC unit is done by using the classified founding- and ending date given by EIKON or, when unclassified by EIKON, manually collected on the CVC website. In instances where the founding year was absent both in EIKON and the company website, we used the year of the firm's first investment as a proxy for the founding year. Similarly, the date of the last observations was employed as the end year, following D. Dimov et al. (2007). We do this to reduce the expected influence that entity-embedded experience built up over the years may affect CVC leaders' investment behavior[6].

Tenure at CVC

From a HC perspective, it can be argued that as leaders remain in their positions for longer periods of time, they also acquire a more significant amount of expertise in their respective domains (Vestal & Guidice, 2019). Leaders who have been in their positions for a substantial amount of time are likely to have gained a deeper range of specific KSAOs (Oh et al., 2018). For example, Bottazzi et al. (2008) stipulates that investors may accumulate job-specific learning while investing. As we only want to capture the influence of previously accumulated HC we control for the level of routinization in decision-making proxied by the tenure of leadership, following D. Dimov et al. (2007). We operationalize *Tenure* as a count variable for the number of years the CVC leader has spent as the head of the CVC unit.

For a summary of all input variables used in the regressions, see table 4.3 below.

[6]Such entity-embedded experience may pertain to superior networks, deal-flows, and syndication partners.

Table 4.3: Variables for Analysis II

Variable Name	Description
Dependant Variables	
Lead Investments	Amount of investments made as Lead
Early-stage Investments	Amount of investments made in early-stage ventures
Parent-Venture Industry Match	Amount of investments made into ventures in the same industry as the parent
International Investments	Amount of investments outside of parent company nation
Successful Investments	Amount of investments with current status of "IPO" or "Acquired"
Independent Variables	
Gender	Gender of leader of the CVC unit
Exp. in Parent	Leader experience in parent company prior to CVC position
Exp. in Parent Industry	Leader experience in industry company prior to CVC position
International Exp.	Leader International Experience
Founder	Leader experience as founder
CVC Exp.	Leader experience in CVC prior to becoming head of CVC
IVC Exp.	Leader experience in IVC prior to becoming head of CVC
Consultancy Exp.	Leader experience in consultancy
Investment Banking Exp.	Leader experience in investment banking
Corporate Occupation	Leader experience in a corporate occupation
STEM Occupation	Leader experience in a STEM occupation
PHD	Leader has achieved a PHD
Business Education	Leader has a business education
STEM Education	Leader has a STEM education
Exp. in Info. Tech Industry	Leader Experience in the information technology industry
Exp. in Life Science Industry	Leader Experience in the Life Science industry
Exp. in Industrial Goods Industry	Leader Experience in the industrial goods industry
Exp. in Other Industries	Leader Experience in other industries
Control Variables	
Investments	Amount of investments made during tenure of leader
R&D Intensity	Ratio of R&D Expenditure over sales of parent company
Total Assets	Total assets of parent company, in thousands
Ln(Total Assets)	Natural log of total assets
Slack	Indicator for financial excess
CVC Age	Age of the CVC unit
Ln(CVC Age)	Log of CVC age
Tenure	Tenure of the leader as head of CVC in years

4.3.4 Operationalization of Human Capital Resources

In this section, we present the reasoning behind operationalizing the various forms of HC discussed in the literature review, adapting them to the context of our empirical research and the variables outlined above. Moreover, we adhere to certain principles delineated in the IVC literature but place particular emphasis on adapting these concepts to suit the CVC context (R. Coff & Rickley, 2021).

Despite HC theory being utilized in research for almost five decades, there remains a lack of uniformity in the methods for its measurement. In this thesis, we follow P. M. Wright and McMahan (2011) methodology by mobilizing proxies and direct assessments. First, proxies serve as substitute measurements for quantities that cannot be directly determined (P. M. Wright & McMahan, 2011). For instance, expressing

the global ranking of a leader's educational background can serve as an indicator of the quality of HC they possess (Hitt et al. (2001) applies a similar method). Second, by direct assessments, we obtained information on an individual's educational and professional background. However, the limitation of this approach is that it does not capture the full extent of the individual HC (P. M. Wright & McMahan, 2011).

Moreover, we operationalize[7] specificity in two distinct ways attempting to satisfy both the conventional notions (Becker, 1964) and the more contemporary ideas (Ployhart, 2021; Ployhart et al., 2014).

Firstly, specificity may stem from the presumed relevance of HC resources to the performance behavior and outcome (Ployhart, 2021). Second, specificity may stem from the presumed relevance to the focal corporation (Becker, 1964). For example, industry experience may transform into an industry-specific HC resource as a result of its close proximity and relevance to distinct investment behavior. This could occur when the industry experience aligns closely with the industry of the focal corporation but may also occur for alternative reasons.

General Human Capital

In previous IVC studies, general HC has been operationalized in various ways (D. P. Dimov & Shepherd, 2005; Patzelt et al., 2009; Zarutskie, 2010). Drawing from previous research and the HC theory, general HC is understood to represent the underlying cognitive capacity of individuals, with education commonly identified as the primary contributing factor (B. A. Campbell et al., 2012; Ployhart & Moliterno, 2011). As such, education is operationalized a context-generic/general HC. However, education has several underlying predictors.

Firstly, the duration of education for the respective CVC-unit leader, or in other words, the achievement of a bachelor's, master's, or Ph.D. degree, indicates different levels of available HC, which in turn may support a range of cognitive abilities and the accessibility of HC resources. Therefore, the degree/quality of general HC is considered elevated if the leader has a Ph.D. (Gundlach, 1997; Miller et al., 2015). Secondly, it's reasonable to assume that there is a certain level of specificity related to the field of study. For example, a CVC unit of a pharmaceutical corporation would likely value a leader with a Biochemistry Ph.D. more than one with a social Studies bachelor's degree (Ployhart et al., 2014). Correspondingly, the field of study may exhibit higher proximity to investment behavior compared to a degree. Despite this, academic discipline and degree are broad foundations that support wide applicability and foster the development of more specialized, firm-specific HC (R. W. Coff, 1997; Ployhart et al., 2014).

[7] we do not aim to operationalize specificity quantitatively but intend to express it quantitatively for enhanced applicability in the 6

Specific Human Capital

Specific HC refers to experiences that have a confined scope of application, relevant only to a particular activity or in a specific context (Ployhart et al., 2014).

Firm-specific Human Capital

By synthesizing the traditional HC theory (Becker, 1964) with the more contemporary HC resource model (Ployhart et al., 2014) we operationalize firm-specific HC through the variable *Experience in Parent*. This indicates that the leader has previously worked in another position in the focal corporation associated with the CVC unit and is thus an internal hire/promotion. This operationalization follows the methodology of Dokko and Gaba (2012).

Industry-specific Human Capital

We measure industry-specific HC by whether the leader has experience in the same industry as the parent firm associated with the CVC unit where they are employed, measured in the variable *Experience in Parent Industry*. However, we also investigate whether various types of industry experiences might display a high degree of relevance to investment behavior, regardless of its relatedness with the corporate parent. Accordingly, we include variables *experience in information technology industry*, *experience in life science industry*, *experience in industrial goods industry*, and *experience in other industries*.

Occupation-specific Human Capital

We operationalize occupation-specific HC as either *investment banking*, *consulting*, *corporate occupation*, *STEM occupation*, or previous experience in *CVC* or *IVC*. In IVC literature, similar classifications are applied, with the exception of CVC and corporate occupation measurements (D. P. Dimov & Shepherd, 2005; Patzelt et al., 2009)

Task-specific Human Capital

We define task-specific HC as the specialized KSAOs relevant to two primary types of tasks that individuals have previously specialized in, namely, experience as a *founder*, and *international experience*. This classification aligns with previous studies in CVC (Dokko & Gaba, 2012) and IVC (D. P. Dimov & Shepherd, 2005; Patzelt et al., 2009; Zarutskie, 2010).

Chapter 5

Analysis

Based on the collected data, we plan to perform two distinct analyses to address our two research questions. For our first research question, we sketch the individual KSAO of CVC leaders and provide additional insights through the lens of HC theory. For our second research question, we empirically test the relationship between the leader's HC resources and their investment behavior. We divide this inquiry into three sub-research questions and formulate 5 models that support improved insights into CVC leaders' investment behavior.

5.1 Analysis I: The Composition of CVC Leader's Human Capital

In this subsection, we present a detailed depiction of the data and deliver an in-depth portrayal of the qualifications and characteristics of the leaders to map their respective HC. The dataset used for the first analysis comprises the complete leader characteristics data, outlined in section 4.2.5, which leads to an analysis of 894 unique leaders. The descriptive statistics in this section are utilized as the foundation to discuss our first research question, namely: *What are the key individual characteristics and qualifications of Corporate Venture Capitalists leaders?*

5.1.1 General Human Capital

Table 5.1 summarizes gender and educational HC variables on the 894 individual CVC heads that held leadership positions in 511 CVC units from 1990-2022.

Table 5.1: Descriptive Statistics: Gender & Education

Variable	Obs	Mean	Std. dev.	Min	Max
Gender	894	.1387025	.3458292	0	1
Highest Degree	894	1.89821	.7314233	0	3
PHD	894	.1689038	.3748767	0	1
Master	894	.7818792	.413201	0	1
Bachelor	894	.9474273	.2233038	0	1
No Education	894	.0525727	.2233038	0	1
MBA	894	.4284116	.4951256	0	1
Training	894	.2203579	.41472	0	1
Multiple Disciplines	894	.6129754	.487342	0	1
Business (Inlc MBA)	894	.738255	.4398306	0	1
Business (Excl. MBA)	894	.4138702	.4928015	0	1
STEM	894	.4138702	.4928015	0	1
Law	894	.0704698	.2560804	0	1
Social Science	894	.1275168	.3337377	0	1
Top 25 School	894	.2102908	.4077433	0	1

First, the descriptive statistics emphasize the educational backgrounds of CVC leaders. From the respective degrees, we observe that 94.7% of the individuals in the sample have a bachelor's degree, 78.1% have a master's degree, and about 16.8 % have a Ph.D. Notably, 47 people do not indicate any educational qualifications. Approximately 21% of graduated leaders received their degrees from a top 25 global educational institution. This is somewhat lower than recorded in IVC (see appendix 12).

Furthermore, 42.8% of leaders have an MBA degree, demonstrating that a substantial proportion of leaders have attained a strong background in business management. Often this is to complement non-business-focused disciplines like STEM. The most common field of study is business and economics, with 41.38% having completed a business-related education, excluding MBA. If we include MBA, the number grows to 73,8%. About 41,3% have a STEM educational background, while 7,0% possess an education in law. Next, 12,75% of CVC heads have an educational background in social sciences. We also observe that 22.0% of individuals have attained some type of up-skilling or corporate training throughout their careers. This may include corporate training, executive programs, non-degree programs, certifications, or other types of learning activities.

Overall, we do not note significant disparities between the educational backgrounds of CVCs and IVCs. The only exception is a slightly lower percentage of graduates from top-quality universities in the case of CVCs.. For a full comparative overview of educational variables, please see appendix 12.

5.1.2 Specific Human Capital

The following tables outline the descriptive statistics of CVC leaders, with their experiences divided into firm-, task-, occupation- and industry-specific human capital.

Table 5.2: Descriptive Statistics: Firm-Specific

Variable	Obs	Mean	Std. dev.	Min	Max
Years in Parent	894	1.883669	3.360381	0	23
Positions in Parent	894	.8825503	1.535204	0	10

Table 5.3: Descriptive Statistics: Task-Specific

Variable	Obs	Mean	Std. dev.	Min	Max
Founder	894	.2986577	.4579256	0	1
Tenure as leader of focal CVC	894	6.081655	5.753916	1	38
Years in focal CVC	894	.5749441	1.792881	0	18
International Exp.	894	.3053691	.4608214	0	1
Years of Int. Exp	894	2.178971	4.600668	0	35
Unique countries	894	1.384787	.6520131	1	5

Table 5.4: Descriptive Statistics: Occupation

Occupation Count	894	2.59396	1.235717	1	9
Consultant	894	.2281879	.4198993	0	1
Years as Consultant	894	1.209172	3.076094	0	23
Investment Banking	894	.2762864	.4474105	0	1
Years as Investment Banking	894	1.980984	4.330764	0	27
Business Development	894	.3378076	.4732273	0	1
Years as Business Development	894	1.922819	3.806	0	36
Engineer	894	.1588367	.3657283	0	1
Years as Engineer	894	.9418345	2.852667	0	25
Lawyer	894	.0447427	.2068542	0	1
Years as Lawyer	894	.385906	2.194838	0	26
Sales	894	.0671141	.2503595	0	1
Years in Sales	894	.3411633	1.733326	0	25
Marketing	894	.082774	.2756946	0	1
Years in Marketing	894	.4295302	1.921488	0	23
CEO	894	.1957494	.3969986	0	1
Years as CEO	894	1.249441	3.783233	0	46
Finance	894	.2494407	.4329315	0	1
Years in Finance	894	1.410515	3.674363	0	30
Operations	894	.1465324	.3538371	0	1
Years in Operations	894	.7684564	2.453389	0	19
R&D	894	.0973154	.2965527	0	1
Years in R&D	894	.6353468	2.499524	0	22
Strategy	894	.2986577	.4579256	0	1
Years in Strategy	894	1.626398	3.488458	0	27
Other	894	.0145414	.1197747	0	1
Years in Other	894	.0536913	.5112648	0	8
CVC Experience	894	.2606264	.4392221	0	1
Years in CVC	894	1.299776	3.016131	0	21
IVC Experience	894	.1353468	.3422851	0	1
Years in IVC	894	.7583893	2.511744	0	19

The average number of years within an occupation, only including leaders that have experience in that occupation: 1) Consultant occupation: 5.29 years 2) Investment Banking: 7.17 years 3) Business Development: 5.69 years 4) Engineering: 5.92 years 5) Law: 8.63 years 6) Sales: 5.01 years 7) Marketing: 5.19 years 8) CEO: 6.38 years 9) Finance: 5.65 years 10) Operations: 5.24 years 11) R&D: 6.53 years 12) Strategy: 5.45 years 13) Other: 3.69 14) CVC: 4.99 years 15) IVC: 5.60 years

Table 5.5: Descriptive Statistics: Industry

Experience in Parent Industry	894	.7237136	.4474105	0	1
Years in Parent Industry	894	7.324385	7.562204	0	41
Industry Count	894	1.87472	.9115218	1	6
Automotive	894	.057047	.2320622	0	1
Years in Automotive	894	.6006711	2.981924	0	24
Technology	894	.3680089	.4825337	0	1
Years in Technology	894	3.069351	5.669677	0	41
Life Science	894	.1286353	.3349833	0	1
Years in Life Science	894	1.306488	4.216167	0	28
Financial Services	894	.5100671	.5001785	0	1
Years in Financial Services	894	4.331096	6.163687	0	37
Tele-communications	894	.1834452	.3872477	0	1
Years in Tele-communications	894	1.5783	4.553283	0	36
Oil, Gas & Energy	894	.0838926	.2773819	0	1
Years in Oil, Gas & Energy	894	.7729306	3.259392	0	31
Consumer Goods	894	.1129754	.3167399	0	1
Years in Consumer Goods	894	.7505593	2.97345	0	31
Real Estate	894	.0201342	.140538	0	1
Years in Real Estate	894	.1431767	1.429051	0	21
Entertainment	894	.0134228	.1151411	0	1
Years in Entertainment	894	.0548098	.708542	0	18
Management Consulting	894	.1655481	.3718825	0	1
Years in Management Consulting	894	.8881432	2.760872	0	23
Public Sector	894	.0671141	.2503595	0	1
Years in Public Sector	894	.3221477	1.571449	0	21
Legal Sector	894	.0324385	.1772607	0	1
Years in Legal Sector	894	.2326622	1.485882	0	18
Industrial Goods	894	.0805369	.2722749	0	1
Years in Industrial Goods	894	.582774	2.624583	0	30
Logistics	894	.0514541	.2210458	0	1
Years in Logistics	894	.3836689	2.234666	0	26

The average number of years within an industry, only including leaders that have experience in that industry: 1) technology 8.34 2) automotive: 10.52 3) Lifescience: 10.15 4) Financial services: 8.49 5) Telecommunication: 8.60 6) Oil, gas: 9.21 7) Consumer goods: 6.64 8) Real estate: 7.11 9) Entertainment: 4.08 10) Consultant: 5.36 11) Public: 4.8 12) Legal: 7.17 13) Industrial goods: 7.23 14) Logistics and transport: 7.45

Occupation-specific Human Capital

In Table 5.4, we observe the occupational experiences of past CVC leaders. Leaders generally do not accumulate significant diversity in their prior professional positions, with an average of 2.59 roles held. This suggests relatively low levels of lateral movements across occupations, suggesting that most CVC leaders tend to specialize in 2-3 fields throughout their careers.

The predominant functional background of leaders encompasses corporate functions such as business development, strategy, and finance, constituting 33.7%, 29.8%, and 24.9%, respectively. Moreover, approximately 14.6% possess professional experience in operational positions, while 8.2% have a background in marketing and 6.7% in sales. Evidently, a large portion of the leaders has had some exposure to the corporate setting previously.

Occupations in which individuals gain more experience related to product or technical dynamics appear less pronounced. About 15,8% of leaders have experience as an engineer, while 9,7% have previous experience in R&D. Additionally, only 4,4 % have professional experience with the law. KSOA bundles rooted in law have been highlighted in past studies because of their proximity to the legal component of the investment process (e.g. Legal DD, closing documentation, and more) (D. P. Dimov & Shepherd, 2005). Nevertheless, it is evidently only a minor fraction of leaders that possess professional or educational experience in this domain. Alternatively, more context-diverse organizational settings, such as consulting and investment banking experience, are held by 22.8% and 27.6% of leaders, respectively.

Reorienting our emphasis to individuals with previous experience in other CVCs or IVC funds, the descriptive statistics reveal that 26% and 13.5% of leaders have acquired such experience, respectively. This suggests that IVC professionals infrequently transition to CVC, which aligns with zu Knyphausen-Aufsess (2005).

Task-specific Human Capital

The descriptive statistics in table 5.3 illustrate how 30,5% of the leaders have worked internationally in some form or capacity. Furthermore, the average amount of experience the respective leaders accumulate internationally is over seven years suggesting a high degree of international contextualization.

19,57% of leaders have previous experience in leadership roles (e.g. CEO). While such experiences are contextualized to the specific focal firm, familiarity with leading people may be considered less firm-specific and more task-specific. Furthermore, this suggests a certain degree of path dependency and underlines how the accumulated HC from CEO roles is transferable to leadership positions in CVC. A similar interpretation can be applied to founder experience. The mean value suggests that around 29.86% of leaders possess

prior experience as founders or co-founders of an entrepreneurial venture. This experience is frequently categorized as task-specific HC, given its wide-ranging applicability in IVC and CVC (Patzelt et al., 2009; Zarutskie, 2007).

Firm-specific Human Capital

36,8% of CVC heads have acquired professional experience in alternative roles within the associated focal corporation[1]. Correspondingly, over 1/3 of the respective leaders are re-appointed from other positions within the focal corporation. This indicates that firm-specific HC does not inherently underwrite superior value in terms of securing a CVC leadership position, as 63.2% of leaders are effectively recruited externally. The CVC leaders that advance in the internal labor market on average attain 5,1 years of experience in the focal parent corporation before graduating to CVC leader and typically exhibit experience in more than two different internal functions [2]. As outlined in section 2.7.4, this would indicate that they possess a favorable stock of HC.

Industry-specific Human Capital

In table 5.5, we examine the industry experiences of CVC leaders. These leaders amass a significant amount of industry-specific human capital (HC), as indicated by the fact that 72.3% of leaders have acquired industry experience from previous roles in the same industry as the parent corporation associated with the CVC unit they oversee. On average, these leaders acquire 7,32 years of such industry-specific experience before the recorded CVC-leadership inception point. Given that this percentage is relatively high, the average number of industries a leader has worked in is correspondingly low, falling under two (1.87) in total. This indicates a notable degree of industry specialization that leaders acquire prior to assuming their positions within CVC units.

Shifting the focus to the classified industries. First, experience in financial service industries, like investment banking or auditing[3], is the most common industry experience amongst leaders totaling 51%. Second, over one-third of leaders have experience in the information technology industry, amounting to approximately 36,8%. It is expected that many leaders possess HC related to the information technology sector, given that a fundamental strategic objective of CVCs is to leverage emerging technologies and associated opportunities (Dushnitsky & Lenox, 2005a; Keil, 2000; Siegel et al., 1988). The third-largest industry-experience observation is consulting, where 16,5%[4] of all leaders have previous experience. Next,

[1] Of the 894 unique leaders, 329 leaders have prior experience within the parent company

[2] Calculated within the sub-sample of 329 leaders who previously held a position in the parent corporation

[3] While investment banking is classified as an occupation in this thesis, it falls within the industry of financial services.

[4] The lower value of experience in the consultancy industry when compared to the consultancy role previously mentioned stems from certain consultancy roles lying outside the management consulting industry, such as internal consultants.

12,8% of leaders have experience in life science, 18,3% in telecommunication, broadcast, and media, and 11,3% in consumer goods. At the lower levels, 5,7% of leaders have experience in Automotive, 8,3% in Oil, gas, and utilities, 5,1% in logistics and transportation, and 8,0% in industrial goods. Additionally, 6,7% of leaders have some degree of experience in public or governmental sectors (e.g. research at universities, armed forces, politician's staff). Finally, law, entertainment, and real-estate experiences account for the lowest observations at 3,2%, 1,3%, 2,0%, respectively.

Other Characteristics

Gender

The descriptive statistics in Table 5.1 show that 13.87% of CVC-unit heads are female, while 86.13% are male. This is higher than averages in found IVC studies, where female investors only make up 8.53% P. A. Gompers and Wang (2017b). Strebulaev and Wang (2021) study on CVC senior individuals shows somewhat higher numbers and attributes 19% as females. However, this may be due to not including non-leadership personnel.

Tenure at CVC

The descriptive statistics show that the average leadership tenure is approximately 6,0 years, but with substantial variance as the STD shows 5,7. As anticipated, the average tenure for CVC leaders is lower than that of IVC leaders, which may be attributed to the often different HR systems put in place (Strebulaev & Wang, 2021). As IVC fund lifetimes are long (sometimes over 10 years (P. Gompers & Lerner, 1999a)), LPs want to protect their investments by aligning interests with the general partners (e.g. establish isolating mechanisms (B. A. Campbell et al., 2012)). For example, IVCs often receive vested carried interest, subject to predefined hurdle rates (P. Gompers & Lerner, 1999a). Oppositely, such compensation methodologies are not commonplace in CVC, which may reduce tenure and impact investment behavior (Drover et al., 2017). For example, Dushnitsky and Shapira (2010) shows that high-powered IVC incentive schemes tend to make investors more inclined toward early-stage investments, while Hill et al. (2009) suggests it marginalizes strategic investments.

This low tenure may also be a result of the shorter CVC longevity that has historically been prone to busts and high volatility. Alternatively, it may be a sign that successful CVC managers often leave to join IVC funds, while the unsuccessful remain, ultimately reducing the quality of investments and fund management (Edelson, 2001; zu Knyphausen-Aufsess, 2005).

While most of these results are novel, some are comparable to findings in IVC. For comparable variables, we note that our results are relatively similar to previous findings in terms of educational and professional backgrounds. Please see appendix 12 for a full overview. In particular, Strebulaev and Wang (2021)[5]

[5]As this is a working paper, the results should be approached with a degree of scholarly caution

collects comparable demographic information on CVC investment teams, albeit with a substantially smaller sample size. The results are quite similar, suggesting a strong degree of accuracy in our collected data.

5.2 Analysis II: Investment Behaviour

The second analysis is based on the final data set described in section 4.2.6. Investment behavior is estimated using five dependent variables that reflect different types of CVC investment selections. Independent variables reflect the HC of the leaders.

5.2.1 Descriptive Statistics

In this section, we will provide a concise description of the final data, as well as summary statistics for the input variables utilized in the regressions.

Descriptive Statistics: Leader Portfolios

We commence with an examination of our final sample, consisting of 14,172 investments, 258 unique CVC units, and 416 unique leaders. The descriptive statistics below in table 5.6 provides a summary of the individual leader's venture portfolios, representing the characteristics of the average leader's portfolio.

Table 5.6: Descriptive Statistics: Venture Characteristics

Variable	Obs	Mean	Std. dev.	Min	Max
Investments	416	34.06731	95.59271	1	1692
International Investments	416	16.67308	39.03312	0	511
Perc. International Investments	416	.5280048	.3926707	0	1
Early Stage	416	13.06971	30.24251	0	404
% Early Stage	416	.3851901	.2533327	0	1
Late Stage	416	20.9976	69.32965	0	1288
% Late Stage	416	.6148099	.2533327	0	1
Success	416	9.194712	45.68671	0	881
% Success	416	.177346	.228109	0	1
Initial	416	22.3726	61.96484	0	1114
% Initial	416	.7510734	.2165097	0	1
Follow-on	416	11.69471	35.02468	0	578
% Follow-on	416	.2489266	.2165097	0	1
Follower	416	28.94712	84.33843	0	1531
% Follower	416	.8582612	.1662611	0	1
Lead	416	5.120192	13.55222	0	161
% Lead	416	.1417388	.1662611	0	1
Venture industry: Info. Tech.	416	21.1851	73.32523	0	1309
% of tech	416	.5321632	.3297135	0	1
Venture Industy: Life Science	416	5.247596	18.79525	0	274
% of Life Science	416	.1507824	.301559	0	1
Venture Industry: Industrial	416	2.670673	5.401	0	68
% of Industrial	416	.1380555	.2212891	0	1
Venture Industry: Other	416	4.963942	15.08502	0	270
% of Other	416	.1789989	.2222683	0	1
Investment Round	416	3.190902	1.377916	1	9
CVC Equity	416	5017.98	8625.888	0	146617.9
Round Equity	416	28498.42	40354.97	0	420185.7
% of Round Equity	416	.2062006	.1199403	.0280669	.93888

The statistics show two levels of measurement; Absolute and percentage amounts. The absolute amounts indicate the quantity of a specific investment type in the average leader's portfolio. However, this implies that larger portfolios might potentially inflate/skew the average for certain investment categories. To account for this, we've also included percentage variables. These compute the proportion of a particular investment type within each leader's portfolio, with the descriptive statistics showing the proportions of each investment type of the average leaders portfolio.

First, the average leader has an industry portfolio composition that consists of information technology (53,21%), Life-sciences (15,08%), Industrial goods (13,81%), and Other industries (17,90%). In terms of

initial vs. follow-on capital deployment, approximately 75.1% of investments are initial investments. As such, follow-up investments only make up 24,9% of the average leader's individual portfolio. Based on the rational-financial agents logic, this suggests that only around one-fourth of ventures evolve to a satisfactory level that qualifies them for follow-on financing by the CVC[6]. International investments constitute 52,8% of the total investments, suggesting a near-even split between national and international portfolio companies.

Next, leaders tend to participate in the third round of financing (3.19). Correspondingly, this may indicate that leaders gravitate towards more mature ventures and rarely write the "first check" (e.g. inception-rounds or pre-seed rounds)[7]. This propensity becomes more evident when we look at the results that emphasize investment-stage focus. Early-stage account for 38,52%, while late late-stage make up 61,48%. These findings align with Dushnitsky and Shapira (2010) and P. Gompers and Lerner (1998).

Moreover, leaders only rarely lead financing rounds (14,17%), and the vast majority of the time (85,3%) follow other market participants in syndicated deal structures. These results show a sharp similarity to Dushnitsky and Shapira (2010). Leaders,on average deploy 5,01 million dollars and receive 20.62% of the total equity distributions in the round. The median deployment of equity within the final sample is 3,4 million dollars, indicating that certain leaders contribute significantly more than others.

In our analysis, the descriptive statistics indicate that the average age of CVCs is approximately 13.5 years. This is notably higher than reported in other CVC studies, such as the one by Gaba and Dokko (2016), which suggests a period closer to 5 years. In contrast, the study by Strebulaev and Wang (2021) involves a manual collection of data on the age of CVCs and presents an average lifetime of closer to 10 years.

Finally, emphasizing the outcomes of CVC investments, it is observed that 17.73% of all ventures either become publicly traded (IPO) or acquired.

Descriptive Statistics: Leader Characteristics

The descriptive statistics in Table 5.7 outline the leader characteristics of our final sample. A visual comparison to the descriptive statistics in 5.1 does not reveal any substantial differences in leader characteristics between analyses I and II. There are some minor differences to note. One such difference pertains to leaders with experience in the life science industry. Specifically, for CVCs that have a public parent company, 16.11% of leaders have had previous life science experience. This is a slightly higher percentage than the 12.86% reported in Analysis I. Moreover, the proportion of leaders who have founder experience is

[6]In practice, it is usually more complicated in terms of the pro-rata allocations/follow-on financing due to internal policies, fund/capital pool sizes, and requirements posited by new investors

[7]While we assume rational agents and stipulate no difference in decision-making between initial and follow-on investments, the inclusion of follow-on investments likely inflates the round number-average.

marginally higher in Analysis I than in Analysis II. Specifically, 29.86% of leaders have founder experience in Analysis I, compared to 26.44% in Analysis II. Clearly, there are minimal noticeable differences between the complete human capital data set and the one displayed here.

Table 5.7: Descritpive Statistics: Leader Characterisitcs

Variable	Obs	Mean	Std. dev.	Min	Max
gender	416	.1370192	.3442817	0	1
tenure	416	7.168269	6.682151	1	52
founder	416	.2644231	.4415566	0	1
Number of countries	416	1.461538	.7689527	1	5
International Exp.	416	.3293269	.4705347	0	1
International Exp., Years	416	2.894231	5.884705	0	41
Exp. in Info. Tech. Industry	416	.3918269	.4887461	0	1
Exp. in Info. Tech. Industry, Years	416	4.875	8.130191	0	41
Exp. in Life Science Industry	416	.1610577	.3680268	0	1
Exp. in Life Science Industry, Years	416	2.420673	6.772265	0	38
Exp. in Industrial Goods Industry	416	.1129808	.3169505	0	1
Exp. in Industrial Goods Industry, Years	416	1.278846	4.693408	0	35
Exp. in Other Industries	416	.8100962	.3926972	0	1
Exp. in Other Industries, Years	416	13.5024	10.87231	0	53
Exp. in Parent	416	.3629808	.4814384	0	1
Exp. in Parent, Years	416	1.913462	3.497636	0	23
Nr. of positions in Parent	416	.9206731	1.626869	0	9
Exp. in Consultancy	416	.1947115	.3964553	0	1
Exp. in Consultancy, Years	416	.9615385	2.621222	0	20
Exp. in Investment Banking	416	.2716346	.4453381	0	1
Exp. in Investment Banking, Years	416	1.834135	4.192235	0	26
Exp. in Corporate Occupation	416	.7403846	.4389515	0	1
Exp. in Corporate Occupation, Years	416	8.125	8.071294	0	48
Exp. in STEM Occupation	416	.2139423	.4105804	0	1
Exp. in STEM Occupation, Years	416	1.59375	3.989246	0	25
CVC Exp	416	.2355769	.4248698	0	1
CVC Exp., Years	416	1.334135	3.249673	0	18
IVC Exp.	416	.1129808	.3169505	0	1
IVC Exp., Years	416	.5649038	2.125149	0	19
PHD	416	.1899038	.3926972	0	1
Master	416	.7884615	.408891	0	1
Bachelor	416	.9302885	.2549669	0	1
Business Education	416	.3605769	.4807461	0	1
STEM Education	416	.4423077	.4972585	0	1
Law Education	416	.0721154	.2589903	0	1
Social Science Education	416	.1081731	.3109729	0	1
Top 25 School	416	.2163462	.4122487	0	1

5.2.2 Empirical Model

Summary Statistics

The summary statistics for the input variables from the final sample used in the regression can be seen below in table 5.8.

Table 5.8: Final Sample Summary Statistics

Variable	Obs	Mean	Std. dev.	Min	Max
Dependant Variables					
Lead Investments	416	5.120	13.552	0	161
Early-stage Investments	416	13.070	30.243	0	404
Parent-Venture Industry Match	416	19.495	73.560	0	1309
International Investments	416	16.673	39.033	0	511
Successful Investments	416	9.195	45.687	0	881
Independent Variables					
Gender	416	0.137	0.344	0	1
Exp. in Parent	416	0.363	0.481	0	1
Exp. in Parent Industry	416	0.666	0.472	0	1
International Exp.	416	0.329	0.471	0	1
Founder	416	0.264	0.442	0	1
CVC Exp.	416	0.236	0.425	0	1
IVC Exp.	416	0.113	0.317	0	1
Consultancy Exp.	416	0.195	0.396	0	1
Investment Banking Exp.	416	0.272	0.445	0	1
Corporate Occupation	416	0.740	0.439	0	1
STEM Occupation	416	0.214	0.411	0	1
PHD	416	0.190	0.393	0	1
Business Education	416	0.361	0.481	0	1
STEM Education	416	0.442	0.497	0	1
Exp. in Info. Tech Industry	416	0.392	0.489	0	1
Exp. in Life Science Industry	416	0.161	0.368	0	1
Exp. in Industrial Goods Industry	416	0.113	0.317	0	1
Exp. in Other Industries	416	0.810	0.393	0	1
Control Variables					
Investments	416	34.067	95.593	1	1692
R&D Intensity	416	0.066	0.093	0	0.528
Total Assets	416	70089.29	90361.04	41.381	557408
Ln(Total Assets)	416	10.236	1.673	3.747	13.231
Slack	416	0.189	0.242	-3.567	0.683
CVC Age	416	13.558	11.001	1	49
Ln(CVC Age)	416	2.348	0.861	0.693	3.912
Tenure	416	7.168	6.682	1	52

Table 5.9: Correlation Matrix

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
(1)	1.0000										
(2)	0.8807	1.0000									
(3)	0.8157	0.8733	1.0000								
(4)	0.7424	0.8177	0.8274	1.0000							
(5)	0.6978	0.7605	0.9257	0.7420	1.0000						
(6)	0.1426	0.1296	0.0431	0.0449	0.0240	1.0000					
(7)	-0.0226	-0.0277	-0.0367	-0.0253	-0.0602	0.0336	1.0000				
(8)	-0.0306	-0.0508	-0.0361	-0.0340	-0.0794	0.0896	0.4817	1.0000			
(9)	-0.0448	-0.0343	-0.0521	0.0605	-0.0445	-0.0115	0.1518	0.1169	1.0000		
(10)	0.1235	0.1161	0.0534	0.0668	0.0151	-0.0962	-0.1125	-0.0375	-0.0374	1.0000	
(11)	-0.0284	-0.0568	-0.0284	-0.0198	-0.0585	0.0588	0.0050	0.1771	0.0208	0.0140	1.0000
(12)	0.0064	0.0412	0.0010	0.0217	-0.0391	-0.0539	-0.1904	-0.0853	0.0084	0.0615	-0.0550
(13)	-0.0429	-0.0389	-0.0534	-0.0364	-0.0395	0.0336	-0.0429	-0.0249	0.0688	0.0080	-0.0012
(14)	-0.0246	-0.0581	-0.0375	-0.0557	-0.0544	-0.0705	-0.1575	-0.1517	-0.0255	0.0382	-0.0334
(15)	-0.0486	-0.0702	-0.0798	-0.0761	-0.0982	0.1084	0.3216	0.3942	0.1583	0.0318	-0.0976
(16)	-0.0904	-0.0833	-0.0684	-0.0634	-0.0492	-0.0204	0.1060	0.1086	0.0959	-0.0204	0.0005
(17)	-0.0016	0.0293	0.0216	0.0533	0.0291	0.0210	-0.0978	0.0181	-0.0654	-0.0263	0.0490
(18)	0.0148	0.0281	0.0512	0.0254	0.0287	0.0793	0.1099	0.0331	0.0703	0.0379	0.0432
(19)	0.0118	-0.0099	0.0099	0.0196	-0.0042	0.0252	0.0424	0.1178	0.0351	-0.0182	0.0303
(20)	0.1308	0.1269	0.1552	0.1046	0.0458	-0.0048	-0.1041	-0.0160	0.0662	0.1105	-0.0394
(21)	0.0246	0.0841	0.0474	0.0634	0.0318	0.1297	-0.0451	0.1024	-0.0844	-0.0403	0.0496
(22)	-0.0548	-0.0818	-0.0623	-0.0858	-0.0453	-0.0097	0.0622	-0.0370	0.0731	-0.0074	0.0882
(23)	-0.0645	-0.0845	-0.1677	-0.1281	-0.1472	-0.0744	-0.0806	-0.1351	0.1176	0.0679	0.0088
(24)	0.8524	0.9073	0.9745	0.8343	0.9376	0.0529	-0.0349	-0.0650	-0.0397	0.0646	-0.0427
(25)	0.1134	0.1932	0.1814	0.1105	0.0816	0.0308	-0.0768	0.1230	-0.1105	-0.0024	-0.0078
(26)	0.1974	0.1500	0.1077	0.1602	0.0608	0.1152	0.0958	0.1218	0.0769	0.0767	0.1128
(27)	0.0876	0.0795	0.0802	0.0720	0.0815	0.1127	0.0832	0.0710	-0.0246	0.0862	0.0405
(28)	0.2373	0.2385	0.1900	0.2378	0.1788	0.0892	-0.0034	0.0226	-0.0289	0.0463	-0.0216
(29)	0.1179	0.1849	0.1667	0.2041	0.2372	-0.0572	-0.1419	-0.1662	-0.1227	-0.0094	-0.1820

Where (1) = Lead Investments, (2) = Early-Stage Investments, (3) = Parent-Venture Industry Match, (4) = International Investments, (5) = Successful Investments, (6) = Gender, (7) = Exp. In Parent, (8) = Exp. In Parent Industry, (9) = International Exp., (10) = Founder, (11) = CVC Exp., (12) = IVC Exp., (13) = Consultancy Occupation, (14) = Investment Banking Occupation, (15) = Corporate Occupation, (16) = STEM Occupation, (17) = PHD, (18) = Business Education, (19) = STEM Education, (20) = Exp. in Information Technology Industry, (21) = Exp. in Life Science Industry, (22) = Exp. in Industrial Goods Industry, (23) = Exp. in Other Industries, (24) = Investments, (25) = R&D Intensity, (26) = Ln(Total Assets), (27) = Slack, (28) = Ln(CVC Age), (29) = Tenure

Table 5.10: Continued Correlation Matrix

	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)
(12)	1.0000										
(13)	0.0930	1.0000									
(14)	0.1064	0.0819	1.0000								
(15)	-0.0485	0.0696	-0.1191	1.0000							
(16)	-0.0381	-0.1085	-0.2000	-0.0521	1.0000						
(17)	-0.0373	-0.0833	-0.1441	-0.1047	0.1360	1.0000					
(18)	-0.0782	0.0353	0.0479	0.1592	-0.1476	-0.0317	1.0000				
(19)	0.0185	-0.0590	-0.1848	-0.0136	0.2789	0.2598	-0.2152	1.0000			
(20)	0.1180	0.0530	-0.0252	0.1271	0.0376	-0.0120	-0.0592	0.0784	1.0000		
(21)	0.0915	-0.0338	-0.0911	-0.0389	0.0744	0.2047	-0.0975	0.0443	-0.1909	1.0000	
(22)	-0.0074	0.0163	-0.0643	0.0035	0.0916	0.0789	0.0799	0.1103	-0.1309	-0.1357	1.0000

	(23)	(24)	(25)	(26)	(27)	(28)	(29)
(23)	1.0000						
(24)	-0.1205	1.0000					
(25)	-0.2084	0.1239	1.0000				
(26)	-0.0354	0.1247	-0.1268	1.0000			
(27)	-0.0771	0.0843	-0.2417	0.2151	1.0000		
(28)	-0.2838	0.2209	0.0914	0.2833	0.1741	1.0000	
(29)	-0.0548	0.2164	-0.0700	-0.1763	0.0244	0.1456	1.0000

Where (12) = IVC Exp., (13) = Consultancy Occupation, (14) = Investment Banking Occupation, (15) = Corporate Occupation, (16) = STEM Occupation, (17) = PHD, (18) = Business Education, (19) = STEM Education, (20) = Exp. in Information Technology Industry, (21) = Exp. in Life Science Industry, (22) = Exp. in Industrial Goods Industry, (23) = Exp. in Other Industries, (24) = Investments, (25) = R&D Intensity, (26) = Ln(Total Assets), (27) = Slack, (28) = Ln(CVC Age), (29) = Tenure

Pairwise Correlations

In table 5.9 and table 5.10, we provide a summary of the pairwise correlations for the variables intended for regression analysis. We investigate if there are high correlations among the variables used in our study. To ensure the validity of our findings and to check for multicollinearity, we also perform a Variance Inflation Factor (VIF) test with a cut-off threshold of 5 (Berenson et al., 2012).

Upon initial examination, we observe strong correlations among all our dependent variables. These high correlations are expected as they all represent different categorizations of total investments. Importantly, the correlations do not pose limitations on our regression analyses, as the dependent variables are employed in isolated models. Further, the independent variables do not exhibit any excessive correlations (with the highest correlation being under 0.4) that would require intervention. Therefore, all independent variables are kept throughout the five models. In order to identify potential issues of multicollinearity in the models, a VIF test is conducted, which concludes that no independent variable exceeds a VIF value > 2, well below the critical value that would require the exclusion of variables (C. Robinson & Schumacker, 2009). Thus, there are no indicators of issues with multicollinearity. For an examination of all values, see appendix 8.

The Statistical Model

Having examined and reviewed our sample, we conducted negative-binomial regressions incorporating our independent, dependent, and control variables.

The estimation of investment behavior is measured through 5 dependent variables mentioned in section 4.3.1. Our dependent variables are defined as non-negative integer values or count values. A common regression model for this type of dependent variable is the Poisson regression model. However, the Poisson model assumes equality between the variance and mean of the distribution (Coxe et al., 2009), which is not applicable to this thesis, as seen in table 5.8. The five dependant variables exhibit overdispersion, indicated by the conducted kernel density plots[8]. With this in mind, the statistical analysis of this thesis will utilize negative binomial regressions, which is a generalization of the Poisson model with the critical distinction that it allows for overdispersion (Greene, 2008). A key characteristic of negative binomial regressions pertains to the interpretation of coefficients. Compared to models such as OLS regressions, the coefficients are interpreted differently as it constructs the logarithm of the anticipated count as a function of the independent variables. In essence, this means that the coefficient represents the change in the log of the dependent variable for a one-unit change in the independent variable, given all other independent variables are constant (UCLA, 2021). Additionally, given that a number of independent variables in this thesis are binary, the successful use of such variables with negative binomial regressions

[8]For an overview of the kernel density plots, please see appendix 4

has been demonstrated in previous studies (Hausman et al., 1984).

When building our empirical models, we follow Di Lorenzo and Almeida (2017) by constructing the models through three distinct stages. Correspondingly, model X.1 only includes selected control variables, and the dependant, and model X.2 includes selected independent variables and the dependant. The final models, X.3, include all relevant variables and is the model from which this thesis draws inferences. For an overview of the results from all iterations of the models, see appendix 6. Lastly, introducing robust standard errors accounts for potential heteroskedasticity (Stock & Watson, 2015).

5.2.3 Results

This section highlights the results obtained from the analysis. First, we tackle the sub-categorized second research question, which pertains to the investment behavior of leaders, namely:

1. *RQ 2.1: How do CVC leaders invest?*
2. *RQ 2.2: Where do CVC leaders invest?*
3. *RQ 2.3: What is the outcome of individual CVC leaders' investments?*

To address RQ2.1, we construct model 1, which utilizes the number of lead investments as the dependent variable, and model 2, which examines early-stage investments. Next, to address RQ2.2, we construct model 3, which examines investments made in ventures with a parent-venture industry match, and model 4, which examines the number of international investments. Finally, to address RQ2.3, model 5 is created to examine the successful outcomes of individual investments. The results for the final iteration for each model are seen in table 5.11 below:

Table 5.11: Regression Results

Model 1.3: Lead Investments, Model 2.3: Early-Stage Investments, Model 3.3: Parent-Venture Industry Match, Model 4.3: International Investments, Model 5.3: Successful Investments

Negative Binomial Regressions	Model 1.3	Model 2.3	Model 3.3	Model 4.3	Model 5.3
Gender	0.336*	0.125	0.042	-0.032	-0.013
	(0.161)	(0.133)	(0.136)	(0.167)	(0.170)
Exp. in Parent	0.034	0.252*	0.200*	0.138	-0.216
	(0.138)	(0.105)	(0.115)	(0.127)	(0.153)
Exp. in Parent Industry	-0.140	-0.148	0.052	0.023	0.005
	(0.153)	(0.102)	(0.116)	(0.140)	(0.172)
International Exp.	0.203	0.277**	0.131	0.615**	0.129
	(0.124)	(0.089)	(0.099)	(0.110)	(0.133)
Founder	0.306*	0.204*	0.116	0.139	0.280*
	(0.136)	(0.103)	(0.108)	(0.121)	(0.156)
CVC Exp.	0.242*	0.085	0.176*	0.257*	-0.186
	(0.124)	(0.104)	(0.104)	(0.118)	(0.143)
IVC Exp.	0.331*	0.360**	0.404**	0.270*	-0.168
	(0.178)	(0.124)	(0.131)	(0.149)	(0.210)
Consultant Occupation	-0.022	-0.176*	-0.185*	0.028	-0.304*
	(0.146)	(0.099)	(0.111)	(0.122)	(0.182)
Investment Banking Occupation	0.027	-0.077	0.020	-0.193	-0.172
	(0.135)	(0.098)	(0.104)	(0.126)	(0.161)
Corporate Occupation	-0.039	-0.058	-0.154	-0.135	-0.226
	(0.151)	(0.099)	(0.117)	(0.136)	(0.167)
STEM Occupation	-0.136	-0.127	-0.290*	-0.106	-0.154
	(0.155)	(0.109)	(0.117)	(0.131)	(0.156)
PHD	-0.052	0.081	0.205*	0.161	0.265
	(0.148)	(0.105)	(0.120)	(0.148)	(0.184)
Business Education	-0.282*	-0.105	0.054	-0.145	0.006
	(0.129)	(0.087)	(0.102)	(0.116)	(0.131)
STEM Education	-0.018	-0.102	-0.040	-0.029	0.025
	(0.125)	(0.084)	(0.090)	(0.114)	(0.134)
Exp. in information tech. Industry	-0.130	0.018	0.549**	0.070	-0.030
	(0.134)	(0.102)	(0.115)	(0.125)	(0.154)
Exp. in Life Science Industry	0.179	0.251*	0.523**	0.462**	0.594**
	(0.186)	(0.140)	(0.153)	(0.170)	(0.181)
Exp. in Industrial Goods Industry	-0.390*	-0.517**	-0.494**	-0.153	-0.451*
	(0.200)	(0.142)	(0.145)	(0.211)	(0.200)
Exp. in Other Industries	0.255	0.272*	-0.106	0.245	0.127
	(0.186)	(0.150)	(0.135)	(0.179)	(0.199)
Investments	0.015**	0.014**	0.013**	0.014**	0.012**
	(0.004)	(0.004)	(0.004)	(0.005)	(0.004)
R&D Intensity	-1.424*	1.581**	2.541**	-1.090	0.337
	(0.863)	(0.569)	(0.647)	(0.793)	(0.918)
Ln(TotalAssets)	0.138**	0.059	0.101*	0.098*	0.047
	(0.049)	(0.037)	(0.040)	(0.040)	(0.053)
Slack	-0.459**	-0.185*	0.013	-0.339*	0.172
	(0.173)	(0.112)	(0.138)	(0.154)	(0.323)
Ln(CVC Age)	0.258*	0.218*	0.291**	0.363**	0.851**
	(0.108)	(0.087)	(0.084)	(0.098)	(0.120)
Tenure	-0.005	0.031**	0.037**	0.020*	0.083**
	(0.012)	(0.007)	(0.010)	(0.011)	(0.012)
Constant	-1.575*	-0.195	-0.887*	-0.589	-2.477**
	(0.643)	(0.487)	(0.487)	(0.500)	(0.745)
lnalpha	0.043	-0.405*	-0.267	0.170	0.296*
	(0.180)	(0.200)	(0.163)	(0.113)	(0.139)
Observations	416	416	416	416	416
Robust Errors	Yes	Yes	Yes	Yes	Yes
Pseudo R^2	0.1424	0.1425	0.163	0.0921	0.163

$* = p < 0.1$, $** = p < 0.05$, $*** = p < 0.01$

The regressions above show the final iteration for each of the five models. In Appendix 6, the three iterations for each model are depicted. This method identifies the interaction between the dependent, independent, and control variables by identifying changes in significance and/or coefficients when new variables are introduced. As seen, the denotation of certain variables changes when introducing control variables, shifting their significance. This indicates that the chosen control variables influence the relationship underscoring their relevance (Berenson et al., 2012). Only the final models will be discussed below.

RQ 2.1 - How do CVC Leaders Invest?

In order to answer research question 2, we look at model 1.3 and model 2.3 to discern any relationships between the leaders' HC and their propensity to assume the lead position for investments or to invest in early-stage ventures.

Model 1 - Lead Investments

Model 1.3 indicates that gender (0.346*) is significant and positively correlated with lead investments. This result implies that holding all other variables constant, the number of lead investments is expected to increase for female leaders compared to male leaders. A similar dynamic is evident for founder-experience (0.306*), which indicates a positive and significant relationship. Both CVC experience and IVC experience are significantly and positively associated with lead investments. IVC exhibits the highest co-efficient out of the two (0.331* vs 0.242*), suggesting the impact of leaders with IVC experience on taking lead investments is stronger than that of leaders with previous CVC experience. The coefficient for business education (-0.282*) is negative and significant. This result stipulates that the amount of lead investments is expected to decrease if the leader holds a business degree, holding all other independent variables constant. Finally, CVC leaders with previous experience in the industrial goods industry (-0.390*) are negatively associated with taking lead investments. The majority of controls are positive and significant.

Interestingly, the R&D intensity[9](-1.424*) is significantly negatively correlated with lead investments. One might expect higher R&D intensity to enhance leaders' inclination to participate as lead investors, which usually necessitates more capital. As such, potential explanations for this observation may be rooted in actual microfoundations. Alternatively, resource allocation strategies, risk management/diversification strategies, or absorptive capacity influence may also influence the propensity to lead or follow (Basu et al., 2011).

Model 2 - Early-Stage Investments

Model 2.3 shows a positive and significant relationship (0.252*) between leader experience in the parent

[9]An alternative measure of R&D Intensity is the amount of research personnel over total employees (Leonard, 1971). Although it is beyond the scope of this thesis, future research employing the alternative definition might yield different results.

firm and the number of investments made into early-stage ventures. International experience (0.277*) is significant and positively correlated with early-stage investments. The leader having previous experience as a founder is positive and significant(0.204*) for early-stage investments. IVC experience is also positive and significant (0.360**). Consultancy experience (- 0.176*) is significant and negatively associated with early-stage investments. Experience in the life science industry (0.251*), as well as in the classification of "Other" industries (0.272*), are both positive and significant. In comparison, experience in the industrial goods industry (- 0.517**) is negatively associated with early-stage investments. Further, tenure is significant and positively correlates with early-stage investments. In terms of control variables, R&D intensity has a significant and positive coefficient (1.581**), while slack (-0.185*) is negative and significant. While the observation regarding R&D is anticipated, given its connection to the number of investments, the finding related to slack resources is more unexpected. A potential explanation could be that increasing slack resources have been associated with less corporate risk-taking and more complacent management (Picolo et al., 2018). This aligns with the prospect theory argument suggesting corporations are more inclined to seek out risk when in a more negative state (Kahneman, 1979).

RQ 2.2 - Where do CVC Leaders Invest?

Model 3 - Parent-Venture Industry Match

The Parent-venture industry match refers to investments made into ventures that operate within the same industry as the parent company of the CVC. Experience in the parent company is positive and significant (0.200*), with investments stipulating parent-venture industry match. CVC (0.176*) and IVC (0.404**) experience is significant and positively correlated. Experience in the consultant occupation is significant with a negative coefficient (-0.185*). Similarly, leaders with experience in a STEM occupation (-0.290*) are significantly and negatively associated with making investments where the parent-venture industry matches. Leader experience in the information technology (0.549**) and life science (0.523**) industries are both significant and positive. In contrast, leadership experience in the industrial goods industry (-0.494**) is significant and negatively associated with parent-venture industry matches. For the utilized control variables, investments (0.013**), R&D intensity (2.541**), Ln(Total Assets) (0.101*), Ln(CVC Age) (0.291**), and tenure (0.037**) are all significant and positive.

Model 4 - International Investments

The amount of international investments is used as the dependent variable. A leader with international experience (0.615**) is significant and positively associated with making international investments. Experience within both CVC (0.257*) and IVC (0.270*) exhibit significant and positive results with similar coefficients. Leader experience in the Life Science industry (0.462**) is positive and significant. In terms of control variables, investments (0.014**), Ln(Total Assets) (0.098*), Ln(CVC Age) (0.363**) and tenure (0.020**) are all significant with positive coefficients. Slack (-0.339*) is significant, with a negative coeffi-

cient. Interestingly, R&D Intensity becomes insignificant in model 4.3.

RQ 2.3 - What is the Outcome of Individual CVC Leaders' Investments?

Model 5 - Successful Investments
The last model, model 5, utilizes the count of successful investments as the dependent variable. Founder (0.280*) is positively associated with successful investments and is significant. Leaders with experience in consultancy (-0.304*) are significantly and negatively associated with successful investments. Leader experience in the life science industry (0.594***) is significant and positively correlated with successful investments. However, leadership experience in industrial goods (-0.451*) has a significant negative association with successful investments. For control variables in model 5.3, investments (0.012**), Ln(CVC Age) (0.851**), and tenure (0.083**) are significant and positively associated with successful investments. Important to note that while slack, Ln(Total Assets), and R&D Intensity all have positive coefficients, they are no longer significant in Model 5. All results from the statistical models will be discussed in section 6.

5.2.4 Robustness Checks

While this thesis takes a descriptive approach and focuses on associations and correlations without inferring any causation, it is still essential to maintain a robust validity and reliability of the statistical models. To improve the trustworthiness, the statistical models are checked to verify such status. By altering the attributes of the model and examining the potential variations in results, it is possible to detect if there are any underlying weaknesses in the model (Lu & White, 2014; Neumayer & Plümper, 2017). This thesis conducts two separate robustness tests utilizing an OLS regression with logged dependants to compensate for overdispersion and rerunning the original negative binomial regression after identifying and removing extreme outliers in the data set.

The first robustness model utilizes OLS regressions, where the natural logarithm of the dependent variables is calculated to account for their overdispersion. The second robustness check identifies and removes the extreme outliers before rerunning the negative binomial regressions. We, therefore, remove the extreme tail and exclude the upper 1% for each dependent variable. By identifying outliers, removing them from the sample, and conducting the negative binomial regressions, it is possible to identify the impact these outliers had on the final model. Appendix 7 shows a side-by-side of the five main negative binomial regressions, the OLS regressions, and the negative binomial regressions with outliers removed.

Lead Investments show similar significance and direction of coefficients for gender, founder, CVC, and business education. A notable difference is that IVC loses significance, and experience in other

industries gains (positive) significance in both robustness models. Moreover, STEM occupation gains (negative) significance in the OLS robustness model. *Early-stage investments* indicate the directionality of coefficients and significance for experience in parent, international experience, founder, IVC experience, and industrial goods industry that are similar to the main models for both robustness checks. Further, the removed outliers robustness model shows similar significance and coefficients for experience in the life science industry and consultancy occupation. Differences between the main model and OLS robustness model consulting experience and life science industry experience, which do not show significance in the OLS model. When checking for *Parent-Venture Industry Match*, there are two independent variables that either lose significance or shift the directionality of the coefficient. Both consultant experience and Ph.D. go from being significant in the main model to insignificant in the OLS model. No changes are observed in the removed outliers model in terms of the direction of coefficients or significance. *International Investments* have the same significance and direction of coefficients for International experience, CVC experience, and IVC experience between the main model and robustness checks. Experience in the Life Science industry loses significance between the main model and the OLS model but remains significant in the removed outliers model. *Successful Investments* exhibit similar significance and coefficients between the main model and the two robustness checks for all but three independent variables. Experience in the industrial goods industry goes from being significant in the main model to becoming insignificant in the OLS model, while founder and consultancy occupation lose their significance in the model with outliers removed (however, keeping a similar value and directionality of their coefficients).

Although the majority of independent variables across the five models exhibit robustness, some specific variables are subject to scrutiny. Nevertheless, the thesis maintains that discussing these variables is valuable for theorizing about their influence on investment behavior and the factors that underline their impact. For a full overview of the statistical results of the robustness models, please see appendix 7.

Chapter 6

Discussion

6.1 Discussion of Results

We provide a comprehensive discussion of our significant results, seeking to understand their contribution to current CVC literature. Concurrently, we detail the implications of our investigation for practitioners and academics. We also recognize the limitations of our research and propose potential avenues for future research.

Importantly, the discussion does not claim causation. Instead, it offers conjectures on underlying dynamics that may contribute to potential explanations for the associations observed in the empirical models and theorizes about links to the mostly macro-dominated CVC literature. The objective is to theorize about rational explanatory dynamics rather than draw any conclusions about causal relationships or offer definitive explanations. As such, we do not address the directionality or effects that individual leaders may have on the macro-level outcomes (focal corporations).

6.1.1 How do CVC Leaders Invest?

Investment Stage

Our findings indicate that various types of HC resources exhibit positive and negative associations with early-stage investments.

Firm-specific HC is positively associated with making early-stage investments. Possessing a deeply contextual understanding of the focal corporation's complementary resources/assets and tacit systems may mitigate some of the substantial risks associated with early-stage investments due to improved insights into operational fit and overall compatibility (H. W. Chesbrough et al., 2002; Huckman & Pisano, 2006).

Commonly, early-stage ventures' products, markets, and business models are less mature, highly uncertain, and there is lower visibility of overall fit with the parent corporation. Therefore, CVCs and

ventures may derive greater value from collaboration when the venture reaches a more advanced stage of development as commercial opportunities are more apparent (Van de Vrande & Vanhaverbeke, 2013), and absorptive capacity improves (Lane et al., 2001). This also aligns with M. Maula et al. (2005), who describes CVCs as commerce builders and providers of revenue-expanding opportunities. Even though they may be less frequent, immediately apparent, or commercially targeted, certain early-stage investments can still present strategic alignment and synergies with the parent corporation(Dokko & Gaba, 2012). Leaders who possess an in-depth and nuanced understanding of the corporate parent's operating systems, complementary assets, and strategic objectives may be better equipped to identify and capitalize on such high-value /low-visibility early-stage investment opportunities. Moreover, such leaders may also possess enhanced predictive capabilities regarding a venture's potential and the likelihood of the venture achieving rapid development to a maturity stage that suggests a better fit with the parent corporation's complementary assets.[1]. Conclusively, possessing firm-specific HC resources may enhance the probability of identifying and integrating early-stage investments that demonstrate a high potential for strong synergies with the parent corporation (Dokko & Gaba, 2012; Teece, 2007).

Furthermore, identifying these strategic opportunities is more difficult in early stage, which may dissuade many leaders from deploying capital in this segment of the ecosystem, particularly those without relevant and accessible HC (e.g. 61,48 % of CVCs invest in late-stage and the third round of financing). As such, investing in early-stage ventures may present a unique opportunity for CVCs with firm-specific HC. First, it can facilitate the acquisition of a larger equity stake in new ventures at a relatively lower pre-money valuation. Larger equity stakes may lead to improved innovative and strategic outcomes for the parent company (Dushnitsky & Lenox, 2005a), and more financial value in case of an exit (Sapienza, 1992). Second, investing as early as possible contributes to first-mover advantages and leapfrogging capabilities (Agarwal & Gort, 2001; Souitaris & Zerbinati, 2014). Correspondingly, this may contribute to a competitive advantage (e.g. SHC resources) to the extent that the utilization of such firm-specific HC results in more favorable early-stage investments than competing CVCs. These results align with results presented by (Dokko & Gaba, 2012). The authors argue that CVC managers with firm-specific HC invest in earlier stages and emphasize strategic benefits (e.g. innovation).

Industry experience exhibits a significant association with early-stage investments. Leaders with experience in life science and other industries are positively associated with investing in the early stage. In contrast, experience in the industrial goods industry is negative. This illustrates how the type of industry experience leaders accumulates may influence investment behavior heterogeneously. Put differently, the macro-level antecedents influence the individual leader's conditions for actions and decisions differently (Foss & Linder, 2019). There could be several explanations for this phenomenon. One potential reason is that repeatedly encountering industry-induced decision-making scenarios can result in specialized learning curves as individuals gain experience and enhance their ability to make informed choices (Argote, 1996).

[1]Often, ventures can quickly achieve significant milestones in their development and rapid progress through maturity stages, which may unlock a stronger fit for complementary resources

Possessing experience from the life sciences industry, leaders have arguably accumulated more familiarity and experiential leanings from high-risk and volatile environments with uncertain product development cycles and rapid technological change (Achilladelis & Antonakis, 2001). Such factors exhibit characteristics that parallel dynamics typically found in early-stage ventures (J.-H. Park & Bae, 2018). This could offer a possible explanation, as investors often fear uncertainty and are predisposed to invest in familiar territories where past experiences and leanings reduce information asymmetry (Argote, 1996; March, 1991). The industrial goods industry is characterized by less volatility, incremental innovation, and generally more maturity (Dushnitsky & Lenox, 2006; W. T. Robinson, 1988). Such macro-conditioning may make leaders predisposed to less risky and volatile late-stage ventures. As such, different types of industry experience can lead to different investment behavior and heterogeneous investment behavior.

Specific types of occupational HC similarly exhibit both negative and positive significant associations with early-stage investments. First, experience in IVC is positively correlated with investments in the early stage. This aligns with Dokko and Gaba (2012) who suggests that CVC managers with experience in IVC will attempt to project their accumulated HC resources (e.g. IVC blueprint) in the corporate context. Following the logic of M. Maula et al. (2005), IVC experience would make leaders gravitate towards the early stage as IVCs are more effective and experienced with assisting portfolio companies in the early stages compared to CVCs. This association could also stem from IVCs exhibiting ' over-confidence (Zacharakis & Shepherd, 2001), or optimistic bias (Parhankangas & Hellström, 2007). Consequently, this type of occupation-specific HC, arguably demonstrates close proximity/specificity to the investment behavior associated with early-stage investments.

Oppositely, experience as a management consultant is negatively associated with investments in the early stage. Management consultants often develop expertise in problem-solving, typically working with varying degrees of information availability, but usually with larger corporations as clients (Rind Christensen & Klyver, 2006). Consequently, this type of occupation-specific HC may be more specific to increasingly mature ventures, gravitating investment behavior in that direction. D. Dimov et al. (2007) and Zarutskie (2010) exhibit similar findings, elucidating how non-venture financing experience, like consulting, are less inclined to make early-stage investments.

Task-specific HC is significantly positively associated with early-stage investments. Firstly, the investment behavior of CVC leaders with prior experience as founders is positively associated with investments in early-stage ventures. Possible explanations could stem from similarity bias, where leaders, once early-stage founders themselves, may favor investing in similar set-ups (Franke et al., 2006). Leaders with founder experience may have cultivated and sustained an identity as entrepreneurs, which may predispose them to be generally more supportive of early-stage ventures, recognizing the challenges and potential of such ventures (Franke et al., 2006). International experience indicates a similar positive association with early-stage investments. Interestingly, Patzelt et al. (2009) exhibit similar findings in their study on IVC

for both founder- and international-experience. [2]

We note that general HC does not show any significant associations, which may suggest that the stock of HC accumulated through professional experiences is a stronger predictor for this type of investment behavior.Zarutskie (2010) and Manigart et al. (2007) suggest similar inferences in their respective studies. This also aligns with the HC resource model (Ployhart, 2021; Ployhart et al., 2014), and conventional HC theory (Becker, 1964), which outlines the context-generic nature of education as pertaining low proximity and specificity to performance behavior and outcomes. Our results regarding investment stage do not provide sufficient evidence to either corroborate or refute conventional IVC findings, which suggest that individuals with a STEM education and/or STEM professional experiences make more early-stage investments (D. Dimov et al., 2007; Patzelt et al., 2009) or whether finance backgrounds (e.g., investment banking) gravitate increasingly to late-stage investments (D. Dimov et al., 2007). [3]

Investment Role

Business education and industrial-goods industry experience is negatively correlated with leading investments. A possible reason is that individuals with a business education acquire high familiarity with concepts like portfolio risk and market dynamics, as opposed to concepts rooted in scientific or technical fields (STEM), as outlined in section 4.3.2. This background may induce leaders to emphasize the heightened risk of sustaining a more substantial investment loss when acting as the round leader. Put differently, this investment behavior focuses on establishing downside protection rather than maximizing potential returns (optimizing for the upside)(Wu & Knott, 2006). Limited risk exposure is achieved by undertaking a follower role as this: 1) Reduces the amount of capital deployed 2) Enables syndication with e.g. IVCs. The cost of this more cautious strategy is passing on valuable investments perceived as too risky may result in reduced deal flow and low capacity for explorative deals. This result arguably deviates from Ployhart (2021) notion of proximity to performance behavior. This is because business education is context-generic and general and thus should not be closely linked to investment behavior, in theory. Experience in the industrial goods sector also shows a negative correlation with leading investments. This result may be attributed to the specific macro-conditions and dynamics prevalent in the industry, which influence leaders' conditions for action and decision-making toward follower investments. Further industry-specific research is needed to understand the validity of this association.

Next, female leaders have a positive association with leading investment rounds. From a risk-mitigation perspective, this may imply that female leaders are less risk-averse than their male counterparts. This

[2]There appears to be a unique interplay between international experience and early-stage investing, indicating a need for more in-depth exploration in future studies. Patzelt et al. (2009) does not elaborate on potential reasons for their findings on international experience and early-stage investments

[3]Non-findings are common when conducting studies on leaders and top management teams (Patzelt et al., 2009; West Jr & Schwenk, 1996)

presents somewhat contradictory evidence compared to the academic camp in strategic literature that suggests females are, in fact, more risk averse, (Barber & Odean, 2001; Barsky et al., 1997; Huang & Kisgen, 2013), and pursue less aggressive tactics as opposed to males (Hanlon et al., 2022). Correspondingly, this result aligns better withTinkler et al. (2015) and P. A. Gompers and Wang (2017a), who suggest how gender impact decision-making and investment behavior in complex and diverse ways. It may also indicate that female leaders pertain higher conviction in their own leadership abilities and thus do not need a "second opinion" from syndication partners (Zenger & Folkman, 2019).

Shifting the focus to occupational HC, our results suggest CVC and IVC experience is positively associated with the decision to lead investment rounds. Possessing this type of HC resources likely suggests high familiarity with pre-and-post investment activities, reducing the need for syndicating/following other financial agents, relying on such actors to determine valuation, set legal terms, and establish post-investment procedures (e.g. monitoring, recruitment, professionalizing management) (Hellmann & Puri, 2002; Kim et al., 2019; M. Maula et al., 2005). This follows the logic of (Hill et al., 2009). They suggest that CVCs that establish close links with IVCs are better able to identify emerging investment prospects and reduce their knowledge deficit regarding venture transactions. Ultimately, possessing this occupation-specific HC may mitigate the conventionally presumed short-coming of entrepreneurial deal-making often observed in CVC, leading to more lead investments (Birkinshaw et al., 2002). Such task-specific HC could ultimately contribute to improving the longevity of the CVC unit (Gaba & Dokko, 2016).

Finally, task-specific HC accumulated as a previous founder is also positively and significantly associated with leading investment rounds. This may be a result of leaders with founder experience tending to be less risk-averse(McMullen & Shepherd, 2006), and more likely to undertake increasingly complex and larger tasks as they exhibit considerable conviction in their own competencies (e.g. founder hubris) (Hayward et al., 2006).

6.1.2 Where do CVC Leaders Invest?

Domestic Vs. International

International experience is positively related to investing in international ventures. Leaders with international experience may have built more familiarity with various institutional, cultural, and legal contexts found abroad, increasing the specificity of their respective HC resources (Carpenter et al., 2001). As such, knowledge about and connection to international markets influence the investment behavior of leaders directing capital allocation towards more international markets (Murray, 1995). Investing globally is associated with improved deal flow and better investment opportunities which may suggest a fly-wheel effect (Hall & Tu, 2003). Nevertheless, there may also be agency risk/transaction costs associated with increasing the geographic spread of investments (Gupta & Sapienza, 1992). Belderbos et al. (2018) found that

the influence of geographic diversity on the innovative performance of corporate parents (macro-macro construct), where an inverted U-shaped relationship. Our results from the empirical models align with findings in IVC literature, (Manigart et al., 2007; Patzelt et al., 2009; M. Wright et al., 2002).

Consequently, our findings suggest that the stock of task-specific HC accumulated as international experience has high proximity/specificity to how and where leaders deploy capital. Our empirical models also suggest that it is not only the total stock of international HC that is relevant for international investment behavior but also IVC/CVC experience, industry experience, and CVC tenure.

Leaders with occupation-specific HC accumulated through IVC experience may be inclined to embrace a more financially focused orientation (Dokko & Gaba, 2012; Gaba & Dokko, 2016). This may make leaders gravitate more towards portfolio diversification investment behavior which includes investing internationally (P. A. Gompers & Lerner, 2004; Sapienza, 1992). Accordingly, even if IVC leaders have little international experience or knowledge about foreign markets, they may accept the uncertainties associated with geographically distant investments, perceiving such ventures in foreign markets as a necessary diversification exercise. Our results deviate somewhat from IVC literature. For example, Manigart et al. (2007) outlines how more leaders with IVC/PE experience are associated with an elevated probability of investing domestically. Moreover, Shuwaikh and Dubocage (2022) suggests that geographic proximity enhances access to a corporate investor's complementary resources. While this may not be a priority for leaders with a financial focus, it influences synergies between the venture and the focal corporation.

Next, life-science industry experience is positively associated with international investments. This again underlines how heterogeneous industry experiences may influence investment behavior differently. As such, experience in the life-science industry may be considered an HC resource that unlocks performance parity in international investments. One potential explanation is that deep industry know-how and expertise have been found to lead to a more export-oriented strategic mindset (Westhead et al., 2001). Among the industries included in our summary statistics, leaders with life science experience stand out for having one of the longest average tenures in the industry, exceeding 10 years on average prior to CVC leadership 5.1.

Our results regarding international investments suggest that only the stock of specific HC is relevant to this type of investment behavior. This notion is supported in the literature, exhibiting how specific HC may stimulate the implementation of firm strategies, like internationalization (Hitt et al., 2001; Lei et al., 1996). Following Hitt et al. (2001)'s logic, these particular types of HC resources may actually be categorized as SHC resources to the extent that they facilitate the implementation of firm strategies that generate a competitive advantage (Barney & Wright, 1998). In contrast, general HC, such as education, does not seem to be a significant predictor for this particular type of investment behavior.

Parent-Venture Industry Match

First, we note a positive correlation between possessing a Ph.D. degree and investing in parent-venture industry match opportunities. This may suggest that higher levels of general HC play a role in shaping the strategic investment behavior of leaders. A potential explanation is that a PHD-degree often stipulates: i) a higher level of domain specialization and more profound knowledge about a more concentrated set of industries and ii) higher cognitive capacity and improved adaptability to changing contexts (R. W. Coff, 1997; Ployhart & Moliterno, 2011). As such, A Ph.D. may amplify venture-parent match investments, in particular, if the academic discipline associated with the Ph.D. suggests relevant and accessible knowledge (e.g. Ph.D. in biochemistry and leadership in life-science CVC unit). Nevertheless, the adaptability of this type of general HC may also encourage investments in parent-venture matches, even if the academic discipline is unrelated to the investment focus of the CVC due to overall increased cognitive capacity. Put differently, increased educational levels should improve leaders' ability to spot and act upon opportunities that provide strategic benefits (D. Dimov & Martin de Holan, 2010). Additionally, more educational experience may amplify the development of more specific types of HC, such as industry-specific or occupation-specific HC, further emphasizing a verticalized investment behavior (Ployhart, 2021).

Furthermore, firm-specific HC is positively associated with parent-venture industry match investment behavior. Two explanations may account for this phenomenon. First, this investment behavior may be attributable to familiarity or selection bias Finucane (2008). Second, firm-specific HC arguably enables an enhanced understanding of the assets of the corporate parent and the degree to which they would complement a new venture. Such complementary is often more evident in similar industries (H. D. Park & Steensma, 2012). These two potential explanations are not mutually exclusive but ultimately indicate that leaders with this type of HC gravitate towards investing in a more concentrated set of industries that match the corporate parent. This result aligns with Dokko and Gaba (2012) who suggests firm-specific HC is associated with investing in a more narrow set of industries with a more strategic orientation.Gaba and Dokko (2016) exhibit similar results and argue that the strategic orientation of firm-specific HC may, in fact, be detrimental to the financial performance of the CVC unit. They suggest this is because leaders lack the necessary IVC KSAOs and because experiential learning has been restricted to the focal firm's boundaries (Gaba & Dokko, 2016). Dokko and Gaba (2012) also exhibits that CVC managers with former experience from IVC invest in a more broad set of industries. Our findings are dissimilar and suggest that occupation-specific HC from IVC/CVC is positively associated with investing in parent-venture industry match opportunities and, thus, a more narrow-industry spread.

We notice that occupational experience in consulting and industry-experience industrial goods is negatively associated with parent-venture-match, while life science and information technology experience exhibit a positive relationship. A possible explanation is that individuals with life-science or information technology industry-specific HC frequently lead CVC units with a similar investment thesis and thus de-

ploy capital in related industries. This would suggest a strong link between the individual KSAOs and the performance requirements embedded in the CVC unit. Parhankangas and Hellström (2007) demonstrates how prior industry experience can predispose individuals to construct a portfolio comprising companies within the same industry and lead to more risky investments [4]. Furthermore, with experience in a specific industry, the leaders may have built industry-specific networks, further funneling their deal flow and opportunities for syndication towards a narrow set of specific industries (Hochberg et al., 2007).

Oppositely, the negative relationship exhibited for individuals with consulting or industrial goods experience may suggest such respective leaders find themselves straying from the comfort zones of the parent corporations industry more frequently (P. Gompers et al., 2005; Hull, 2021). One possible interpretation for consulting is that such occupational experience exhibits a considerable degree of "breadth" as individuals are exposed to different industries. To this point, increasingly diverse/broader industry experience may lead to investments in increasingly heterogeneous industries (D. Dimov & Martin de Holan, 2010; Sorenson & Stuart, 2001). For experience in industrial goods, unknown macro-level conditions may provide some explanatory power, as might the mandate/strategies associated with the focal corporation's CVC unit. Future research could delve deeper into the unique macro-level environment to enhance the understanding of microfoundations. This finding is of particular interest as it contrasts Dushnitsky (2011) assertion that CVCs in the industrial goods sector show a strong predisposition towards investing in ventures within their own industry. A tendency not reflected in our results.

Finally, STEM-occupational HC is negatively associated with investing in venture-parent matches. Assuming that investing in ventures with industry alignment to the focal corporation generates strategic advantages, our empirical results deviate from Dokko and Gaba (2012), who find this type of professional background increases strategic orientation and increases investments in a more narrow set of industries. Nevertheless, (Yang et al., 2014) and (Wadhwa et al., 2016) suggest that industry diversification may yield positive strategic outcomes up to a certain point. As such, STEM-occupational HC may exhibit higher specificity/propensity to allocate resources to ventures that operate in different industries as they rely less on industry overlap to guide their respective technical-fit evaluations (Patzelt et al., 2009). STEM professionals are arguably better at evaluating product and technical specifications associated with a new venture and thus may exhibit more opportunistic, explorative, and dynamic investment behavior (Teece, 2007). As such, this type of HC may be classified as less risk-averse, which would align with (D. P. Dimov & Shepherd, 2005).

[4] We observe similar dynamics as life-science industry-experience is associated with early-stage investments

6.1.3 What is the Outcome of Individual CVC Leaders' Investments?

Successful Investments

Regarding the outcome of the leaders' investments, our results suggest that founder and life-science experience is positively associated with successful investments. In contrast, consulting experience and industrial goods experience negatively correlate with the number of successful investments.

First, the shifting power dynamics between the venture and the CVC may provide a possible explanation for the founder-experience observation. Frequently, the most attractive investment opportunities exhibit high visibility within the funding ecosystem, leading to intense competition for participation rights (P. Gompers & Lerner, 2001; Hochberg et al., 2007).[5]

Subsequently, the opinions and viewpoints of the ventures' founders are not inconsequential, and CVCs frequently receive negative feedback (Bengtsson & Wang, 2010), which may be attributable to significant tensions between the focal corporation and new ventures (Katila et al., 2008; Souitaris et al., 2012). If the CVC leader possesses founder experience, it may enhance the relational fit with the venture due to shared experiences, relatability, and understanding of the entrepreneurial journey (M. Maula et al., 2009; B. Weber & Weber, 2007). Ultimately, this may reduce presumed friction and improve the chances of "winning" an equity position in attractive and competitive investment opportunities. This would align with Bengtsson and Hsu (2010), who demonstrates how the personal attributes of investors and founders contribute to the successful matching between entities. Moreover, founder-experience may also enhance the leader's diagnostics capabilities when evaluating liability of newness (Stinchcombe, 1965), the associated technology and market risks, and the overall fundabillity of the new venture (Block et al., 2018; Dushnitsky & Lenox, 2005a). To the extent this is accurate, this type of task-specific HC may support a competitive advantage and be classified as an SHC resource.

The positive correlation observed for founder experience aligns with IVC literature (Milosevic, 2018; Zarutskie, 2010). Particularly, Milosevic (2018) exhibits that experience as a founder exerts a notable positive influence on the occurrence of IPOs. Furthermore, (Bottazzi et al., 2008), finds that leaders with founder experience exhibit higher investor activism, positively associated with raising subsequent rounds of financing and the success of portfolio venture.

The positive correlation observed for life-science experience can potentially be explained with the assistance of our summary statistics indicating the degree of industry-specific HC. We observed that 82.62% of all recorded leaders in life-science CVCs possess industry-specific HC, implying that they have

[5] A supporting quote by Vinod Khosla of Khosla Ventures reported by P. A. Gompers et al. (2020): *"The best start-ups with inspiring entrepreneurs have an intense competition to fund them [...]. For VCs, having a clear message about what you will and will not do, how you provide real venture assistance, and how you approach bold visions is key to winning these types of opportunities"*

prior experience in the life-science industry accumulating to an average of over 10 years.

The substantial degree of industry-specific HC may be associated with improved portfolio management (pre-and-post investment) and overall venture performance/outcomes (De Clercq et al., 2008; Sapienza, 1992; Shane & Venkataraman, 2000). This assumes that the associated CVC unit predominately invests in a similar industry as their focal corporate parent.Dushnitsky and Lavie (2010) suggests this is often the case. In particular, Industrial Goods (e.g. chemical industry) and Life Science companies tend to invest in similar industries (Dushnitsky, 2011) [6]. We do not observe the same degree of industry-specific HC in technology, industrial goods, or other industries. Indeed, leaders of industrial goods CVCs display the lowest degree of industry-specific HC (59.46%).

This may explain the negative coefficient observed for industry experience in industrial goods due to the substantially lower degree of industry-specific HC. This aligns with Gimeno et al. (1997) findings that suggest a positive correlation between specific HC and venture survival.

Additionally, industry-specific HC implies relevant contextualized knowledge and may improve the leader's ability to effectively and credibly convey the quality of the target venture to the potential acquirer lowering information asymmetry (P. A. Gompers & Xuan, 2009). Industry-specialized networks may enhance the probability of effectively matching portfolio ventures with suitable acquirers, increasing the likelihood of a successful exit. The significant results support that industry-specific experiences broadly align with the findings in IVC, stipulating that industry experience is a strong predictor for portfolio exits (De Clercq & Dimov, 2012).

Our negative co-efficient for consulting diverges from most IVC literature that suggests a positive relationship (D. P. Dimov & Shepherd, 2005; Zarutskie, 2010). Potential explanations for this phenomenon in CVC may be leaders with consulting experience possess a more agnostic background and accumulate less industry-specific HC. For example, Arthurs and Busenitz (2006) argues that industry specialization improves investors' ability to identify top founder-talent and help develop the product, whereas generic experience provides no added value to the venture. Furthermore, zu Knyphausen-Aufsess (2005) conducts a case study, and findings suggest that consultants lack the 'entrepreneurial spirit' and the knowledge that new ventures require, especially in early-stage. This statement would also align with our negative association between consultants and early-stage investments outlined above. While this may offer some potential explanation, this finding mandates further investigation.

[6] Dushnitsky (2011) show that for CVC units with parent corporations in the life science and industrial goods sectors, almost 50% of all investments are allocated to similar industries

6.2 Academic and Practical Implications

Academic Research in the CVC domain has provided valuable insights on the role of CVC units in fostering innovation (Dushnitsky & Lenox, 2006), strategic renewal (Basu & Wadhwa, 2013), and building new capabilities (Keil, 2004). Put differently, we know a lot about the implications of macro-level dyadic relationships between ventures and focal corporations, but relatively little is known about its microfoundations.

As such, our thesis contributes to the existing CVC literature by outlining the HC of leaders and by demonstrating how their individual characteristics and attributes impact their investment behavior. While this thesis does not claim causation or establish exclusive associations, it does offer important practical implications as the results ultimately suggest that heterogeneous HC may lead to various types of investment behavior and different individual outcomes.

6.2.1 Practical Implications and Contributions

From the individual point of view, CVC leaders can utilize the findings from this thesis to cultivate a more thorough and comprehensive understanding of their own investment behavior. This may help explain potential discrepancies between the investment mandate stipulated by the corporate parent and the actual investment selections. This may also offer a more profound understanding of value-creation(Felin & Hesterly, 2007) and the route to a competitive advantage (Molina-Azorín, 2014).

From the perspective of the focal corporations, the findings offer several valuable insights into how the CVC leader's HC influences investment behavior and the venture outcome. This understanding enables the focal corporation to more effectively discern how a leader's background predicts variance in investment behavior. Such insight is useful both ex-ante for leadership selection and ex-post for management evaluation and development purposes.

Moreover, the focal corporations can effectively align their strategic and financial objectives related to the CVC unit with the type of investment behavior that the respective leader is likely to exhibit. For example, the focal corporation should emphasize female leadership and/or founder-experienced leaders if they prefer more lead investments. Our findings also emphasize that one type of HC can be associated with various investment behaviors. Correspondingly, focal corporations should be prepared to underwrite engagements in more early-stage investments if hiring a CVC leader with founder experience. In summary, these two examples demonstrate that CVC leaders with founder experience may elevate the overall exposure of the CVC unit.

This is one example of the practical implications that can be derived from our analysis. It underscores

the central contribution of the thesis: The HC resources nested in CVC leaders may considerably affect the leader's investment behavior, thereby directing the strategic and financial course of the CVC unit. This, in turn, may influence the focal corporation. While we don't empirically demonstrate such a multi-level relationship, we theorize its existence based on substantial academic consensus (Foss & Linder, 2019; Ployhart et al., 2014)

6.2.2 Academic Implications and Contributions

This thesis takes an initial step aimed at deepening the understanding of investment selection and behavior and the diverse outcomes of ventures. We demonstrate that observed variances are in part attributable to heterogeneous CVC leaders.

First, the granular description of the educational and professional backgrounds of CVC leaders has been mostly neglected in CVC literature. Consequently, this paper provides a fundamental biographical sketch of CVC leaders that can be leveraged through various approaches and for a multitude of future research avenues (e.g. beyond HC theory. Unlike more narrowly focused research (e.g. Dokko and Gaba (2012)), we capture an extensive amount of KSAOs that reflect the intricacies, complexities, and diversity of contemporary careers and educational backgrounds, and this way, we avoid categorizing individuals as exclusively belonging to a single firm, industry, or occupation (Bidwell & Briscoe, 2010).

Second, we demonstrate that context-specific HC acquired in professional settings (e.g. task or industry-specific HC) are more potent predictors of investment behavior compared to context-generic/general HC (e.g. education). This aligns with Ployhart (2021) notion of the proximity of performance behavior and the author's argumentation of education being context-generic. This also underlines how leaders' heterogeneous KSAOs manifest as different types of HC resources, which helps explain variances in investment behavior. Moreover, our findings suggest that it is not a single type of HC that influences the investment behavior of CVC leaders; instead, it is a combination of various types of HC that play a significant role. Moreover, one single type of HC may also influence several types of investment behavior. In line with the fundamental principles of microfoundations, we suggest that this s investment behavior is founded in individual KSAOs, which in turn, leads to diverse individual outcomes that eventually may translate into firm-level outcomes (Felin & Foss, 2005; Foss & Linder, 2019; Ployhart et al., 2014)

Lastly, this paper makes a contribution to the broader strategic HC movement within the field of strategy and finance. Correspondingly, this study aligns with prior academic assertions that emphasize the significance of HC as an imperative strategic resource for all firms (Hitt et al., 2001; Lepak & Snell, 1999; Pfeffer, 1994; Ployhart et al., 2014)

Moreover, by demonstrating how HC resources can result in heterogeneous investment behavior and,

diverse individual outcomes, we contribute to the academic consensus that individuals matter and are critical to any firms (Lepak & Snell, 1999; Ployhart et al., 2014). Moreover, we add to the body of work by scholars who have called for a more nuanced understanding of the microfoundations underpinning organizational actions and outcomes(Barney & Felin, 2013; R. W. Coff, 1997; Felin & Foss, 2005; Felin & Hesterly, 2007; Foss, 2011).

6.3 Limitations and Future Research Avenues

6.3.1 Limitations and Opportunities for Future Research

Critical Considerations on the Theoretical Concepts

In our study, we emphasize the individual leader and exclude top-management team (TMT) analysis. Correspondingly, we diverge from the academic consensus in entrepreneurship and upper echelons literature, which underscores the significance of TMT and the dynamic interaction of groups. (Amason et al., 2006; Carpenter et al., 2004; Ensley et al., 2002; Hambrick & Mason, 1984).

D. P. Dimov and Shepherd (2005) goes as far as to argue that capturing HC characteristics on all investment team members would provide the most precise picture. Such an approach is challenging due to the data collection, variable interactions, and significant aggregation assumptions needed for the multi-level analysis. Nevertheless, incorporating all general partners could have provided additional nuances and potentially enabled exploring the intricacies of HC emergence and complementarity, which would have strengthened the findings in this study at the unit level.

Another limitation arises from the inherently high level of complexity involved in measuring many intangible and intricately combined KSAO bundles. Consequently, there are idiosyncrasies in the CVC leader's operating environment that we do not capture. For example, regulations in the chemical and technology industries likely vary and thus may influence investment behavior differently. Furthermore, the competitive intensity (Basu et al., 2011), IP-frameworks (Dushnitsky & Lenox, 2005a), technology-standards (Basu et al., 2011; Sahaym et al., 2010), and R&D intensity average in the focal firm's industry may also influence investment behavior (Sahaym et al., 2010). These assertions also resonate with Finkelstein and Hambrick (1996), who suggests that the impact of HC is moderated by the degree of managerial discretion, which in turn depends on mechanisms like industry and governance structures. For instance, investment behavior likely varies between leaders of Mærsk Growth and SR One. Scoping the study to a narrow set of industries or geographies may provide more detailed insights into investment behavior. Other exogenous mediating or moderating mechanisms could be the operating boundaries stipulated by the corporate parent company. For example, the parent company likely imposes constraints on its CVC

with respect to the allocation of capital (e.g. geographical restrictions, industry focus) [7]. Future research may only include completely autonomous CVC units or attempt to trace these rules of engagement.

Importantly, this study is not a full multi-level. A multi-level study integrates two or more levels of analysis. As this thesis focuses on individuals and their respective investment behavior and performance, findings should not be generalized to firm-level(Kozlowski & Klein, 2000; Ployhart et al., 2014). For example, CVC leaders with better financial outcomes in their respective investment portfolios do not necessarily lead to better corporate parent performance. Future research may deploy such multi-level analysis to expand our knowledge on how HC resources are created, transformed, and deployed across organizations and outline the macro-level interactions.

Critical Considerations for Variables

A theoretical limitation of our study lies in the intricate interrelationships among the investment characteristic variables. Exploring the impact of HC on various portfolio characteristics does provide interesting insights. However, it does not adequately consider the associations among the different dependent variables. For example, the relationship between early-stage investments and successful investments.

Additionally, our operationalization of industry as a dependent variable possesses limitations concerning its capacity to accurately assess the degree to which CVC leaders invest in corporate parent-related ventures. We employ a somewhat simplified classification method, as it was deemed infeasible to leverage a more detailed and granular approach for our sample size. Academic literature usually applies more rigorous methodology such as Blau's index (Simpson, 1949) or Herfindahl Index used by (Dokko & Gaba, 2012) based on SIC-code specifications. Such methods would provide more accurate results in terms of the impact of industry-specific experiences and industry-investment selections.

Second, this thesis does not directly control for the influence of syndication. As our descriptive statistics suggest, leaders tend to favor follower investments, often syndicating with other financial agents. Accounting for co-investing partners may amplify or diminish the impact of CVC leaders' HC resources due to complementarity (Ployhart et al., 2014). This constraint also highlights a significant area for further study, specifically examining the interplay of the HC of syndicated partners. This would help achieve a more comprehensive understanding of investment behavior and investment outcomes.

Furthermore, this thesis does not assert that the chosen set of variables represents the most optimal or ideal selection for analysis. While we extend the number of individual characteristics and attributes included in our empirical analysis compared to past studies in IVC and CVC, it is not exhaustive. Alternative variables could expand our current conceptualizing of HC. For example, D. Dimov et al. (2007)

[7] In IVC, such operating constraints/mandates is called a limited partnership agreement

finds that the relationship between HC and investment behavior is moderated by reputation and the social capital of the leaders. At the same time, Hsu (2004) show how reputation may lead to more successful investments. In the context of CVC, social capital, network accessibility, and corporate legitimacy (e.g. corporate reputational linking) are some of the resources CVCs provide to new ventures(Hitt et al., 2001; H. D. Park & Steensma, 2012). Future research could augment the microfoundations of corporate investors' networks accumulated from educational, professional, and social settings (Ioannides & Loury, 2004)), and from alliance formation. This would allow a deeper understanding of collaborative and interactive investment behavior (Dushnitsky & Lavie, 2010). Wadhwa et al. (2016) emphasizes similar variables, but at the macro-level, indicating that a micro-level analysis would be a logical and valuable progression for further research. It may also help increase our understanding of corporate investor-venture relational fit and similarity biases that have been found to be influential in financing (Bengtsson & Hsu, 2010; B. Weber & Weber, 2007). [8]

Critical Considerations for Methodology and Empirical Analysis

Although employing cross-sectional analysis lends certain advantages to the thesis, this methodology inherently carries limitations. By eliminating the temporal aspect of the analysis, the underlying effects of changes in leadership and investment behaviors are not identified.

A further limitation of the cross-sectional analysis is the difficulty of identifying the directionality of relationships which reduces the level of detail provided.

The methodology used to ascertain the tenure of leaders was predominately based on observations from LinkedIn. When tenure specifications were unavailable, leadership tenures and changes were inferred through other databases like Factiva, analyzing public announcements of leadership changes or new investments. Data gaps were more prevalent for leaders active in the 1990s and early 2000s. When leaders did not specify an end date for their respective tenure, it was assumed that their term ended a year before the start date of the succeeding leader. The assumptions made due to data insufficiency indicate potential limitations to our findings.

In regard to the empirical analysis, the usage of binary variables allowed for a holistic analysis of leader characteristics in the statistical model. However, the usage of dummy variables inherently eliminates the degree to which independent variables can be analyzed. As we identify *if* a leader has a specific experience and not the extent of such experience, we are unable to discern the differences that variations in the intensity of an independent variable might have on investment behavior.

[8] Such a combination of human and social capital is often referred to as "human capability" (P. M. Wright & McMahan, 2011).

Critical Considerations for Microfoundations

Certain limitations also pertain to the utilization of microfoundational theory. The core proposition of microfoundations is to gain a deeper understanding of macro-level phenomena through the analysis of micro-level inputs (Foss & Linder, 2019). As a result, conducting an empirical study based on microfoundational theory entails a complex and intricate methodology and data collection process.

First, the selected pre-defined population comprises a fixed number of corporations (CVC units). The employees within these corporations (CVC leaders) form the foundation for the micro-level data. This creates a non-random sample as the firm's employees cannot be regarded as a random sample due to firms introducing their biases when selecting employees to hire, promote or lay off (Felin & Hesterly, 2007). This approach raises concerns about the representative and unbiased nature of the micro-level data utilized in our research (Foss & Linder, 2019).

Second, applying the temporal perspective of Abell and Engel (2018) in conjunction with microfoundation, as suggested by Foss and Linder (2019), the time, process, and sequentially of collected data are crucial in order to identify causality and effects on macro-level outcomes based on micro-level antecedents. This implies the use of either lagged cross-sectional or longitudinal data with a sufficient time horizon is necessary in order not to discard existing relationships. A process that was not employed in this thesis. Future research may expand our simplified application of micro-foundations in an attempt to drill deeper into the actual underlying micro-level dynamics of individual leaders in CVC.

Critical Considerations for Data Collection and Sources

This thesis only leverages secondary data from LinkedIn, EIKON, and Compustat. Although quality and diligence have been emphasized throughout the data collection, transformation, and deployment phase, second-party data does have ingrained limitations. First, while EIKON is popular in IVC and CVC research, it is incomplete as it relies on individuals voluntarily contributing and populating the data based on relevant information (Kaplan & Strömberg, 2000). Inaccurate or omitted information regarding investment details on ventures would impact our dependent and control variables. In future studies, scholars may complement and cross-check EIKON data with alternative databases like CrunchBase and Pitchbook. Similar limitations are evident for COMPUSTAT, which is a critical source of financial information but only contains information on public companies which in turn decreases our sample size from 511 to 321.

While LinkedIn has been utilized as a data source for academic studies in the past, there are undoubtedly inaccurate and omitted data points (Guillory & Hancock, 2012). We partially mitigate this as we confirm many observations through different methods, the granularity and volume of data still limit its

accuracy.

6.3.2 Additional Future Research Opportunities

The aforementioned limitations could inspire further research, the findings from Analysis I and II also have the potential to spark additional investigations and inquiries. X

First, the descriptive statistics presented in Analysis I indicate that 26,06% of all leaders have previous experience in other CVC units. It would be interesting to emphasize how corporate investors' investment behavior and capital allocation patterns may change in different CVC contexts and as they accumulate more HC. This may be particularly interesting as studies in organizational learning exhibit how individuals bring their HC when changing jobs and subsequently enhance the diversity of knowledge in the new context (Song et al., 2003). This line of inquiry may also be expanded to elucidate the significant STD observed for CVC-leadership tenures in the descriptive statistics. This high standard deviation could arise from a variety of factors: macro-and-micro induced. Correspondingly, some of this variance may be explained by the heterogeneous HC resources associated with leaders who maintain long tenures and those who do not.

Second, SHC is inexorably associated with strategic human resource management (SHRM) in academic literature(Nyberg & Moliterno, 2019). SHRM refers to the systematic approach of organizing HR and activities designed to help an organization accomplish its strategic objectives (e.g. competitive advantage) (Huselid, 1995; P. M. Wright & McMahan, 2011). As such, SHRM can be interpreted as conditions for the effective deployment of HC resources (P. M. Wright et al., 2014). Both concepts often rely on the RBV, so while they are different, they are intertwined in theory and literature (Boon et al., 2018). In the context of CVC, examining SHRM strategies like compensation schemes, isolating mechanisms, and motivations are particularly interesting in order to gain a deeper understanding of its presumed influence on investment behavior (B. A. Campbell et al., 2012; R. Coff & Kryscynski, 2011). This highlights a potential avenue for future research, as we do not consider the impact of SHRM. For example, (Dushnitsky & Shapira, 2010) exhibits how high-powered IVC incentive schemes make investors more inclined toward early-stage investments.

Chapter 7

Conclusion

The objective of this thesis was to investigate the research gap in the CVC literature concerning individual leaders' human capital and investment behavior. Through the application of theories on strategic human capital, microfoundations, and the resource-based view, as well as a comprehensive literature review, this thesis examines the relationship between multiple dimensions of human capital and its associations with the investment behavior of individual CVC leaders. Therefore, the main goal of this thesis was to contribute to a deeper comprehension of the following two research questions:

(1): What are the key individual characteristics and qualifications of Corporate Venture Capitalists leaders?

(2) What is the relationship between the human capital of Corporate Venture Capital leaders and their investment behavior?

To address the first research question, the thesis collected and constructed a data set of 894 individual CVC leaders who were active from 1990-2022. This enables us to describe the educational credentials and career paths of each leader leading up to their respective CVC leadership position. Analyzed through the lens of human capital theory and microfoundations, the thesis provides initial evidence on the human capital resources embedded in CVC units.

To address the second research question, we transform and operationalize our data to empirically test the relationship between the CVC leader's human capital and their respective investment behavior. Using a sample of 416 individual leaders, 258 CVC units, and 14,172 investments, we show a multitude of significant results suggesting how different types of human capital are associated with heterogeneous investment behavior. Various iterations were applied to the results, along with numerous robustness tests on our different dependent and independent variables.

The consolidated findings suggest that individual leaders possess heterogeneous human capital based on unique accumulated knowledge, skills, and abilities. These KSAOs may manifest themselves as different types of human capital resources, which are related to variances in investment behavior and individual outcomes. In particular, the results indicate that specificity matters, as the specific types of human capital

exhibit a greater propensity to predict investment behavior relative to general human capital. The results highlight the complexity of the relationships between the individual KSAO' and the specified investment behavior constructs. Future research may investigate in greater depth the associations between a more narrow range of human capital resources and selected investment behaviors and emphasize why such associations are prevalent.

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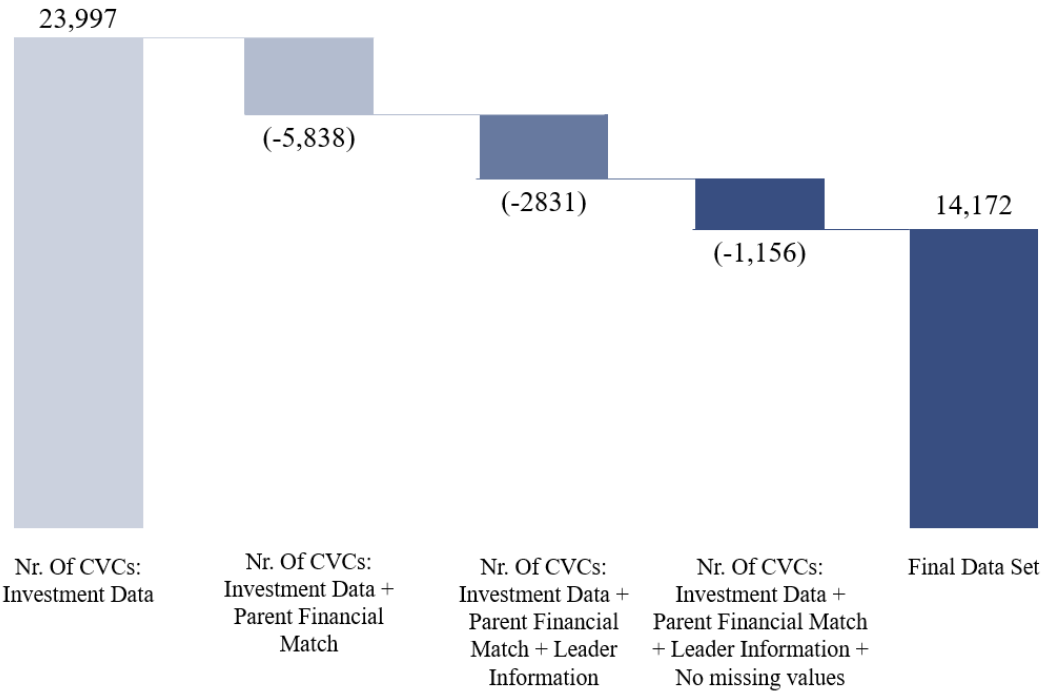
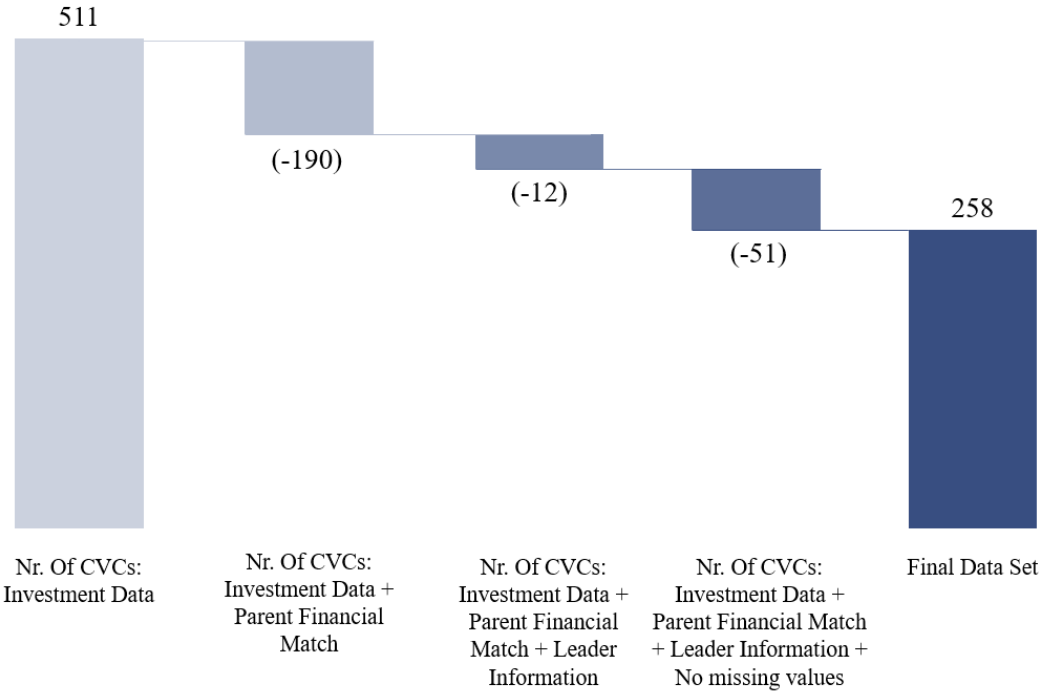
Chapter 8

Appendix

Appendix I Data Dropping Process



Appendix 1.1: Cutting Process: Investments



Appendix 1.2: Cutting Process: CVCs

Appendix II Two-sample t-tests

Appendix 2.1: Two-sample t-test with equal variances - Public Vs Private CVCs investments into Info. Tech. Industry

Group	**Obs**	**Mean**	**Std. Err.**	**Std. Dev.**	**[95% Conf. Intervall]**	
Private	5,838	.566975	.0064855	.4955365	.554261	.579689
Public	18,159	.6123685	.0036156	.4872231	.6052816	.6194555
Combined	23,997	.6013252	.0031608	.4896358	.5951298	.6075205
Diff		-.0453935	.007361		-.0598216	-.0309654
diff = mean (Private) - mean (Public)			t = -6.1667			
H0: diff = 0			degrees of freedom = 23995			
Ha: diff < 0			**Ha: diff != 0**		**Ha: diff > 0**	
Pr(T < t) = 0.0000			Pr(|T| > |t|) = 0.0000		Pr(T > t) = 1.0000	

Appendix 2.2: Two-sample t-test with equal variances - Public Vs Private CVCs investments into Life Science Industry

Group	**Obs**	**Mean**	**Std. Err.**	**Std. Dev.**	**[95% Conf. Intervall]**	
Private	5,838	.189791	.0051326	.3921693	.1797291	.1998529
Public	18,159	.1664739	.0027644	.3725158	.1610555	.1718924
Combined	23,997	.1721465	.002437	.3775156	.1673698	.1769232
Diff		.0233171	.005678		.012188	.0344462
diff = mean (Private) - mean (Public)			t = 4.1066			
H0: diff = 0			degrees of freedom = 23995			
Ha: diff < 0			**Ha: diff != 0**		**Ha: diff > 0**	
Pr(T < t) = 1.0000			Pr(|T| > |t|) = 0.0000		Pr(T > t) = 0.0000	

Appendix 2.3: Two-sample t-test with equal variances - Public Vs Private CVCs investments into Industrials Goods Industry

Group	**Obs**	**Mean**	**Std. Err.**	**Std. Dev.**	**[95% Conf. Intervall]**	
Private	5,838	.0700582	.0033409	.255267	.0635089	.0766076
Public	18,159	.0760504	.0019672	.2650861	.0721946	.0799063
Combined	23,997	.0745927	.0016961	.2627384	.0712682	.0779171
Diff		-.0059922	.0039529		-.0137401	.0017557
diff = mean (Private) - mean (Public)			t = -1.5159			
H0: diff = 0			degrees of freedom = 23995			
Ha: diff < 0			**Ha: diff != 0**		**Ha: diff > 0**	
Pr(T < t) = 0.0648			Pr(|T| > |t|) = 0.1296		Pr(T > t) = 0.9352	

Appendix 2.4: Two-sample t-test with equal variances - Public Vs Private CVCs investments into Other Industries

Group	**Obs**	**Mean**	**Std. Err.**	**Std. Dev.**	**[95% Conf. Intervall]**	
Private	5,838	.1664954	.004876	.3725566	.1569367	.1760541
Public	18,159	.1376728	.002557	.3445657	.1326609	.1426847
Combined	23,997	.1446848	.0022709	.35179	.1402336	.1491359
Diff		.0288226	.0052896		.0184546	.0391906
diff = mean (Private) - mean (Public)			t = 5.4489			
H0: diff = 0			degrees of freedom = 23995			
Ha: diff < 0			**Ha: diff != 0**		**Ha: diff > 0**	
Pr(T < t) = 1.0000			Pr(|T| > |t|) = 0.0000		Pr(T > t) = 0.0000	

Appendix 2.5: Two-sample t-test with equal variances - Public Vs Private CVCs by amount of initial investments

Group	**Obs**	**Mean**	**Std. Err.**	**Std. Dev.**	**[95% Conf. Intervall]**	
Private	5,838	.7233642	.0058551	.4473731	.7118859	.7348424
Public	18,159	.6721736	.0034836	.4694341	.6653454	.6790018
Combined	23,997	.6846272	.0029996	.4646738	.6787478	.6905067
Diff		.0511906	.0069835		.0375025	.0648787
diff = mean (Private) - mean (Public)			t = 7.3302			
H0: diff = 0			degrees of freedom = 23995			
Ha: diff < 0			**Ha: diff != 0**		**Ha: diff > 0**	
Pr(T < t) = 1.0000			Pr(|T| > |t|) = 0.0000		Pr(T > t) = 0.0000	

Appendix 2.6: Two-sample t-test with equal variances - Public Vs Private CVCs by investment round

Group	**Obs**	**Mean**	**Std. Err.**	**Std. Dev.**	**[95% Conf. Intervall]**	
Private	5,838	2.854231	.0312534	2.387971	2.792963	2.915499
Public	18,159	3.289774	.0181323	2.443425	3.254233	3.325315
Combined	23,997	3.183815	.0157329	2.437177	3.152977	3.214652
Diff		-.4355428	.0365608		-.5072043	-.3638812
diff = mean (Private) - mean (Public)			t = -11.9128			
H0: diff = 0			degrees of freedom = 23995			
Ha: diff < 0			**Ha: diff != 0**		**Ha: diff > 0**	
Pr(T < t) = 0.0000			Pr(|T| > |t|) = 0.0000		Pr(T > t) = 1.0000	

Appendix 2.7: Two-sample t-test with equal variances - Public Vs Private CVCs by amount of early-stage investments

Group	**Obs**	**Mean**	**Std. Err.**	**Std. Dev.**	**[95% Conf. Intervall]**	
Private	5,838	.4907503	.0065434	.4999573	.4779228	.5035777
Public	18,159	.3894488	.0036187	.4876387	.3823558	.3965417
Combined	23,997	.4140934	.0031798	.492575	.4078609	.420326
Diff		.1013015	.0073822		.086832	.115771
diff = mean (Private) - mean (Public)			t = 13.7224			
H0: diff = 0			degrees of freedom = 23995			
Ha: diff < 0			**Ha: diff != 0**		**Ha: diff > 0**	
Pr(T < t) = 1.0000			Pr(|T| > |t|) = 0.0000		Pr(T > t) = 0.0000	

Appendix 2.8: Two-sample t-test with equal variances - Public Vs Private CVCs by amount of lead investments

Group	**Obs**	**Mean**	**Std. Err.**	**Std. Dev.**	**[95% Conf. Intervall]**	
Private	5,838	.1430284	.0045825	.3501318	.1340451	.1520118
Public	18,159	.1430696	.0025984	.3501534	.1379764	.1481627
Combined	23,997	.1430595	.0022603	.3501409	.1386292	.1474899
Diff		-.0000411	.0052681		-.0103669	.0102846
diff = mean (Private) - mean (Public)			t = -0.0078			
H0: diff = 0			degrees of freedom = 23995			
Ha: diff < 0			**Ha: diff != 0**		**Ha: diff > 0**	
Pr(T < t) = 0.4969			Pr(|T| > |t|) = 0.9938		Pr(T > t) = 0.5031	

Appendix 2.9: Two-sample t-test with equal variances - Public Vs Private CVCs by amount of successful investments

Group	**Obs**	**Mean**	**Std. Err.**	**Std. Dev.**	**[95% Conf. Intervall]**	
Private	5,838	.1841384	.0050732	.3876302	.174193	.1940838
Public	18,159	.2804119	.0033335	.4492129	.2738779	.286946
Combined	23,997	.2569905	.0028209	.4369832	.2514613	.2625196
Diff		-.0962735	.0065452		-.1091026	-.0834444
diff = mean (Private) - mean (Public)			t = -14.7090			
H0: diff = 0			degrees of freedom = 23995			
Ha: diff < 0			**Ha: diff != 0**		**Ha: diff > 0**	
Pr(T < t) = 0.0000			Pr(|T| > |t|) = 0.0000		Pr(T > t) = 1.0000	

Appendix 2.10: Two-sample t-test with equal variances - Public Vs Private CVCs by CVC Age

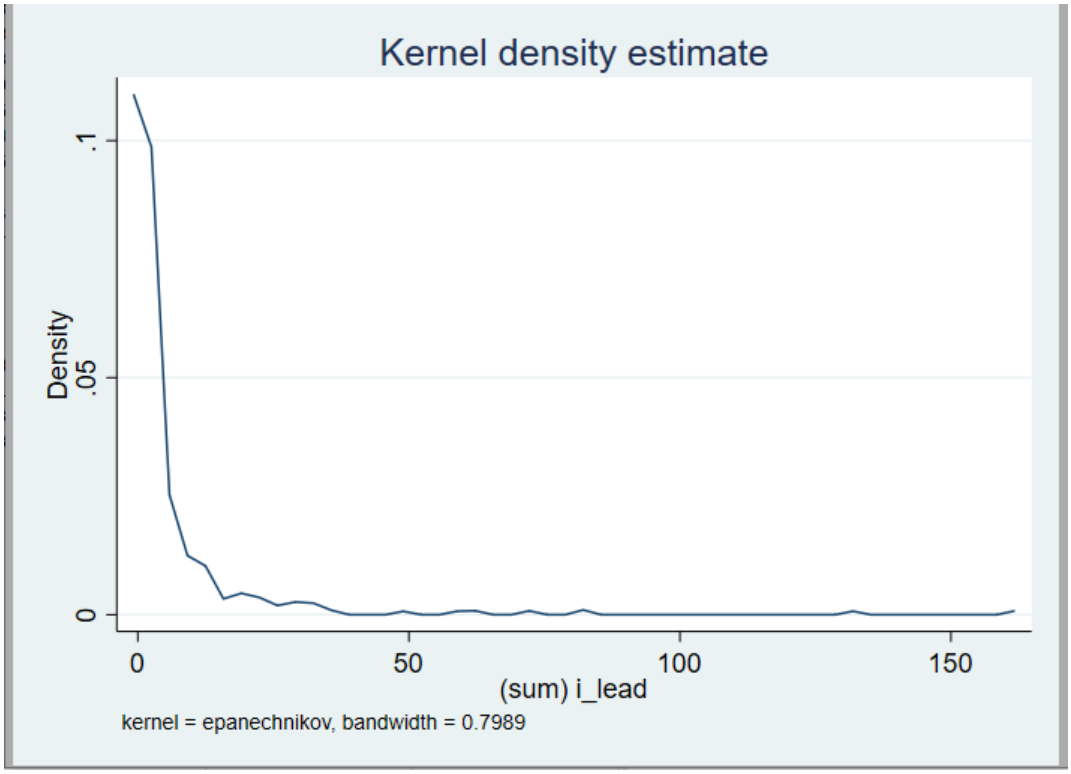
Group	**Obs**	**Mean**	**Std. Err.**	**Std. Dev.**	**[95% Conf. Intervall]**	
Private	5,838	13.73758	.1317373	10.06562	13.47933	13.99584
Public	18,159	19.33102	.0814774	10.97951	19.17132	19.49072
Combined	23,997	17.97025	.0711926	11.02843	17.8307	18.10979
Diff		-5.593439	.1619526		-5.910876	-5.276002
diff = mean (Private) - mean (Public)			t = -34.5375			
H0: diff = 0			degrees of freedom = 23995			
Ha: diff < 0			**Ha: diff != 0**		**Ha: diff > 0**	
Pr(T < t) = 0.0000			Pr(|T| > |t|) = 0.0000		Pr(T > t) = 1.0000	

Appendix III Descriptive Statistics: Venture Industries

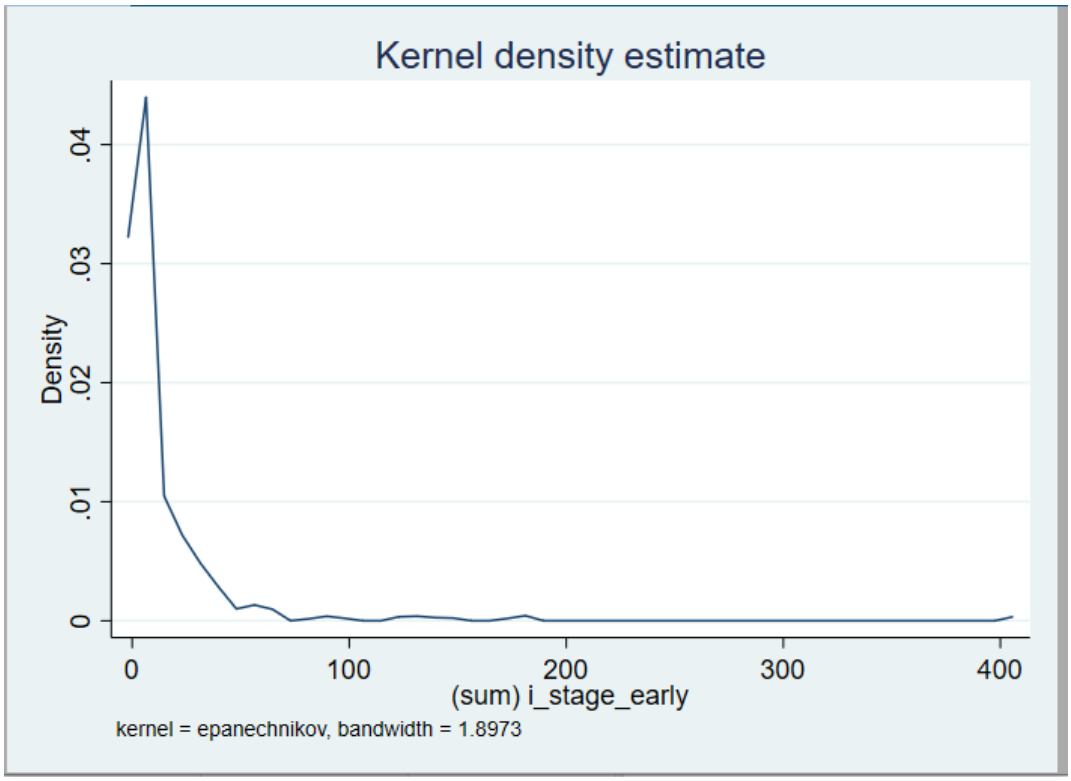
Appendix 3.1: Descriptive Statistics on Venture Industries

Variable	Obs	Mean	Std. dev.	Min	Max
Ventures in Information Technology	23,997	.6013	.4896	0	1
Ventures in Life Science	23,997	.1721	.3775	0	1
Ventures in Industrial Goods	23,997	.0746	.2627	0	1
Ventures in Automotive	23,997	.0073	.0848	0	1
Ventures in Financial Services	23,997	.0252	.1566	0	1
Ventures in Tele-com	23,997	.0354	.1847	0	1
Ventures in Oil, Gas & Energy	23,997	.0141	.1178	0	1
Ventures in Consumer Goods	23,997	.0514	.2209	0	1
Ventures in Real Estate	23,997	.0025	.0504	0	1
Ventures in Entertainment	23,997	.0053	.0726	0	1
Ventures in Public	23,997	.0054	.0731	0	1
Ventures in Logistics	23,997	.0054	.0734	0	1

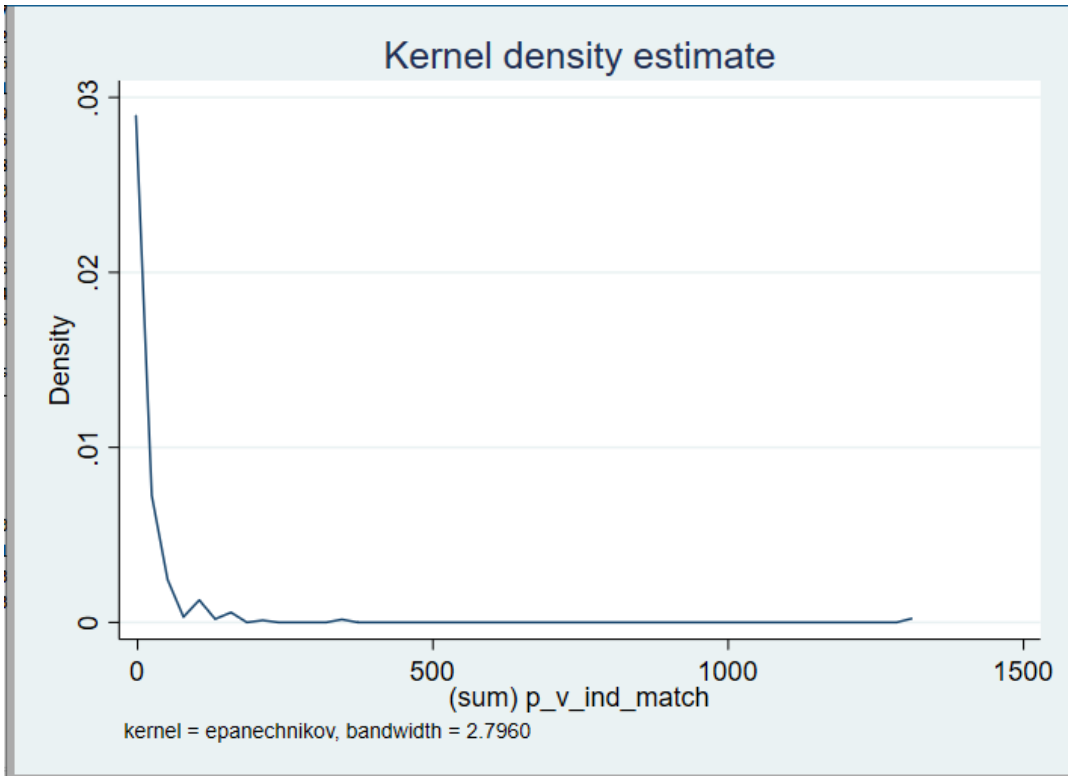
Appendix IV Kernel Density Plots



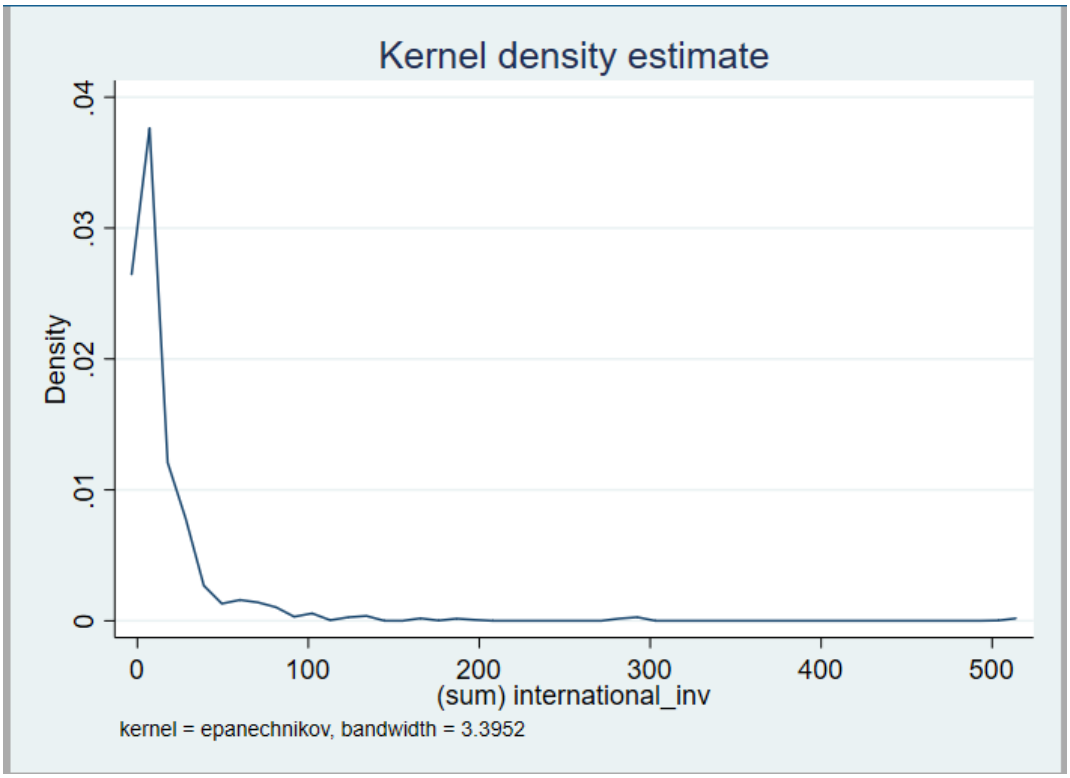
Appendix 4.1: Kernel Density: Lead Investments



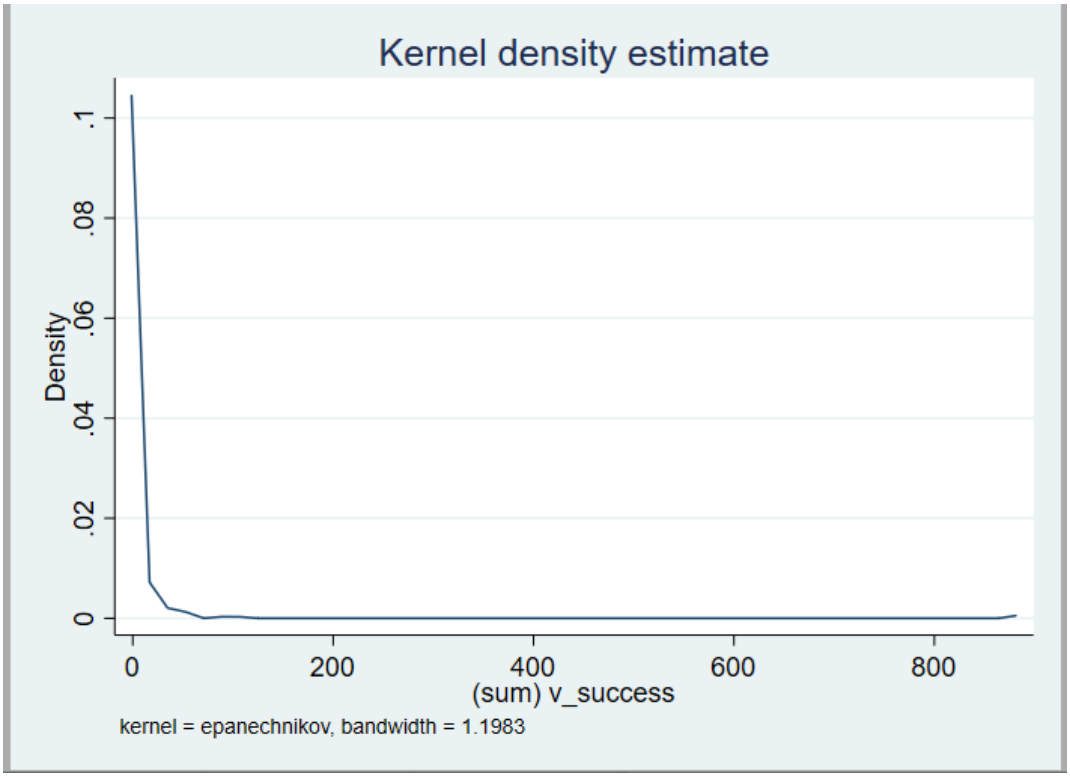
Appendix 4.2: Kernel Density: Early-stage Investments



Appendix 4.3: Kernel Density: Parent-Venture Match



Appendix 4.4: Kernel Density: International Investments



Appendix 4.5: Kernel Density: Successful Investments

Appendix V Definitions of Human Capital

Appendix 5.1: Definitions on Human capital

Author	**Article Title**	**Definition**
(Mincer, 1958)	*Investment in Human Capital and Personal Income Distribution*	Years on formal education
(Schultz, 1961)	*Investment in Human Capital*	The quality of human effort
(Becker, 1964)	*Human Capital: A Theoretical and Empirical Analysis, with Special Reference to Education*	Knowledge and skills individuals attain by investing in education, on-the-job training, and different experiences.
(Crook et al., 2011)	*Does human capital matter? A meta-analysis of the relationship between human capital and firm performance.*	Knowledge, skills and abilities (KSAs) embodied in people.
(R. Coff & Kryscynski, 2011)	*Invited editorial: Drilling for micro-foundations of human capital–based competitive advantages.*	Knowledge, skills, and abilities, increased through education, training, and experience
(Somaya et al., 2008)	*Gone but not lost: The different performance impacts of employee mobility between cooperators versus competitors*	Accumulated knowledge, skills, talent, and know-how of the firm's employees
(Ployhart & Moliterno, 2011)	*EMERGENCE OF THE HUMAN CAPITAL RESOURCE: A MULTILEVEL MODEL*	A unit-level resource, emergence of individuals' knowledge, skills, abilities, and other characteristics (KSAOs)
(Kor & Leblebici, 2005)	*How do interdependencies among human-capital deployment, development, and diversification strategies affect firms' financial performance?*	Deployment of strategic human resources (specialized knowledge and expertise).
(P. M. Wright & McMahan, 2011)	*Exploring human capital: putting 'human' back into strategic human resource management*	Characteristics that can yield positive outcomes for that individual, while accumulated can create value for the unit
(Weatherly, 2003)	*Human capital—the elusive asset measuring and managing human capital: A strategic imperative for HR*	More than education- and professional experiences (creativity, energy, and character)
(Pasban & Nojedeh, 2016)	*A Review of the Role of Human Capital in the Organization*	Anything but physical capital (properties, equipment, etc).
(Laroche et al., 1999)	*On the concept and dimensions of human capital in a knowledge-based economy context*	aggregation of abilities, knowledge and skills
(Mankiw, 2012)	*Public goods and common resources*	The accumulation of investments in people
(B. A. Campbell et al., 2012)	*Rethinking sustained competitive advantage from human capital*	Employer's investment in firm performance and employee abilities
(R. W. Coff, 2002)	*Human capital, shared expertise, and the likelihood of impasse in corporate acquisitions*	Knowledge, skills, and abilities (KSAs) of people

Appendix VI All Iterations of Regression Models

Appendix 6.1: Negative Binomial Regression - Number of investments as lead

Negative Binomial Regressions	Model 1.1	Model 1.2	Model 1.3
Investments	0.016**		0.015**
	(0.004)		(0.004)
R&D Intensity	-1.469*		-1.424*
	(0.723)		(0.863)
Ln(Total Assets)	0.154**		0.138**
	(0.049)		(0.049)
slack	-0.430*		-0.459**
	(0.172)		(0.173)
Ln(CVC Age)	0.199*		0.258*
	(0.105)		(0.108)
Tenure	-0.006		-0.005
	(0.012)		(0.012)
Gender		0.941**	0.336*
		(0.255)	(0.161)
Exp. in Parent		0.072	0.034
		(0.225)	(0.138)
Exp. in Parent industry		-0.121	-0.140
		(0.252)	(0.153)
International Exp.		0.067	0.203
		(0.180)	(0.124)
Founder		0.645**	0.306*
		(0.189)	(0.136)
CVC Exp.		-0.109	0.242*
		(0.210)	(0.124)
IVC Exp.		0.084	0.331*
		(0.257)	(0.178)
Consultancy Occupation,		-0.165	-0.022
		(0.226)	(0.146)
Investment Banking Occupation		-0.125	0.027
		(0.217)	(0.135)
Corporate Occupation		-0.402	-0.039
		(0.256)	(0.151)
STEM Occupation		-0.583*	-0.136
		(0.244)	(0.155)
PHD		-0.017	-0.052
		(0.244)	(0.148)
Business Education		0.005	-0.282*
		(0.205)	(0.129)
STEM Education		0.191	-0.018
		(0.200)	(0.125)
Exp. in Information Tech. Industry		0.451*	-0.130
		(0.200)	(0.134)
Exp. in Life Science		-0.034	0.179
		(0.240)	(0.186)
Exp. in Industrial Goods Industry		-0.673*	-0.390*
		(0.307)	(0.200)
Exp. in Other Industry		-0.308	0.255
		(0.315)	(0.186)
Constant	-1.404*	1.723**	-1.575*
	(0.560)	(0.431)	(0.643)
lnalpha	0.148	0.836**	0.043
	(0.176)	(0.088)	(0.180)
Observations	416	416	416
Robust Errors	Yes	Yes	Yes
Pseudo R^2	0.128	0.0315	0.1424

Appendix 6.2: Negative Binomial Regression - Early Stage Investments

Negative Binomial Regressions	Model 2.1	Model 2.2	Model 2.3
Investments	0.016**		0.014**
	(0.004)		(0.004)
R&D Intensity	1.805**		1.581**
	(0.484)		(0.569)
Ln(Total Assets)	0.060		0.059
	(0.038)		(0.037)
Slack	-0.151		-0.185*
	(0.104)		(0.112)
LN(CVC Age)	0.190*		0.218*
	(0.083)		(0.087)
Tenure	0.026**		0.031**
	(0.007)		(0.007)
Gender		0.716**	0.125
		(0.227)	(0.133)
Exp. in Parent		0.147	0.252*
		(0.180)	(0.105)
Exp. in Parent industry		-0.254	-0.148
		(0.197)	(0.102)
International Exp.		0.085	0.277**
		(0.144)	(0.089)
Founder		0.655**	0.204*
		(0.162)	(0.103)
CVC Exp.		-0.134	0.085
		(0.175)	(0.104)
IVC Exp.		0.175	0.360**
		(0.202)	(0.124)
Consultancy Occupation,		-0.219	-0.176*
		(0.198)	(0.099)
Investment Banking Occupation		-0.395*	-0.077
		(0.168)	(0.098)
Corporate Occupation		-0.397*	-0.058
		(0.197)	(0.099)
STEM Occupation		-0.544**	-0.127
		(0.171)	(0.109)
PHD		0.174	0.081
		(0.196)	(0.105)
Business Education		0.070	-0.105
		(0.169)	(0.087)
STEM Education		-0.028	-0.102
		(0.155)	(0.084)
Exp. in Information Tech. Industry		0.546**	0.018
		(0.165)	(0.102)
Exp. in Life Science		0.358	0.251*
		(0.223)	(0.140)
Exp. in Industrial Goods Industry		-0.837**	-0.517**
		(0.267)	(0.142)
Exp. in Other Industry		-0.223	0.272*
		(0.266)	(0.150)
Constant	0.113	2.690**	-0.195
	(0.421)	(0.369)	(0.487)
lnalpha	-0.279	0.421**	-0.405*
	(0.192)	(0.074)	(0.200)
Observations	416	416	416
Robust Errors	Yes	Yes	Yes
Pseudo R^2	0.1276	0.036	0.1425

Appendix 6.3: Negative Binomial Regression - Parent-Venture Match

Negative Binomial Regressions	Model 3.1	Model 3.2	Model 3.3
Investments	0.015**		0.013**
	(0.004)		(0.004)
R&D Intensity	4.424**		2.541**
	(0.573)		(0.647)
Ln(Total Assets)	0.102*		0.101*
	(0.044)		(0.040)
Slack	0.133		0.013
	(0.128)		(0.138)
Ln(CVC Age)	0.334**		0.291**
	(0.083)		(0.084)
Tenure	0.028**		0.037**
	(0.010)		(0.010)
Gender		0.547*	0.042
		(0.237)	(0.136)
Exp. in Parent		0.128	0.200*
		(0.190)	(0.115)
Exp. in Parent industry		0.028	0.052
		(0.203)	(0.116)
International Exp.		-0.066	0.131
		(0.155)	(0.099)
Founder		0.573**	0.116
		(0.173)	(0.108)
CVC Exp.		-0.092	0.176*
		(0.189)	(0.104)
IVC Exp.		0.206	0.404**
		(0.224)	(0.131)
Consultancy Occupation		-0.293	-0.185*
		(0.204)	(0.111)
Investment Banking Occupation		-0.192	0.020
		(0.195)	(0.104)
Corporate Occupation		-0.589**	-0.154
		(0.217)	(0.117)
STEM Occupation		-0.709**	-0.290*
		(0.195)	(0.117)
PHD		0.173	0.205*
		(0.194)	(0.120)
Business Education		0.291*	0.054
		(0.176)	(0.102)
STEM Education		0.155	-0.040
		(0.177)	(0.090)
Exp. in Information Tech. Industry		1.189**	0.549**
		(0.184)	(0.115)
Exp. in Life Science		0.652**	0.523**
		(0.230)	(0.153)
Exp. in Industrial Goods Industry		-0.878**	-0.494**
		(0.283)	(0.145)
Exp. in Other Industry		-0.788**	-0.106
		(0.288)	(0.135)
Constant	-0.787	2.860**	-0.887*
	(0.485)	(0.416)	(0.487)
lnalpha	-0.113	0.561**	-0.267
	(0.148)	(0.072)	(0.163)
Observations	416	416	416
Robust Errors	Yes	Yes	Yes
Pseudo R^2	0.146	0.06	0.1634

Appendix 6.4: Negative Binomial Regression - International Investments

Negative Binomial Regressions	Model 4.1	Model 4.2	Model 4.3
Investments	0.015**		0.014**
	(0.005)		(0.005)
R&D Intensity	-0.421		-1.090
	(0.771)		(0.793)
Ln(Total Assets)	0.115**		0.098*
	(0.039)		(0.040)
Slack	-0.249		-0.339*
	(0.163)		(0.154)
Ln(CVC Age)	0.316**		0.363**
	(0.097)		(0.098)
Tenure	0.013		0.020*
	(0.010)		(0.011)
Gender		0.118	-0.032
		(0.193)	(0.167)
Exp. in Parent		0.027	0.138
		(0.185)	(0.127)
Exp. in Parent industry		-0.034	0.023
		(0.203)	(0.140)
International Exp.		0.642**	0.615**
		(0.156)	(0.110)
Founder		0.552**	0.139
		(0.176)	(0.121)
CVC Exp.		0.050	0.257*
		(0.177)	(0.118)
IVC Exp.		0.282	0.270*
		(0.236)	(0.149)
Consultancy Occupation		-0.152	0.028
		(0.189)	(0.122)
Investment Banking Occupation		-0.408*	-0.193
		(0.194)	(0.126)
Corporate Occupation		-0.430*	-0.135
		(0.209)	(0.136)
STEM Occupation		-0.565**	-0.106
		(0.183)	(0.131)
PHD		0.217	0.161
		(0.211)	(0.148)
Business Education		0.177	-0.145
		(0.185)	(0.116)
STEM Education		0.057	-0.029
		(0.164)	(0.114)
Exp. in Information Tech. Industry		0.382*	0.070
		(0.173)	(0.125)
Exp. in Life Science		0.268	0.462**
		(0.207)	(0.170)
Exp. in Industrial Goods Industry		-0.847**	-0.153
		(0.244)	(0.211)
Exp. in Other Industry		-0.605*	0.245
		(0.264)	(0.179)
Constant	-0.152	3.052**	-0.589
	(0.439)	(0.375)	(0.500)
lnalpha	0.284**	0.685**	0.170
	(0.107)	(0.070)	(0.113)
Observations	416	416	416
Robust Errors	Yes	Yes	Yes
Pseudo R^2	0.078	0.025	0.092

Appendix 6.5: Negative Binomial Regression - Successful Investments

Negative Binomial Regressions	Model 5.1	Model 5.2	Model 5.3
Investments	0.012**		0.012**
	(0.004)		(0.004)
R&D Intensity	1.644*		0.337
	(0.713)		(0.918)
Ln(Total Assets)	0.058		0.047
	(0.055)		(0.053)
slack	0.676*		0.172
	(0.353)		(0.323)
Ln(CVC Age)	0.916**		0.851**
	(0.125)		(0.120)
Tenure	0.089**		0.083**
	(0.012)		(0.012)
Gender		0.701*	-0.013
		(0.286)	(0.170)
Exp. in Parent		-0.254	-0.216
		(0.212)	(0.153)
Exp. in Parent industry		-0.120	0.005
		(0.258)	(0.172)
International Exp.		-0.073	0.129
		(0.190)	(0.133)
Founder		0.941**	0.280*
		(0.221)	(0.156)
CVC Exp.		-0.831**	-0.186
		(0.218)	(0.143)
IVC Exp.		-0.496*	-0.168
		(0.287)	(0.210)
Consultancy Occupation		0.010	-0.304*
		(0.305)	(0.182)
Investment Banking Occupation		-0.589*	-0.172
		(0.263)	(0.161)
Corporate Occupation		-0.854**	-0.226
		(0.292)	(0.167)
STEM Occupation		-0.695**	-0.154
		(0.222)	(0.156)
PHD		0.208	0.265
		(0.240)	(0.184)
Business Education		0.105	0.006
		(0.215)	(0.131)
STEM Education		0.036	0.025
		(0.214)	(0.134)
Exp. in Information Tech. Industry		0.109	-0.030
		(0.224)	(0.154)
Exp. in Life Science		0.162	0.594**
		(0.232)	(0.181)
Exp. in Industrial Goods Industry		-1.097**	-0.451*
		(0.365)	(0.200)
Exp. in Other Industry		-0.913**	0.127
		(0.314)	(0.199)
Constant	-3.024**	3.490**	-2.477**
	(0.708)	(0.500)	(0.745)
lnalpha	0.409**	1.229**	0.296*
	(0.127)	(0.085)	(0.139)
Observations	416	416	416
Robust Errors	Yes	Yes	Yes
Pseudo R^2	0.149	0.043	0.163

Appendix VII Robustness Tests

Appendix 7.1: Robustness Results - Lead Investments

	Model 1.3	Model 6 - OLS	Model 11 - Outliers Removed
Gender	0.336*	0.388**	0.283*
	(0.161)	(0.138)	(0.143)
Exp. in Parent	0.034	0.150	0.058
	(0.138)	(0.098)	(0.137)
Exp. in Parent Industry	-0.140	-0.079	-0.077
	(0.153)	(0.108)	(0.146)
International Exp.	0.203	0.121	0.130
	(0.124)	(0.089)	(0.122)
Founder	0.306*	0.305**	0.253*
	(0.136)	(0.107)	(0.124)
CVC Exp.	0.242*	0.161*	0.191
	(0.124)	(0.096)	(0.119)
IVC Exp.	0.331*	0.217	0.269
	(0.178)	(0.146)	(0.183)
Consultancy Occupation	-0.022	-0.088	-0.042
	(0.146)	(0.112)	(0.145)
Investment Banking Occupation	0.027	-0.008	0.007
	(0.135)	(0.097)	(0.134)
Corporate Occupation	-0.039	-0.065	-0.088
	(0.151)	(0.105)	(0.146)
STEM Occupation	-0.136	-0.187*	-0.159
	(0.155)	(0.109)	(0.144)
PHD	-0.052	-0.018	-0.060
	(0.148)	(0.111)	(0.146)
Business Education	-0.282*	-0.221*	-0.253*
	(0.129)	(0.087)	(0.123)
STEM Education	-0.018	0.049	-0.038
	(0.125)	(0.092)	(0.126)
Exp. in Information Technology Industry	-0.130	0.029	-0.116
	(0.134)	(0.096)	(0.131)
Exp. in Life Science Industry	0.179	0.132	0.271
	(0.186)	(0.135)	(0.178)
Exp. in Industrial Goods Industry	-0.390*	-0.140	-0.285
	(0.200)	(0.144)	(0.211)
Exp. in Other Industries	0.255	0.259*	0.317*
	(0.186)	(0.137)	(0.188)
Investments	0.015**	0.005*	0.023**
	(0.004)	(0.002)	(0.003)
R&D Intensity	-1.424*	-0.221	-1.991*
	(0.863)	(0.531)	(0.854)
Ln(Total Assets)	0.138**	0.104**	0.106*
	(0.049)	(0.030)	(0.043)
Slack	-0.459**	-0.318*	-0.495**
	(0.173)	(0.160)	(0.172)
Ln(CVC Age)	0.258*	0.180**	0.151*
	(0.108)	(0.057)	(0.078)
Tenure	-0.005	0.004	-0.016
	(0.012)	(0.007)	(0.011)
Constant	-1.575*	-0.859*	-1.127*
	(0.643)	(0.372)	(0.510)
lnalpha	0.043		-0.241*
	(0.180)		(0.109)
Observations	416	416	411
Robust Errors	Yes	Yes	Yes
Pseudo R^2	0.142		0.146
R^2		0.411	

Appendix 7.2: Robustness Check - Early Investments

	Model 2.3	Model 7 - OLS	Model 12 - Outliers Removed
Gender	0.125	0.320*	0.053
	(0.133)	(0.138)	(0.108)
Exp. in Parent	0.252*	0.311**	0.252*
	(0.105)	(0.109)	(0.098)
Exp. in Parent Industry	-0.148	-0.177	-0.122
	(0.102)	(0.112)	(0.092)
International Exp.	0.277**	0.258**	0.231**
	(0.089)	(0.097)	(0.084)
Founder	0.204*	0.358**	0.139*
	(0.103)	(0.110)	(0.084)
CVC Exp.	0.085	0.066	0.059
	(0.104)	(0.109)	(0.097)
IVC Exp.	0.360**	0.334*	0.306**
	(0.124)	(0.151)	(0.110)
Consultancy Occupation	-0.176*	-0.168	-0.166*
	(0.099)	(0.114)	(0.097)
Investment Banking Occupation	-0.077	-0.067	-0.048
	(0.098)	(0.103)	(0.092)
Corporate Occupation	-0.058	-0.115	-0.085
	(0.099)	(0.117)	(0.093)
STEM Occupation	-0.127	-0.184	-0.106
	(0.109)	(0.118)	(0.097)
PHD	0.081	0.124	0.087
	(0.105)	(0.119)	(0.101)
Business Education	-0.105	-0.113	-0.081
	(0.087)	(0.095)	(0.080)
STEM Education	-0.102	-0.048	-0.098
	(0.084)	(0.095)	(0.082)
Exp. in Information Technology Industry	0.018	-0.003	0.003
	(0.102)	(0.109)	(0.090)
Exp. in Life Science Industry	0.251*	0.147	0.274*
	(0.140)	(0.161)	(0.126)
Exp. in Industrial Goods Industry	-0.517**	-0.340*	-0.485**
	(0.142)	(0.143)	(0.143)
. in Other Industries	0.272*	0.371*	0.242*
	(0.150)	(0.154)	(0.137)
Investments	0.014**	0.005*	0.022**
	(0.004)	(0.002)	(0.002)
R&D Intensity	1.581**	2.335**	1.303**
	(0.569)	(0.635)	(0.473)
Ln(Total Assets)	0.059	0.093**	0.033
	(0.037)	(0.031)	(0.029)
Slack	-0.185*	-0.110	-0.174*
	(0.112)	(0.129)	(0.098)
Ln(CVC Age)	0.218*	0.239**	0.113*
	(0.087)	(0.064)	(0.058)
Tenure	0.031**	0.036**	0.022**
	(0.007)	(0.007)	(0.006)
Constant	-0.195	-0.600	0.220
	(0.487)	(0.394)	(0.356)
lnalpha	-0.405*		-0.789**
	(0.200)		(0.109)
Observations	416	416	411
Robust Errors	Yes	Yes	Yes
Pseudo R^2	0.143		0.158
R^2		0.467	

Appendix 7.3: Robustness Check - Parent-Venture Industry Match

	Model 3.3	Model 8 - OLS	Model 13 - Outliers Removed
Gender	0.042	0.158	-0.042
	(0.136)	(0.146)	(0.125)
Exp. in Parent	0.200*	0.252*	0.207*
	(0.115)	(0.119)	(0.110)
Exp. in Parent Industry	0.052	-0.082	0.065
	(0.116)	(0.117)	(0.108)
International Exp.	0.131	0.115	0.080
	(0.099)	(0.104)	(0.094)
Founder	0.116	0.247*	0.035
	(0.108)	(0.113)	(0.094)
CVC Exp.	0.176*	0.203*	0.174*
	(0.104)	(0.110)	(0.100)
IVC Exp.	0.404**	0.372*	0.373**
	(0.131)	(0.153)	(0.128)
Consultancy Occupation	-0.185*	-0.150	-0.169
	(0.111)	(0.115)	(0.112)
Investment Banking Occupation	0.020	-0.017	0.039
	(0.104)	(0.109)	(0.101)
Corporate Occupation	-0.154	-0.115	-0.142
	(0.117)	(0.120)	(0.109)
STEM Occupation	-0.290*	-0.365**	-0.250*
	(0.117)	(0.126)	(0.106)
PHD	0.205*	0.139	0.199*
	(0.120)	(0.131)	(0.116)
Business Education	0.054	-0.037	0.072
	(0.102)	(0.104)	(0.098)
STEM Education	-0.040	0.037	-0.031
	(0.090)	(0.098)	(0.086)
Exp. in Information Technology Industry	0.549**	0.373**	0.519**
	(0.115)	(0.115)	(0.105)
Exp. in Life Science Industry	0.523**	0.370*	0.555**
	(0.153)	(0.168)	(0.147)
Exp. in Industrial Goods Industry	-0.494**	-0.314*	-0.461**
	(0.145)	(0.144)	(0.154)
Exp. in Other Industries	-0.106	-0.006	-0.142
	(0.135)	(0.172)	(0.129)
Investments	0.013**	0.005*	0.022**
	(0.004)	(0.002)	(0.002)
R&D Intensity	2.541**	3.282**	2.089**
	(0.647)	(0.680)	(0.534)
Ln(Total Assets)	0.101*	0.123**	0.072*
	(0.040)	(0.033)	(0.032)
Slack	0.013	0.062	-0.027
	(0.138)	(0.176)	(0.126)
Ln(CVC Age)	0.291**	0.287**	0.193**
	(0.084)	(0.067)	(0.065)
Tenure	0.037**	0.034**	0.028**
	(0.010)	(0.008)	(0.008)
Constant	-0.887*	-0.975*	-0.454
	(0.487)	(0.418)	(0.368)
lnalpha	-0.267		-0.554**
	(0.163)		(0.097)
Observations	416	416	411
Robust Errors	Yes	Yes	Yes
Pseudo R^2	0.163		0.165
R^2		0.533	

Appendix 7.4: Robustness Check - International Investments

	Model 4.3	Model 9 - OLS	Model 14 - Outliers Removed
Gender	-0.032	0.052	-0.054
	(0.167)	(0.171)	(0.163)
Exp. in Parent	0.138	0.230*	0.147
	(0.127)	(0.133)	(0.123)
Exp. in Parent Industry	0.023	-0.010	0.044
	(0.140)	(0.149)	(0.128)
International Exp.	0.615**	0.638**	0.590**
	(0.110)	(0.119)	(0.105)
Founder	0.139	0.288*	0.079
	(0.121)	(0.135)	(0.111)
CVC Exp.	0.257*	0.274*	0.232*
	(0.118)	(0.129)	(0.113)
IVC Exp.	0.270*	0.347*	0.246*
	(0.149)	(0.187)	(0.144)
Consultancy Occupation	0.028	0.035	0.039
	(0.122)	(0.137)	(0.118)
Investment Banking Occupation	-0.193	-0.219*	-0.143
	(0.126)	(0.132)	(0.121)
Corporate Occupation	-0.135	-0.096	-0.166
	(0.136)	(0.155)	(0.130)
STEM Occupation	-0.106	-0.146	-0.084
	(0.131)	(0.145)	(0.122)
PHD	0.161	0.146	0.169
	(0.148)	(0.159)	(0.145)
Business Education	-0.145	-0.096	-0.146
	(0.116)	(0.119)	(0.110)
STEM Education	-0.029	0.026	0.001
	(0.114)	(0.122)	(0.111)
Exp. in Information Technology Industry	0.070	0.052	0.056
	(0.125)	(0.133)	(0.115)
Exp. in Life Science Industry	0.462**	0.306	0.490**
	(0.170)	(0.189)	(0.166)
Exp. in Industrial Goods Industry	-0.153	-0.263	-0.086
	(0.211)	(0.187)	(0.207)
Exp. in Other Industries	0.245	0.275	0.251
	(0.179)	(0.190)	(0.171)
Investments	0.014**	0.005*	0.022**
	(0.005)	(0.002)	(0.004)
R&D Intensity	-1.090	0.160	-1.549*
	(0.793)	(0.752)	(0.760)
Ln(Total Assets)	0.098*	0.131**	0.078*
	(0.040)	(0.036)	(0.034)
Slack	-0.339*	-0.235	-0.377*
	(0.154)	(0.219)	(0.148)
Ln(CVC Age)	0.363**	0.258**	0.267**
	(0.098)	(0.076)	(0.079)
Tenure	0.020*	0.022*	0.014
	(0.011)	(0.009)	(0.009)
Constant	-0.589	-0.934*	-0.316
	(0.500)	(0.454)	(0.429)
lnalpha	0.170		0.056
	(0.113)		(0.087)
Observations	416	416	411
Robust Errors	Yes	Yes	Yes
Pseudo R^2	0.092		0.087
R^2		0.364	

Appendix 7.5: Robustness Check - Successful Investments

	Model 5.3	Model 10 - OLS	Model 15 - Outliers Removed
Gender	-0.013	0.175	-0.057
	(0.170)	(0.133)	(0.170)
Exp. in Parent	-0.216	-0.136	-0.244
	(0.153)	(0.104)	(0.154)
Exp. in Parent Industry	0.005	0.007	0.045
	(0.172)	(0.114)	(0.165)
International Exp.	0.129	0.148	0.138
	(0.133)	(0.092)	(0.131)
Founder	0.280*	0.267*	0.205
	(0.156)	(0.112)	(0.146)
CVC Exp.	-0.186	-0.025	-0.193
	(0.143)	(0.093)	(0.143)
IVC Exp.	-0.168	-0.124	-0.166
	(0.210)	(0.130)	(0.204)
Consultancy Occupation	-0.304*	-0.215*	-0.300
	(0.182)	(0.113)	(0.190)
Investment Banking Occupation	-0.172	-0.168	-0.212
	(0.161)	(0.108)	(0.160)
Corporate Occupation	-0.226	-0.103	-0.226
	(0.167)	(0.119)	(0.163)
STEM Occupation	-0.154	-0.122	-0.128
	(0.156)	(0.113)	(0.151)
PHD	0.265	0.172	0.272
	(0.184)	(0.131)	(0.188)
Business Education	0.006	-0.063	0.017
	(0.131)	(0.094)	(0.130)
STEM Education	0.025	0.082	0.032
	(0.134)	(0.097)	(0.133)
Exp. in Information Technology Industry	-0.030	-0.138	-0.060
	(0.154)	(0.108)	(0.151)
Exp. in Life Science Industry	0.594**	0.372*	0.631**
	(0.181)	(0.145)	(0.182)
Exp. in Industrial Goods Industry	-0.451*	-0.093	-0.474*
	(0.200)	(0.133)	(0.200)
Exp. in Other Industries	0.127	0.143	0.071
	(0.199)	(0.157)	(0.201)
Investments	0.012**	0.005*	0.019**
	(0.004)	(0.002)	(0.003)
R&D Intensity	0.337	1.002*	-0.102
	(0.918)	(0.569)	(0.868)
Ln(Total Assets)	0.047	0.039	0.009
	(0.053)	(0.028)	(0.046)
Slack	0.172	0.103	0.129
	(0.323)	(0.149)	(0.326)
Ln(CVC Age)	0.851**	0.439**	0.747**
	(0.120)	(0.058)	(0.098)
Tenure	0.083**	0.059**	0.076**
	(0.012)	(0.008)	(0.011)
Constant	-2.477**	-0.998**	-1.899**
	(0.745)	(0.373)	(0.616)
lnalpha	0.296*		0.113
	(0.139)		(0.104)
Observations	416	416	411
Robust Errors	Yes	Yes	Yes
Pseudo R^2	0.163		0.157
R^2		0.555	

Appendix VIII VIF Test

Appendix 8.1: VIF and 1/VIF Table

Variable	VIF	1/VIF
Exp. in Other Industries	1.67	0.598532
Exp. in Parent Industry	1.67	0.599751
R&D Intensity	1.60	0.625324
Exp. in Parent	1.53	0.654740
Exp. in Life Science Industry	1.49	0.670444
Corporate Occupation	1.46	0.686357
Exp. in Info. Tech. Industry	1.45	0.689813
Ln(Total Assets)	1.32	0.757523
Ln(CVC Age)	1.31	0.761959
Tenure	1.30	0.767299
Exp. in Industrial Goods industry	1.30	0.770885
STEM Education	1.27	0.786365
Investment Banking Occupation	1.25	0.802751
Slack	1.24	0.803815
PHD	1.22	0.817892
STEM Occupation	1.22	0.822319
Investments	1.19	0.838676
Business Education	1.16	0.863643
CVC Exp.	1.16	0.863702
IVC Exp.	1.15	0.870296
International Exp.	1.12	0.891956
Consultant Occupation	1.11	0.902828
Gender	1.09	0.918988
Founder	1.08	0.926792
Mean VIF	1.31	

Appendix IX Industry Classifications

Individual industry experiences: (Based on manual examination and inputs)	SIC-codes related to the individual industry experiences: SIC codes that will be merged: This reasoning suggests that if two businesses have the same Standard Industrial Classification (SIC) code, they should have similar product characteristics, and therefore, they are considered related (Pehrsson, 2006).	Overall industry classification applied in thesis:

Lifesciences, drugs, pharma, biotechnology	• 2830: Drugs
	  • 2833: Medicinal Chemicals and Botanical Products
	  • 2834: Pharmaceutical Preparations
	  • 2835: In Vitro and In Vivo Diagnostic Substances
	  • 2836: Biological Products, Except Diagnostic Substances
	• 3840: Surgical, Medical, and Dental Instruments and Supplies
	  • 3841: Surgical and Medical Instruments and Apparatus
	  • 3842: Orthopedic, Prosthetic, and Surgical Appliances and Supplies
	  • 3843: Dental Equipment and Supplies
	  • 3844: X-ray Apparatus and Tubes and Related Irradiation Apparatus
	  • 3845: Electromedical and Electrotherapeutic Apparatus
	• 8070: Medical and Dental Laboratories
	  • 8071: Medical Laboratories
	  • 8072: Dental Laboratories
	• 8060: Hospitals
	  • 8062: General Medical and Surgical Hospitals
	  • 8063: Psychiatric Hospitals
	  • 8069: Specialty Hospitals, Except Psychiatric
	• 8050: Nursing and Personal Care Facilities
	  • 8051: Skilled Nursing Care Facilities
	  • 8052: Intermediate Care Facilities
	  • 8059: Nursing and Personal Care Facilities, Not Elsewhere Classified
	• 8000: Health Services
	  • 8010: Offices and Clinics of Doctors of Medicine
	  • 8011: Offices and Clinics of Doctors of Medicine
	  • 8020: Offices and Clinics of Dentists
	  • 8021: Offices and Clinics of Dentists
	  • 8030: Offices and Clinics of Doctors of Osteopathy
	  • 8031: Offices and Clinics of Doctors of Osteopathy
	  • 8040: Offices of Other Health Practitioners
	  • 8041: Offices and Clinics of Chiropractors
	  • 8042: Offices and Clinics of Optometrists
	  • 8043: Offices and Clinics of Podiatrists
	  • 8049: Offices and Clinics of Health Practitioners, Not Elsewhere Classified
	  • 8090: Health and Allied Services, Not Elsewhere Classified
	  • 8092: Kidney Dialysis Centers
	  • 8093: Specialty Outpatient Facilities, Not Elsewhere Classified
	  • 8099: Health and Allied Services, Not Elsewhere Classified
		Life science

Appendix 9.1: Industry Classification: Life Science

Individual industry experiences:	SIC-codes related to the individual industry experiences:	Overall industry classification applied in thesis:

Automotive, cars, motors, vehicles.	• 3710: Motor Vehicles and Motor Vehicle Equipment
	  • 3711: Motor Vehicles and Passenger Car Bodies
	  • 3713: Truck and Bus Bodies
	  • 3714: Motor Vehicle Parts and Accessories
	  • 3715: Truck Trailers
	  • 3716: Motor Homes
	• 5010: Motor Vehicles and Motor Vehicle Parts and Supplies (Wholesale trade)
	  • 5012: Automobiles and Other Motor Vehicles
	  • 5013: Motor Vehicle Supplies and New Parts
	  • 5014: Tires and Tubes
	  • 5015: Motor Vehicle Parts, Used
	• 5510: Motor Vehicle Dealers (New and Used)
	  • 5511: Motor Vehicle Dealers (New and Used)
	• 5520: Motor Vehicle Dealers (Used Only)
	  • 5521: Motor Vehicle Dealers (Used Only)
	• 5530: Auto and Home Supply Stores (Retail trade)
	  • 5531: Auto and Home Supply Stores
	• 7540: Automotive Services, Except Repair and Carwashes
	  • 7542: Carwashes
	  • 7549: Automotive Services, Except Repair and Carwashes, Not Elsewhere Classified
	• 7530: Automotive Repair Shops
	  • 7532: Top, Body, and Upholstery Repair Shops and Paint Shops
	  • 7533: Automotive Exhaust System Repair Shops
	  • 7534: Tire Retreading and Repair Shops
	  • 7536: Automotive Glass Replacement Shops
	  • 7537: Automotive Transmission Repair Shops
	  • 7538: General Automotive Repair Shops
	  • 7539: Automotive Repair Shops, Not Elsewhere Classified
		Automotive

Appendix 9.2: Industry Classification: Automotive

Individual industry experiences:	SIC-codes related to the individual industry experiences:	Overall industry classification applied in thesis:

Telecommunication, broadcast, media, telephone.	• 4810: Telephone Communications, Except Radiotelephone
	  • 4812: Radiotelephone Communications
	  • 4813: Telephone Communications, Except Radiotelephone (includes landline telephone services)
	• 4820: Telegraph and Other Message Communications
	  • 4822: Telegraph and Other Message Communications (covers telegraph services and other non-telephone message transmission services)
	• 4830: Radio and Television Broadcasting Stations
	  • 4832: Radio Broadcasting Stations
	  • 4833: Television Broadcasting Stations
	• 4840: Cable and Other Pay Television Services
	  • 4841: Cable and Other Pay Television Services (includes cable, satellite, and other subscription-based television services)
	• 4890: Communications Services, Not Elsewhere Classified
	  • 4899: Communications Services, Not Elsewhere Classified (covers various miscellaneous communication services)
	• 3663: Radio and Television Broadcasting and Communications Equipment (part of the Electronic Components and Accessories major group, covers manufacturing of broadcasting and communications equipment)
		Telecommunication, broadcast and media

Appendix 9.3: Industry Classification: Tele-communication

Individual industry experiences:	SIC-codes related to the individual industry experiences:	Overall industry classification applied in thesis:

Software/hardware, internet business, e-commerce, online-businesses.	• 3570: Computer and Office Equipment
	  • 3571: Electronic Computers
	  • 3572: Computer Storage Devices
	  • 3577: Computer Peripheral Equipment, Not Elsewhere Classified
	  • 3579: Office Machines, Not Elsewhere Classified
	• 3660: Communications Equipment
	  • 3661: Telephone and Telegraph Apparatus
	  • 3669: Communications Equipment, Not Elsewhere Classified
	• 3670: Electronic Components and Accessories
	  • 3671: Electron Tubes
	  • 3672: Printed Circuit Boards
	  • 3674: Semiconductors and Related Devices
	  • 3675: Electronic Capacitors
	  • 3676: Electronic Resistors
	  • 3677: Electronic Coils, Transformers, and Other Inductors
	  • 3678: Electronic Connectors
	  • 3679: Electronic Components, Not Elsewhere Classified
	• 7370: Computer Programming, Data Processing, and Other Computer-Related Services
	  • 7371: Computer Programming Services
	  • 7372: Prepackaged Software
	  • 7373: Computer Integrated Systems Design
	  • 7374: Computer Processing and Data Preparation and Processing Services
	  • 7375: Information Retrieval Services
	  • 7376: Computer Facilities Management Services
	  • 7377: Computer Rental and Leasing
	  • 7378: Computer Maintenance and Repair
	  • 7379: Computer-Related Services, Not Elsewhere Classified
	• 5960: Non-store Retailers (e-commerce)
	  • 5961: Catalog and Mail-Order Houses (includes online retailers)
	  • 5962: Automatic Merchandising Machine Operators
	  • 5963: Direct Selling Establishments
	  • 5969: Direct Mail Advertising Services
		Information Technologies

Appendix 9.4: Industry Classification: Information Technology

Individual industry experiences:	SIC-codes related to the individual industry experiences:	Overall industry classification applied in thesis:

Financial services, investment banking, insurance, commercial banking.	• 6000: Depository Institutions (Banking)
	  • 6010: Central Reserve Depository Institutions
	  • 6011: Federal Reserve Banks
	  • 6019: Central Reserve Depository Institutions, Not Elsewhere Classified
	  • 6020: Commercial Banks
	  • 6021: National Commercial Banks
	  • 6022: State Commercial Banks
	  • 6029: Commercial Banks, Not Elsewhere Classified
	  • 6030: Savings Institutions
	  • 6035: Savings Institutions, Federally Chartered
	  • 6036: Savings Institutions, Not Federally Chartered
	  • 6060: Credit Unions
	  • 6061: Credit Unions, Federally Chartered
	  • 6062: Credit Unions, Not Federally Chartered
	  • 6080: Foreign Banking and Branches and Agencies of Foreign Banks
	  • 6081: Branches and Agencies of Foreign Banks
	  • 6082: Foreign Trade and International Banking Institutions
	• 6100: Non-Depository Credit Institutions
	  • 6110: Federal and Federally-Sponsored Credit Agencies
	  • 6111: Federal and Federally-Sponsored Credit Agencies
	  • 6140: Personal Credit Institutions
	  • 6141: Personal Credit Institutions
	  • 6150: Business Credit Institutions
	  • 6153: Short-Term Business Credit Institutions, Except Agricultural
	  • 6159: Miscellaneous Business Credit Institutions
	  • 6160: Mortgage Bankers and Loan Correspondents
	  • 6162: Mortgage Bankers and Loan Correspondents
	  • 6170: Finance Lessors
	  • 6172: Sales Financing
	• 6200: Security and Commodity Brokers, Dealers, Exchanges, and Services (Investment Banking)
	  • 6210: Security Brokers, Dealers, and Flotation Companies
	  • 6211: Security Brokers, Dealers, and Flotation Companies
	  • 6220: Commodity Contracts Brokers and Dealers
	  • 6221: Commodity Contracts Brokers and Dealers
	  • 6230: Security and Commodity Exchanges
	  • 6231: Security and Commodity Exchanges
	  • 6280: Investment Advice
	  • 6282: Investment Advice
	  • 6290: Miscellaneous Investing
	  • 6299: Miscellaneous Investing
	• 6300: Insurance Carriers
	  • 6310: Life Insurance
	  • 6311: Life Insurance
	  • 6320: Accident and Health Insurance
	  • 6321: Accident and Health Insurance
		Financial services

Appendix 9.5: Industry Classification: Financial Services (1/2)

Individual industry experiences:	SIC-codes related to the individual industry experiences:	Overall industry classification applied in thesis:

Financial services, investment banking, insurance, commercial banking.	• 6330: Fire, Marine, and Casualty Insurance
	  • 6331: Fire, Marine, and Casualty Insurance
	• 6350: Surety Insurance
	  • 6351: Surety Insurance
	• 6360: Title Insurance
	  • 6361: Title Insurance
	• 6390: Insurance Carriers, Not Elsewhere Classified
	  • 6399: Insurance Carriers, Not Elsewhere Classified
	• 6700: Holding and Other Investment Offices
	  • 6710: Bank Holding Companies
	  • 6712: Bank Holding Companies
	• 6720: Investment Offices
	  • 6722: Management Investment Offices, Open-End
	  • 6726: Unit Investment Trusts
		Financial services

Appendix 9.6: Industry Classification: Financial Services (2/2)

Individual industry experiences:	SIC-codes related to the individual industry experiences:	Overall industry classification applied in thesis:

Consumer goods, retail, textile, foods, beverages, hospitality, perfumes, wholesale.	• 2000: Food and Kindred Products
	  • 2010: Meat Products
	  • 2020: Dairy Products
	  • 2030: Canned, Frozen, and Preserved Fruits, Vegetables, and Food Specialties
	  • 2040: Grain Mill Products
	  • 2050: Bakery Products
	  • 2060: Sugar and Confectionery Products
	  • 2070: Fats and Oils
	  • 2080: Beverages
	  • 2090: Miscellaneous Food Preparations and Kindred Products
	• 2200: Textile Mill Products
	  • 2210: Broadwoven Fabric Mills, Cotton
	  • 2220: Broadwoven Fabric Mills, Manmade Fiber and Silk
	  • 2230: Broadwoven Fabric Mills, Wool (Including Dyeing and Finishing)
	  • 2240: Narrow Fabric and Other Smallwares Mills: Cotton, Wool, Silk, and Manmade Fiber
	  • 2250: Knitting Mills
	  • 2260: Dyeing and Finishing Textiles, Except Wool Fabrics and Knit Goods
	  • 2270: Carpets and Rugs
	  • 2280: Yarn and Thread Mills
	  • 2290: Miscellaneous Textile Goods
	• 2300: Apparel and Other Finished Products Made From Fabrics and Similar Materials
	  • 2310: Men's and Boys' Suits, Coats, and Overcoats
	  • 2320: Men's and Boys' Furnishings, Work Clothing, and Allied Garments
	  • 2330: Women's, Misses', and Juniors' Outerwear
	  • 2340: Women's, Misses', Children's, and Infants' Undergarments
	  • 2350: Hats, Caps, and Millinery
	  • 2360: Girls', Children's, and Infants' Outerwear
	  • 2370: Fur Goods
	  • 2380: Miscellaneous Apparel and Accessories
	  • 2390: Miscellaneous Fabricated Textile Products
	• 2840: Soap, Detergents, and Cleaning Preparations; Perfumes, Cosmetics, and Other Toilet Preparations
	  • 2841: Soap and Other Detergents, Except Specialty Cleaners
	  • 2842: Specialty Cleaning, Polishing, and Sanitation Preparations
	  • 2844: Perfumes, Cosmetics, and Other Toilet Preparations
	• 5000: Wholesale Trade - Durable Goods
	  • 5020: Furniture and Home Furnishings
	  • 5030: Lumber and Other Construction Materials
	  • 5040: Professional and Commercial Equipment and Supplies
	  • 5050: Metals and Minerals, Except Petroleum
	  • 5060: Electrical Goods
	  • 5070: Hardware, and Plumbing and Heating Equipment and Supplies
	  • 5090: Miscellaneous Durable Goods
	• 5100: Wholesale Trade - Nondurable Goods
	  • 5110: Paper and Paper Products
		Consumer goods

Appendix 9.7: Industry Classification: Consumer Goods

Individual industry experiences:	SIC-codes related to the individual industry experiences:	Overall industry classification applied in thesis:

Entertainment, movies.	• Motion Pictures (SIC Division H)
	  • Motion Picture Production and Allied Services (SIC 781)
	  • Motion Picture Theaters (SIC 783)
	• Amusement and Recreation Services (SIC Division I)
	  • Amusement and Recreation Services, Not Elsewhere Classified (SIC 799)
	  • Amusement Parks (SIC 7996)
	  • Bowling Centers (SIC 7933)
	  • Coin-Operated Amusement Devices (SIC 7993)
	  • Commercial Sports (SIC 7941)
	  • Dance Studios, Schools, and Halls (SIC 7911)
	  • Membership Sports and Recreation Clubs (SIC 7997)
	  • Physical Fitness Facilities (SIC 7991)
	  • Professional Sports Clubs and Promoters (SIC 794)
	  • Theatrical Producers (Except Motion Picture) and Miscellaneous Theatrical Services (SIC 792)
	• Printing, Publishing, and Allied Industries (SIC Division K)
	  • Books: Publishing, or Publishing and Printing (SIC 2731)
	  • Miscellaneous Publishing (SIC 2741)
	  • Newspapers: Publishing, or Publishing and Printing (SIC 2711)
	  • Periodicals: Publishing, or Publishing and Printing (SIC 2721)
		Entertainment

Appendix 9.8: Industry Classification: Entertainment

Individual industry experiences:	SIC-codes related to the individual industry experiences:	Overall industry classification applied in thesis:

Logistics, transportation, freight movement.	• Transportation Services (SIC Division E)
	  • Local and Suburban Transit (SIC 411)
	  • Local and Suburban Passenger Transportation, Not Elsewhere Classified (SIC 4121)
	  • Taxicabs (SIC 412)
	  • Intercity and Rural Bus Transportation (SIC 4131)
	  • Bus Charter Service, Except Local (SIC 4141)
	  • Bus Terminal and Service Facilities (SIC 4173)
	  • Terminal and Service Facilities for Motor Vehicle Passenger Transportation (SIC 417)
	• Motor Freight Transportation and Warehousing (SIC Division E)
	  • Local Trucking Without Storage (SIC 4212)
	  • Local Trucking With Storage (SIC 4214)
	  • Trucking, Except Local (SIC 421)
	  • Motor Freight Transportation and Warehousing, Not Elsewhere Classified (SIC 4226)
	  • Public Warehousing and Storage (SIC 422)
	  • Special Warehousing and Storage, Not Elsewhere Classified (SIC 4225)
	• Railroad Transportation (SIC Division E)
	  • Line-Haul Railroads (SIC 4011)
	  • Switching and Terminal Services (SIC 4013)
	  • Railroad Transportation, Not Elsewhere Classified (SIC 401)
	• Water Transportation (SIC Division E)
	  • Deep Sea Foreign Transportation of Freight (SIC 4412)
	  • Deep Sea Domestic Transportation of Freight (SIC 4424)
	  • Freight Transportation on the Great Lakes-St. Lawrence Seaway (SIC 4432)
	  • Water Transportation of Freight, Not Elsewhere Classified (SIC 4449)
	  • Water Transportation of Passengers (SIC 448)
	  • Ferries (SIC 4482)
	  • Water Transportation Services, Not Elsewhere Classified (SIC 4499)
	• Air Transportation (SIC Division E)
	  • Scheduled Air Transportation (SIC 451)
	  • Nonscheduled Air Transportation (SIC 452)
	  • Air Courier Services (SIC 4513)
	  • Airports, Flying Fields, and Airport Terminal Services (SIC 458)
	  • Airport Terminal Services (SIC 4581)
	  • Airport Terminal Services, Not Elsewhere Classified (SIC 4582)
		Logistics and transportation

Appendix 9.9: Industry Classification: Logistics

Individual industry experiences:	SIC-codes related to the individual industry experiences:	Overall industry classification applied in thesis:

Oil, gas, energy, utilities, pipelines, petroleum.	• Crude Petroleum and Natural Gas (SIC Division B)
	  • Crude Petroleum and Natural Gas Production (SIC 1311)
	  • Natural Gas Liquids (SIC 1321)
	• Drilling Oil and Gas Wells (SIC Division B)
	  • Drilling Oil and Gas Wells (SIC 1381)
	• Oil and Gas Field Exploration Services (SIC Division B)
	  • Oil and Gas Field Exploration Services (SIC 1382)
	• Oil and Gas Field Services, Not Elsewhere Classified (SIC Division B)
	  • Oil and Gas Field Services, Not Elsewhere Classified (SIC 1389)
	• Pipelines, Except Natural Gas (SIC Division E)
	  • Crude Petroleum Pipelines (SIC 4612)
	  • Refined Petroleum Pipelines (SIC 4613)
	  • Pipelines, Not Elsewhere Classified (SIC 4619)
	• Electric and Other Services Combined (SIC Division E)
	  • Electric and Other Services Combined (SIC 4931)
	• Electric Services (SIC Division E)
	  • Electric Services (SIC 4911)
	• Gas Production and Distribution (SIC Division E)
	  • Natural Gas Transmission (SIC 4922)
	  • Natural Gas Transmission and Distribution (SIC 4923)
	  • Gas Production and/or Distribution, Not Elsewhere Classified (SIC 4924)
	• Combination Utilities, Not Elsewhere Classified (SIC Division E)
	  • Combination Utilities, Not Elsewhere Classified (SIC 4939)
	• Petroleum Refining and Related Industries (SIC Division D)
	  • Petroleum Refining (SIC 2911)
		Oil, Gas and Energy

Appendix 9.10: Industry Classification: Oil, Gas & Energy

Individual industry experiences:	SIC-codes related to the individual industry experiences:	Overall industry classification applied in thesis:

Industrial goods, chemicals, large scale manufacturing, gases, supplies, coal, water.	• Coal Mining (SIC Division B)
	  • Anthracite Mining (SIC 1231)
	  • Bituminous Coal and Lignite Surface Mining (SIC 1221)
	  • Bituminous Coal Underground Mining (SIC 1222)
	  • Coal Mining Services (SIC 1241)
	• Chemicals and Allied Products (SIC Division D)
	  • Industrial Organic Chemicals (SIC 286)
	  • Industrial Inorganic Chemicals (SIC 281)
	  • Plastic Materials, Synthetic Resins, and Nonvulcanizable Elastomers (SIC 2821)
	  • Paints, Varnishes, Lacquers, Enamels, and Allied Products (SIC 285)
	  • Agricultural Chemicals (SIC 287)
	  • Miscellaneous Chemical Products (SIC 289)
	• Industrial and Commercial Machinery and Computer Equipment (SIC Division D)
	  • Industrial and Commercial Machinery and Equipment, Not Elsewhere Classified (SIC 3599)
	  • Special Industry Machinery, Not Elsewhere Classified (SIC 3559)
	  • General Industrial Machinery and Equipment (SIC 356)
	  • Computer and Office Equipment (SIC 357)
	• Primary Metal Industries (SIC Division D)
	  • Blast Furnaces and Steel Mills (SIC 3312)
	  • Primary Smelting and Refining of Nonferrous Metals (SIC 3339)
	  • Steel Works, Blast Furnaces, and Rolling and Finishing Mills (SIC 331)
	  • Miscellaneous Primary Metal Products (SIC 339)
	• Fabricated Metal Products, Except Machinery and Transportation Equipment (SIC Division D)
	  • Fabricated Metal Products, Not Elsewhere Classified (SIC 3499)
	  • Metal Forgings and Stampings (SIC 346)
	  • Fabricated Structural Metal (SIC 344)
	• Rubber and Miscellaneous Plastic Products (SIC Division D)
	  • Rubber and Miscellaneous Plastic Products, Not Elsewhere Classified (SIC 3069)
	• Industrial Gases (SIC Division D)
	  • Industrial Gases (SIC 2813)
		Industrial goods

Appendix 9.11: Industry Classification: Industrial Goods

Individual industry experiences:	SIC-codes related to the individual industry experiences:	Overall industry classification applied in thesis:
Public	Division J: Public Administration and Defense; Compulsory Social Security • 9100: General (Overall) Public Service • 9110: Executive, Legislative, and General Government, except Finance • 9111: Executive Offices • 9112: Legislative Bodies • 9113: Public Order and Safety, except Courts • 9114: Courts • 9119: Miscellaneous General Government, except Finance • 9120: Public Finance, Taxation, and Monetary Policy • 9121: Central Reserve Depository Institutions • 9122: Finance, Taxation, and Monetary Policy, except Central Reserve Depository Institutions • 9130: Public Order and Safety • 9131: Police Protection • 9132: Fire Protection • 9133: Correctional Institutions • 9134: Other Public Order and Safety Affairs • 9139: Public Order and Safety, Not Elsewhere Classified • 9140: Administration of Environmental Quality and Housing Programs • 9141: Air, Water, and Solid Waste Management • 9142: Environmental Quality and Housing Programs, except Air, Water, and Solid Waste Management • 9150: Administration of Economic Programs • 9151: Agricultural Programs • 9152: Commerce and Trade Development • 9153: Labor and Employment Programs • 9154: Licensing and Inspection • 9159: Administration of Economic Programs, Not Elsewhere Classified • 9190: Administration of Human Resource Programs • 9191: Education Programs • 9192: Public Health Programs • 9193: Welfare Programs • 9194: Veterans Affairs • 9199: Administration of Human Resource Programs, Not Elsewhere Classified	Public sector

Appendix 9.12: Industry Classification: Public

Individual industry experiences:	SIC-codes related to the individual industry experiences:	Overall industry classification applied in thesis:

Construction, Real Estate.	• 1500: General Building Contractors
	  • 1520: General Building Contractors-Residential Buildings
	  • 1521: Single-Family Housing Construction
	  • 1522: Residential Construction, Except Single-Family
	  • 1530: Operative Builders
	  • 1531: Operative Builders
	  • 1540: General Building Contractors-Nonresidential Buildings
	  • 1541: Industrial Buildings and Warehouses
	  • 1542: Nonresidential Construction, Except Industrial Buildings and Warehouses
	• 1600: Heavy Construction, Except Building Construction
	  • 1610: Highway and Street Construction, Except Elevated Highways
	  • 1611: Highway and Street Construction, Except Elevated Highways
	  • 1620: Heavy Construction, Except Highway and Street Construction
	  • 1622: Bridge, Tunnel, and Elevated Highway Construction
	  • 1623: Water, Sewer, Pipeline, and Communications and Power Line Construction
	  • 1629: Heavy Construction, Not Elsewhere Classified
	• 1700: Construction-Special Trade Contractors
	  • 1710: Plumbing, Heating, and Air-Conditioning
	  • 1711: Plumbing, Heating, and Air-Conditioning
	  • 1720: Painting and Paper Hanging
	  • 1721: Painting and Paper Hanging
	  • 1730: Electrical Work
	  • 1731: Electrical Work
	  • 1740: Masonry, Stone Setting, and Other Stone Work
	  • 1741: Masonry and Other Stonework
	  • 1742: Plastering, Drywall, Acoustical, and Insulation Work
	  • 1743: Terrazzo, Tile, Marble, and Mosaic Work
	  • 1750: Carpentry and Floor Work
	  • 1751: Carpentry Work
	  • 1752: Floor Laying and Other Floor Work, Not Elsewhere Classified
	  • 1760: Roofing, Siding, and Sheet Metal Work
	  • 1761: Roofing, Siding, and Sheet Metal Work
	  • 1770: Concrete Work
	  • 1771: Concrete Work
	  • 1780: Water Well Drilling
	  • 1781: Water Well Drilling
	  • 1790: Miscellaneous Special Trade Contractors
	  • 1791: Structural Steel Erection
	  • 1792: Excavation Work
	  • 1793: Glass and Glazing Work
	  • 1794: Wrecking and Demolition Work
		Real Estate

Appendix 9.13: Industry Classification: Real Estate (1/2)

Individual industry experiences:	SIC-codes related to the individual industry experiences:	Overall industry classification applied in thesis:
Construction, Real Estate.	• 1794: Wrecking and Demolition Work • 1795: Building Equipment Installation • 1796: Installing Building Equipment, Not Elsewhere Classified • 1799: Special Trade Contractors, Not Elsewhere Classified Division H: Finance, Insurance, and Real Estate • 6500: Real Estate • 6510: Real Estate Operators (Except Developers) and Lessors • 6512: Operators of Nonresidential Buildings • 6513: Operators of Apartment Buildings • 6514: Operators of Dwellings Other Than Apartment Buildings • 6515: Operators of Residential Mobile Home Sites • 6517: Lessors of Railroad Property • 6519: Lessors of Real Property, Not Elsewhere Classified • 6520: Real Estate Agents and Managers • 6531: Real Estate Agents and Managers • 6530: Real Estate Dealers (For Their Own	Real Estate

Appendix 9.14: Industry Classification: Real Estate (2/2)

Individual industry experiences:	SIC-codes related to the individual industry experiences:	Overall industry classification applied in thesis:
Consulting	Division I: Services • 7300: Management and Public Relations Services • 7310: Advertising • 7311: Advertising Agencies • 7320: Consumer Credit Reporting, Collection Agencies • 7323: Credit Reporting Services • 7330: Mailing, Reproduction, and Stenographic Services • 7340: Services to Dwellings and Other Buildings • 7349: Building Cleaning and Maintenance Services, Not Elsewhere Classified • 7350: Equipment Rental and Leasing • 7359: Equipment Rental and Leasing, Not Elsewhere Classified • 7360: Personnel Supply Services • 7361: Employment Agencies • 7363: Help Supply Services • 8740: Management and Public Relations Services • 8741: Management Services • 8742: Management Consulting Services • 8743: Public Relations Services • 8744: Facilities Support Management Services • 8748: Business Consulting Services, Not Elsewhere Classified	Consulting

Appendix 9.15: Industry Classification: Consulting

Appendix X EIKON: Extracted Columns

Appendix 10.1: EIKON: Explanation of Extracted Columns

Column Title	Definition
Investee Company Name	Name of the venture.
Investee Company Nation	Home nation of the venture.
Investee Company TRBC	TRBC classification of the venture
Investment Date	Date at which the CVC invested into the venture.
Round	The round at which the CVC entered with an investment into the venture.
Investment Stage	The investment stage at which the CVC entered with an investment, such as "Seed" or "Early stage".
Firm Investor Name	Name of the CVC Unit
Fund Investor Name	Name of the fund that the CVC unit invested from
Investor Equity Total	Amount of capital the CVC provided in exchange for equity
Round Equity Total	Total equity provided in the specified round through all investors to the venture
Investee Primary SIC	Primary SIC-code for the venture, a four digit code that classifies industries
Fund Investor Founded Date	Date at which the fund of the CVC was founded
Firm Investor Founded Date	Date at which the CVC was founded
Firm Investors First Investment Date	Date at which the CVC made its first investment
Firm Investors Last Investment Date	Date at which the CVC made its last investment (only relevant for non-current CVCs)
Lead Investor	Binary value (True / False) if the CVC was the lead investor in the specified deal
Investee Company Founded Date	Date at which the venture was founded
Investee Company IPO Date	Date at which, if relevant, the venture made their IPO
Investee Company City/Region	Geographic information of the venture
Investor Company City/Region	Geographic information of the CVC unit

Appendix XI

Appendix 11.1: Utilized Databases

Data Source	Description	Purpose	Utilized in previous papers
Crunchbase	Database with focus in Start-ups, investments and industry trends.	Gather insights pertaining to venture-level data, investment specific and information concerning CVC entities. Facilitated the gathering of information via two distinct avenues: general particulars about the CVC unit were procured from the CVC unit's profile page, while investment-level data aided in pinpointing prominent individuals within CVC units by ascertaining investment leaders.	Croce et al. (2018), Marra et al. (2017), and Zhong et al. (2018)
PitchBook	Financial and Bibliographic data on pricate markets	Similar to Crunchbase, PitchBook is utilized to gather information on investments, CVC units and their parent companies	D. J. Cumming and Johan (2012) and Dushnitsky and Stroube (2021)
Factiva by Dow Jones	Platform that collects global information and articles from websites, newspapers, journals	Utilized to gain insights into leader identification and find public statements in terms of investment deals and identities of lead investors	Thow et al. (2014)
Bloomberg	Global financial news provider that grants access to articles and analyses on company anouncments, market insights, political updates and industry news.	Utilized in this thesis as a validating source for leader identity and parent company matches for CVC units.	-

Appendix XII Literature Comparison

Please see appendix 12 on the next page.

Appendix 12.1: Previous empirical analysis on leader characteristics

Article	Our study	Strebulaev and Wang (2021)	Dokko and Gaba (2012)	Manigart et al. (2007)	Franke et al. (2008)	Zarutskie (2010)	D. P. Dimov and Shepherd (2005)	D. Dimov et al. (2007)	Bottazzi et al. (2008)	Patzelt et al. (2009)	P. A. Gompers and Wang (2017b)	Milosevic et al. (2020)
HC/Focus:	CVC	CVC	IVC	IVC	IVC	IVC	IVC	IVC	IVC	IVC	IVC	IVC
Bachelor	90.1			87.3								
PHD	16.8			16.62	21.5	8					18.54	
MBA	42.8	61			29	58	58				55	
Top 25	21					37					40	
Dicipline:												
BUS/ECON	41.38*				76					77		
STEM	41.3				47	46	48		38	35.3		
Law	7						8					
Social sciences	12.75						20				1.34	
Gender female	13.87	19									8.53	
Finance	24.9			51.4								43
Consulting	22.8			29.03		16						
Investment banking	27.6	27		43.9		29						24
Engineers	15.8					9						
Law	4.4			11.14%								
Founder	29.52	15				15	18	19			34.7	
International exp	30			45.76						41.8		
Tenure at CVC, Years	6	6.07										
Focal corporation experience	36.8	40										
CVC experience	26	15										
IVC experience	13.5	29	15			44						
Industry:												
financial service industries	51						58	56				
Management consulting	16.5**					16	15					
law	3.2						5					
Team vs individual	I*	ST**	ST	P***	P	P	P	P	P	P	P	
Observations	894	300				482			1,643			

*I = Individuals, ** ST = Senior Team, *** P = Partnership