



# Between benefit and risk: how entrepreneurs evaluate corporate investors

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## Abstract

Start-up growth is inevitably dependent on the provision of external resources. Yet, even though corporate venture capital could be an attractive funding source as it provides financial as well as crucial additional resources, corporate venture capitalists (CVCs) are seen as a two-sided sword by entrepreneurs. We, therefore, investigate entrepreneurs' consideration of potential CVC investors and conceptualize a model of their willingness to approach a CVC investor. Using a conjoint experiment with 1680 investor profiles evaluated by 105 entrepreneurs, we show that entrepreneurs consider the investor's motivation, deal experience, access to firm-specific resources, and long-term financial commitment of funds. However, entrepreneurs' evaluation differs depending on their need for specific resources, as well as their fundraising experience. We thereby highlight entrepreneurs' anticipatory trade-off decisions in the light of resource dependence and help CVC managers to optimize their communication and management efforts to attract the most suitable portfolio companies.

**Keywords** Corporate venture capital · Investor attractiveness · Entrepreneurial decision-making · Resource need · Entrepreneurial experience · Conjoint analysis

**JEL Classification** M13 · L26 · G24

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## 1 Introduction

Financing is a critical success factor for high-growth ventures (Cassar 2004). The most widely discussed financing type for high-growth ventures is equity financing through venture capital (VC). Over the last few years, the market for venture capital has been steadily growing. 2021 has been a record year with 34,647 venture deals and \$621 billion of venture funding (CB Insights 2022b). Corporate venture capital (CVC) investors have seen an especially high growth rate with the number of globally active corporate investors tripling between 2011 and 2016 (Himler 2017). CVC funds invest direct equity from incumbent firms into privately held startups (Dushnitsky and Lenox 2006). It is the second largest source of equity funding for entrepreneurs (Dushnitsky and Lavie 2010). Average CVC deal sizes have increased to a record high of \$46 million in 2021 (CB Insights 2022a) and CVC investors have become more and more active in early-stage financing, with now more than half of CVC-backed deals being in early-stage ventures (CB Insights 2022a). Thus, CVC financing has become a viable financing option in the mind of entrepreneurs seeking equity capital (Alvarez-Garrido and Dushnitsky 2016; Ivanov and Xie 2010; Schröder 2021).

With more and more equity financing and investors in the market, entrepreneurs' decision-making scope during the fundraising process has increased. In Germany (the country of study) alone, 789<sup>1</sup> active independent VC (IVC) and CVC investors are located with an office (Pitchbook 2022). 102 of those are CVC investors (Pitchbook 2022). Screening all potential investors and selecting the right ones to approach in the first place is a highly important process for entrepreneurs as their companies' future success is majorly affected by who invests and which financial and non-financial resources the investor can provide (Alperovych and Hübner 2013; Colombo and Murtinu 2017; Park and Steensma 2012). This resource dependence lens (Pfeffer and Salancik 1978) is especially relevant for young ventures with limited internal resources that are dependent on attracting and absorbing external financial capital, know-how, social capital, and physical assets through the tie formation with investors (Bradley et al. 2011). According to resource dependence theory, CVC investors should be especially attractive as they are able to provide not only financial resources but also access to rich complementary resources such as production resources, technological knowledge, or sales channels (Gompers and Lerner 2000; Maula et al. 2005; Park and Steensma 2012; Zu Knyphausen-Aufseß 2005). These corporate resources should provide CVC investors with superior access to deal flow (Keil et al. 2010). However, entrepreneurs have a less favorable view of CVC investors compared with other investor types (Bengtsson and Wang 2010) and some CVC investors struggle to get the investments they want (Gompers 2002; Katila et al. 2008; Santos and Eisenhardt 2009). A possible reason for this is the controversy around CVC investors' strategic motivation that has led to Katila et al.'s metaphor of 'swimming with the sharks' (2008). CVC investors invest to generate a financial

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<sup>1</sup> CVC and IVC investors with any office in Germany that closed a deal closed between 01/01/2019 and 12/31/2021.

return but beyond strive to generate a strategic benefit for their parent corporation (Hellmann 2002). This strategic benefit can, for example, take the form of learning about emerging technologies or new markets (Chesbrough 2002; Dushnitsky and Lenox 2005a, b; Weiblen and Chesbrough 2015). Yet, entrepreneurs might perceive this as a competing strategic interest and fear know-how misappropriation (Hellmann 2002; Katila et al. 2008; Maula et al. 2009). Hence, having a CVC investor involved comes with specific benefits and risks for a young high-growth venture. The evaluation of these benefits and risks, however, is not the same for every entrepreneur. Despite CVC's prevalence, rising importance, and the decision's ambivalence, little research has examined the attractiveness of (CVC) investors from an entrepreneur's perspective (Simon et al. 2019). This study, therefore, investigates the research question of how CVC investors' characteristics influence the decision of entrepreneurs to strive for CVC investment and examines the influence of the entrepreneur's prior experience and the venture's resource needs in entrepreneurs' decision to approach a CVC investor for a potential investment. We thus follow a research stream that acknowledges the entrepreneurs' influential role in fundraising (Fairchild 2011; Hallen and Eisenhardt 2012; Katila et al. 2008; Maula et al. 2009).

The fact that there is a plurality of CVC strategies that are being pursued by corporations (Röhm 2018) provides us with the opportunity to assess how the configuration of a CVC unit shapes its attractiveness for entrepreneurs. Key differences in their configuration include differing prioritization of strategic and financial motives as well as different organizational structures that facilitate resource transfer (Gutmann 2019; Röhm 2018; Souitaris and Zerbinati 2014). To answer the research question, we thus use the fictive setting of a conjoint experiment in which 1680 investor profiles are evaluated by 105 entrepreneurs. An accompanying questionnaire allows us additionally to capture the nuances of how entrepreneur- and venture-specific characteristics influence an entrepreneur's decision to strive for a specific CVC investment. Therefore, we first conceptualize the venture capital investment setting in the early stage of the fundraising process when entrepreneurs invest considerable time and effort in evaluating potential investors (De Clercq et al. 2006; Hallen and Eisenhardt 2012). We evaluate how investor attributes are weighted against each other. In particular, we analyze the role of a venture's need for resources to compensate for the risk associated with a CVC investor (Katila et al. 2008). We further argue that the entrepreneur's evaluation of a CVC investor is contingent on his/her prior fundraising (e.g., Valliere and Peterson 2007) and CVC financing experience.

We find that although it is described as a double-edged sword, entrepreneurs perceive a CVC investor's strategic motivation as a positive signal, and by showing this we contribute to a long-lasting debate in the CVC literature (Katila et al. 2008; Röhm et al. 2018; Zahra and Allen 2007). The only attribute that is more important is the investor's financial commitment of funds to satisfy the venture's need for financing in current and future rounds. CVC investors can learn from these results that presenting themselves as strategically motivated investors is not a disadvantage in the eyes of entrepreneurs. However, and even more important when communicating with experienced entrepreneurs, the long-term financial commitment of the CVC fund is key to being perceived as an attractive investment partner. On a theoretical level, the study adds to the rarely researched topic of entrepreneurial

decision-making in venture capital financing and provides insights into the trade-offs involved when evaluating a potential CVC investor. Following the resource dependence lens, the study surfaces anticipatory considerations that take place even before tie formation. Entrepreneurs' perceived resource dependence throughout their venture's lifecycle is anticipated by them and informs their decision-making when raising funds from CVC investors. Both the CVC investor's long-term financial commitment, as well as the provided access to the CVC investor's firm-specific resources, and the resources entrepreneurs perceive as a high necessity for their venture have a significant influence on the entrepreneur's decision-making. Further, focusing on the impact of entrepreneurs' experiences, we reinforce the importance of entrepreneurs' fundraising experience as a specific type of experience (for example, Valliere and Peterson 2007). Moreover, we open up the discussion on more specific types of experiences relevant to the fundraising process by evaluating the role of previous CVC financing.

## 2 Theoretical background

Research on investment decisions has a long tradition. For both, investors and prospective investees, the investment decisions lays the foundation for the future development of their investment or their company, respectively (Baum and Silverman 2004; Granz et al. 2021; Röhm et al. 2018). Picking winners among young ventures (Baum and Silverman 2004) but also picking the right investor (Saetre 2003) is a challenging assessment process. In the following, we will focus on the particularities of the entrepreneurs' assessment of CVC investors.

### 2.1 Corporate venture capital through the resource-dependency lens

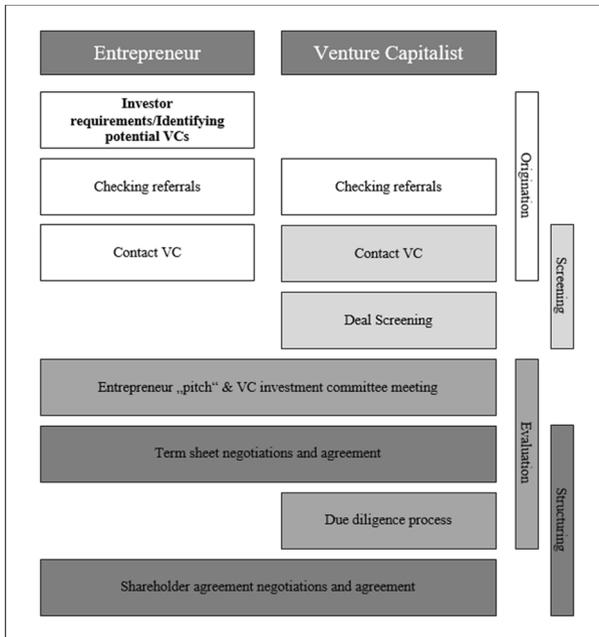
Entering into a CVC investment relationship for both involved organizations, for the venture and the CVC parent organization, emerges from a need for external resources that are difficult to achieve by themselves—such as financial capital, network, or know-how—but are important for the survival of the company (Hillman et al. 2009). This resource dependency lens has first been established by Pfeffer and Salancik (1978) and has been brought forward in CVC literature before (e.g., Hallen et al. 2014). Young firms by nature face internal resource constraints and largely depend on accessing external resources through investors or partnerships (Dollinger 2002). Thus, their success largely depends on selecting and establishing the right contacts that can provide the needed resources (Granz et al. 2021). CVC investors on the other hand strive to expand their corporate parent's innovation capabilities through investments in innovative young firms and gain a 'window on their technology' (Benson and Ziedonis 2009). Through the lens of resource dependence theory, CVC investors are particularly suited investors as they can make corporate resources available to their portfolio ventures beyond financial resources, which are especially difficult to build and highly valuable to their portfolio ventures (i.e., Chesbrough 2002; Hellmann 2002; Katila et al. 2008; Keil et al. 2010; Maula et al. 2009; Park

and Steensma 2012). Examples of these complementary resources include access to manufacturing capacities, sales and distribution channels, existing technologies, or market expertise (Dushnitsky and Lenox 2005a, 2006; Dushnitsky and Shaver 2009; Ivanov and Xie 2010; Katila et al. 2008; Maula 2001; Souitaris and Zerbinati 2014). The CVC unit, however, is also dependent on the internal resources of the larger organization. Inspired by the success of IVC firms, corporations started to set up CVC units with financial and/or strategic goals in mind (Souitaris and Zerbinati 2014). They vary in their strength of organizational ties to their parent company and their internal organizational structures, but they all face the dependence on their corporate parent to provide the capital for investments as the sole limited partner in their investment vehicle (Souitaris and Zerbinati 2014). To ensure the continuity of the CVC unit, investors thus focus on generating a financial return and contributing to the corporate parent's strategic goals (Dushnitsky and Lenox 2006). These strategic goals, however, might translate into the risk of misappropriation of a firm's proprietary technology for the venture (Katila et al. 2008). We, therefore, argue that selecting the right investor to approach is in the case of CVC a process of trading-off potential gains against potential risks. This trade-off process however is influenced by the entrepreneur's stock of experience and the venture's dependence on CVC resources.

To develop testable hypotheses, we will in the following delve into before mentioned aspects and hypothesize how CVC characteristics alongside venture and entrepreneur characteristics influence the entrepreneurs' evaluation of a potential CVC investor.

## 2.2 Entrepreneurs evaluating investors

Entrepreneurs' influential role in fundraising is widely acknowledged (Cumming and Dai 2013; Fairchild 2011; Hallen and Eisenhardt 2012; Katila et al. 2008; Maula et al. 2009). To gain access to not only the needed financial resources but also networks or physical resources needed for their firms to succeed, entrepreneurs face the challenge of screening and selecting the right investor (Saetre 2003). Yet, research on entrepreneurial investor selection criteria is scarce compared with the abundant literature on how investors evaluate entrepreneurs and their ventures (i.e., Franke et al. 2006, 2008; Petty and Gruber 2011; Shepherd et al. 2003; Shepherd and Zacharakis 2001). Few studies have investigated VC investments from an entrepreneur's perspective (e.g., Drover et al. 2014a, b). However, both the entrepreneur and the VC investor are also actively involved in deal origination, screening, evaluation, and structuring in the pre-investment stage (De Clercq et al. 2006), as shown in Fig. 1. Although the VC investor is the main decision-maker in the deal screening and deal evaluation, deal origination is a joint effort (Shane and Cable 2002). This is when the entrepreneurs' requirements for a potential investor and their preconceptions come into play. In contrast to other studies that have looked at the evaluation of investors by entrepreneurs ex-post (Bengtsson and Wang 2010; Zheng 2011) or have focused on deal terms (Smith 2001; Valliere and Peterson 2007), we focus on the deal origination stage, when the entrepreneurs have no information about contract

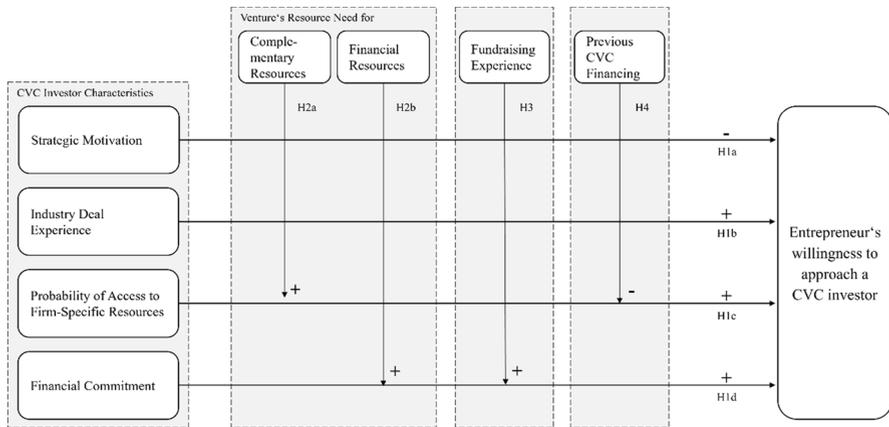


**Fig. 1** Pre-investment stage (Source: De Clercq et al. (2006))

terms and they have to decide which investors are worth approaching for a potential investment including the timing and the amount asked for (Hallen and Eisenhardt 2012).

### 2.3 Investor attributes affecting the willingness to approach a CVC investor

Our conceptual framework of an entrepreneur's willingness to approach a CVC investor (Fig. 2) draws on research on investor attributes, especially the literature on CVC investors. Building on the relevant evaluation criteria before starting the negotiation proposed by Smith (2001) as well as the CVC context-specific attribute of strategic versus financial motivation (Röhm et al. 2018), the model includes four major CVC investor attributes: (1) strategic motivation, (2) industry deal experience, (3) access to firm-specific resources, and (4) financial commitment. These four attributes also shed light on the two main controversial topics around CVC investments, namely, financial and resource-related motives. While the financial commitment is linked to an entrepreneur's financial motives, the strategic versus financial motivation of the CVC investor relates to both the entrepreneur's resources and his/her financial motives. It thus offers a strong signal of the rating and interdependence of these motives. Industry deal experience, which is in line with Smith's (2001) VC investor attributes, has high non-financial value to entrepreneurs (Hsu 2004). Meanwhile, access to firm-specific resources, which is linked to CVC investors'



**Fig. 2** A model of investor characteristics, founder experience, a venture's resource need, and entrepreneurs' willingness to approach a CVC investor

(strategic) motivation, is the strongest resource-related attribute. In our analysis, we control for the relative importance of these investor attributes in the context of CVC investments. Moreover, they serve as a basis for assessing the influence of venture characteristics and entrepreneurial experience on their importance.

### 2.3.1 Strategic motivation

CVC units have been established by incumbents for different reasons (e.g., Maula et al. 2005). Yet, the most prominent reasons are to gain a 'window on technology' (Chesbrough 2002) and seek synergies with their core business (Hellmann 2002). These are often called 'strategic investors.' However, CVC investors differ in their investment motivation, which can have varying degrees of financial and strategic orientation (Röhm et al. 2018). Meanwhile, ventures also differ in their degree of strategic and financial motives when seeking CVC investment (Maula 2007). From the venture's perspective, a stronger strategic motivation implies a higher risk of knowledge misappropriation (Katila et al. 2008) as well as a higher chance of transferring knowledge and providing related resources (Zahra and Allen 2007). Additionally, highly strategically motivated CVC investors arrive at lower startup valuations (Röhm et al. 2018). Thus, strategic investors seem to be less attractive to entrepreneurs in financial terms, as the latter are naturally interested in a high valuation. Yet, Ivanov and Xie (2010) show that the strategic fit between the CVC investor and venture leads to higher IPO and acquisition valuations in the long run. Hence, the evidence on the positive or negative influence of the strategic motivation of a CVC investor for the financed company is contradictory. As this study focuses on the financing decision, we hypothesize that the risk of know-how misappropriation and the possibility of lower valuations that come with highly strategic CVC investors dominate the entrepreneurs' decision to seek an investment from a CVC investor.

*Hypothesis 1a (Baseline)* There is a negative effect of a CVC investor's strategic motivation on the entrepreneurs' willingness to approach a CVC investor.

### 2.3.2 Industry deal experience

One of the main criteria when choosing investors is their ability to add value beyond the mere financial investment (Smith 2001). Investors contribute to a startup's business development in different ways such as assisting in recruiting, raising additional funding (Gorman and Sahlman 1989; Hellmann and Puri 2002), and developing commercialization strategies (Hsu 2006). High industry deal experience leads to a three times higher acceptance rate of VC offers, and entrepreneurs are willing to accept a lower valuation to be associated with more reputable VC investors (Hsu 2004). The investor's ability to provide useful and relevant advice (expertise, connections, network ties) to a startup is affected by its industry specialization (for example, biotech vs. software industry) and the underlying investment challenges (Lee et al. 2011). Knowing how to deal with unproven technologies and diverse business models accumulates with investment experience (Yang et al. 2009). We argue that for CVC investors the attribution of competence based on the industry focus and the deal experience is a highly important factor as they have to reach legitimacy in the eyes of the entrepreneurs.

*Hypothesis 1b (Baseline)* There is a positive effect of a CVC investor's industry-deal experience on the entrepreneurs' willingness to approach a CVC investor.

### 2.3.3 Access to firm-specific resources

CVC investors might also add value by providing access to firm-specific resources such as production capacities, sales channels, and internal market expertise (Chesbrough 2002; Gompers and Lerner 2000; Maula et al. 2005; Park and Steensma 2012). Access to these resources is a major differentiator between IVC and CVC investors. Sapienza (1992) shows that entrepreneurs are willing to trade off a lower valuation for value added. Yet, the promised access to resources often does not materialize (Pahnke et al. 2015; Weber et al. 2016) and, thus, the mere strategic orientation of a CVC investor is a weak indicator of resource access. As an entrepreneur does not know this beforehand, indirect reputational effects become important. Entrepreneurs might learn about the behavior of a CVC investor from other entrepreneurs and third parties such as lawyers (Broughman 2009). If the firm behind the CVC unit has a reputation for making it difficult to profit from its experience-based knowledge and resources, attractiveness decreases because this is a major positive differentiator for CVC investors. Therefore, a reputation for the reliable provision of promised resources is crucial for forming trust in potential CVC investors.

*Hypothesis 1c (Baseline)* There is a positive effect of the probability to access a CVC investor's firm-specific resources on the entrepreneurs' willingness to approach a CVC investor.

### 2.3.4 Financial commitment

When entrepreneurs seek an investor, they need financial resources to grow their business. Therefore, they look at the financial capital available from an investor (Katila et al. 2008). Yet, because of the common VC practice of staging investments (Gompers 1995), the engagement of an investor in upcoming financing rounds is also relevant. Forecasting behavior is therefore a crucial element of fundraising, especially in the deal origination stage when potential valuations cannot be foreseen, but the investor's financial resource commitment serves as a signal for entrepreneurs (Wadhwa and Basu 2013). With CVC investors, entrepreneurs face the danger that firms might unpredictably abandon their CVC activities in the future. Top management support for these activities might change following market trends or changes in cash flow (Zahra and Allen 2007; Zu Knyphausen-Aufseß 2005). In addition to losing the financial options of a follow-on investment, the danger of CVC program abandonment is closely linked to the loss of opportunities to establish alliances (Zahra and Allen 2007). Therefore, signals of continuous engagement in investments are needed. For a CVC investor, the financial resources dedicated to the investment fund can be a sign of long-term commitment and cooperation (Wadhwa and Basu 2013). Therefore, the financial commitment to a CVC unit acts as an indicator of future financing options and long-term thinking, and this attracts entrepreneurs.

*Hypothesis 1d (Baseline)* There is a positive effect of the CVC investor's financial commitment on the entrepreneurs' willingness to approach a CVC investor.

## 2.4 Venture characteristics

Startups highly differ in terms of the products and/or services they offer, the industry segment in which they operate, and their current growth stage. All these factors influence their fundraising options and preferences for different investors. We draw on the widely established role of a venture's need for resources as the basis for our analysis.

### 2.4.1 Resource need

While access to financial resources is the primary reason for approaching investors, it is not the only relevant criterion (Hellmann and Puri 2002; Katila et al. 2008; Sapienza 1992). As previously stated, a major distinction of CVC investors is the availability of valuable complementary resources (Gompers and Lerner 2000; Maula et al. 2005; Park and Steensma 2012; Zu Knyphausen-Aufseß 2005). They offer a possibility of value-added beyond that which traditional VC investors can provide. Additional resources beyond financing are highly beneficial for assisting the growth of a portfolio firm (Drover et al. 2014a, b). Which CVC contribution is most relevant for new ventures is somewhat unclear (for an overview, see Zu Knyphausen-Aufseß 2005). However, ventures profit most if there is a fit between the

resources required and what the CVC investor can offer. For example, only ventures requiring FDA approval benefit from the corporate regulatory know-how of CVC investors (Alvarez-Garrido and Dushnitsky 2016). Additionally, IPO valuations are higher when asset and operation complementarities exist between the venture and its CVC investor (Ivanov and Xie 2010).

In line with the resource-dependency theory (Pfeffer and Salancik 1978), we consequently argue that when the venture has a high need for resources that could be provided by a CVC investor, the potential upside of a partnership increases. Consequently, this counterbalances the perceived risk and uncertainty associated with CVC investment. We expect a venture's higher need for complementary resources to increase the ascribed importance of access to a firm's proprietary resources. Similarly, we expect ventures with a high need for financial resources to put a higher importance on the financial commitment of a CVC investor. These two arguments serve to analyze the cross-level effects of ventures' resource needs.

*Hypothesis 2a* The positive relationship between the probability to access firm-specific resources and the entrepreneurs' willingness to approach a CVC investor is stronger when the venture's need for complementary resources is high than when it is low.

*Hypothesis 2b* The positive relationship between the CVC investor's financial commitment and the entrepreneurs' willingness to approach a CVC investor is stronger when the venture's need for financial resources is high than when it is low.

## 2.5 Entrepreneurs' preferences and experiences

Besides venture characteristics, the entrepreneur's predetermined belief to profit from a CVC investor plays an important role in the decision to approach a CVC investor in the next fundraising round. Bottazzi et al. (2016) show that investment decisions in the VC industry are affected by a generalized trust which encompasses generalizations, stereotypes, and cursory beliefs toward an identifiable group rather than specific people or institutions. The entrepreneur's beliefs can be based on caveats toward or experiences with other (CVC) investors in former negotiations or financing rounds (Bengtsson and Wang 2010). To assess the origins of entrepreneurial beliefs about CVC investors, we consider different entrepreneurial characteristics.

### 2.5.1 The influence of fundraising experience

An entrepreneur's experience has well-documented effects on venture performance. Founding experience serves as a positive signal to investors, as it not only increases the likelihood of receiving funding but also raises the venture's valuation (Hsu 2007). Additionally, entrepreneurial experience affects the entrepreneur's opportunity recognition and exploitation (Reuber and Fischer 1999; Schmidt and Heidenreich 2018; Westhead et al. 2005). We focus on the entrepreneur's fundraising

experience, defined as his/her overall experience in attracting capital and negotiating with potential investors. Earlier studies found that fundraising experience influences the way entrepreneurs generally select their investors (Bengtsson and Wang 2010; Smith 2001; Valliere and Peterson 2007; Zheng 2011). Based on the interaction with investors, entrepreneurs learn and adjust their decision criteria. Further, the higher the number of past encounters between entrepreneurs and VC investors, the less favorable are the views of the former (Bengtsson and Wang 2010). This general shift in the view of entrepreneurs is attributed to a shift from being optimistic about the value-added of an investor to being more skeptical about investors' promises. Uncertainty about whether the promised resource transfer will materialize is another factor (Henderson and Leleux 2005; Pahnke et al. 2015). We reason that in the investor selection process, more experienced entrepreneurs focus on hard facts and the financial resources provided in the long term.

*Hypothesis 3* The positive relationship between a CVC investor's financial commitment and the entrepreneur's willingness to approach a CVC investor is stronger when the entrepreneur's fundraising experience is high than when it is low.

## 2.6 The influence of existing CVC financing

An existing investment by a CVC investor in the entrepreneur's venture can confirm or refute the latter's expectations. Bengtsson and Wang (2010) show that entrepreneurs evaluate those VC investors they have worked with more favorably than others. We assume two scenarios to deduce the consequences for an entrepreneur's willingness to approach a CVC investor in an upcoming fundraising round. In a positive scenario, the entrepreneur's expectations were fulfilled, and the venture was able to profit from the firm's resources. As a result, the entrepreneur satisfied the need for non-financial resources and thus looks for a mainly financial investment. This line of argumentation follows observations from syndication networks in which CVC investors can gain central positions through the uniqueness of their resources (Keil et al. 2010). If there is already a CVC investor involved in a startup, the uniqueness of non-financial resources from another CVC investor might be reduced in the entrepreneur's eyes. Arguably the competition between a potentially new and an existing CVC investor also comes into play in this scenario. The existing investor's openness to share non-financial resources with the portfolio company might diminish if entrepreneurs attempt to tap into the non-financial resources of a second CVC investor. Similar to how a CVC investor's syndication activity is influenced by the information exchange paradox (Anokhin et al. 2011), entrepreneurs might refrain from creating conflicts through competing resource provisions. In a negative scenario, the entrepreneur was hoping to profit more from the CVC investment than the venture did and his/her expectations were shattered (Henderson and Leleux 2005; Pahnke et al. 2015). As a result, the entrepreneur might assign less value to a CVC investor's non-financial resources. Overall, we expect the entrepreneur's focus to shift toward the mere financial contribution to the venture.

*Hypothesis 4* The positive relationship between the probability to access firm-specific resources and the entrepreneurs' willingness to approach a CVC investor is weaker for ventures with previous CVC financing than without.

### 3 Data and method

In line with calls to quantitatively assess the trade-offs entrepreneurs face when heading into a relationship with a corporation (Simon et al. 2019), we observed the decision-making processes of entrepreneurs before approaching potential investors using a metric conjoint experiment. In conjoint experiments, participants evaluate a series of hypothetical decision profiles that each consist of multiple decision attributes. The attributes are distinct and vary in their attribute levels. This type of experiment design is particularly suitable to analyze complex decision-making because participants' evaluation of the profiles can be decomposed (see, for example, Chiambaretto et al. 2020; Van Gils and Zwart 2009). Therefore, it sheds light on the relative importance of each attribute and the differences among participants' evaluations.

Conjoint analysis, which originally stems from marketing research, has been widely employed in entrepreneurial finance to assess the relative importance of the investment criteria of VC investors (e.g., Franke et al. 2006; Shepherd et al. 2003). First studies have evaluated the decision-making criteria of entrepreneurs during investor selection (Drover et al. 2014a, b; Valliere and Peterson 2007). Valliere and Peterson (2007) show that relying on espoused data from classical surveys yields misleading results due to introspection inaccuracy. Therefore, some researchers call for the greater application of experimental methods to reveal the preference structures of entrepreneurs (Kraus et al. 2016).

#### 3.1 Research design

Our research design followed other well-regarded conjoint studies in entrepreneurship (Behrens and Patzelt 2016; Drover et al. 2014a, b; Murnieks et al. 2016; Shepherd et al. 2019; Warnick et al. 2018). We used a web-based tool to collect the answers from respondents. In our online survey, participants were given a hypothetical scenario that their next financing round is coming up. In the scenario, they are aware of various potential CVC investors for the upcoming financing round and then need to make a judgment on how likely they would be to approach the described CVC investors for an investment (see Table 3 in the appendix). Each investor profile consisted of four distinct attributes with two predetermined levels each (see Table 4 in the appendix). The participants were asked to make their best judgments based on the information available and to assume that number of financial resources needed for the upcoming round of financing could be covered by all the investors presented.

The survey was designed as a full factorial design including all possible attribute combinations. Each of the attributes varied on two levels (high and low), which resulted in  $2^4$  distinct profiles. To test for reliability, we included two repeat profiles.

We showed one typical investor profile before the decision task started as an example for the participants (see Fig. 4 in the appendix). In total, each participant had to evaluate 18 profiles. Although there is a learning effect when evaluating profiles, respondent fatigue is a critical issue in conjoint designs (Reibstein et al. 1988). With 18 profiles to evaluate, our survey is in line with studies that have shown robust results (for example, Franke et al. 2006; Shepherd et al. 2019; Warnick et al. 2018). To further address the issue of ordering effects, we had four versions of the survey, changing the order of attributes and profiles displayed. The participants were randomly assigned to one of the four profiles. Moderating effects and control variables were captured through a post-experiment questionnaire.

Before the start of the survey, we conducted qualitative interviews with entrepreneurs and a pilot test. The in-person interviews involved four entrepreneurs who were purposefully selected to incorporate both entrepreneurs with and without CVC affiliation, from different industries, with different academic backgrounds, and in different start-up stages. The entrepreneurs reported how they typically approach a new fundraising round. For all of them, this involves a list of investors generated through prior contact or network recommendations. Based on individual criteria, they rate the potential investors and decide whom to approach and in what order. To ensure face validity, we first openly asked for the criteria the entrepreneurs use to assess potential investors. Afterward, we presented the attributes we had planned to use in our study to validate the attributes used are relevant for their 'real-world' assessment of potential investors. All entrepreneurs expressed some reservations toward CVC investors. In particular, entrepreneurs with CVC experience highlighted the unpredictability of a CVC fund in terms of access to resources and variability in management support. In summary, the interviews confirmed the potential conflicts arising from CVC investment and provided justification for further investigating entrepreneurs' decision-making process. Furthermore, several research assistants experienced in the VC industry had been involved in a test run to check for technical problems and ensure the understanding of the questionnaire. Their feedback was incorporated into the final version of the online survey.

### 3.2 Participant recruitment and sample

Participants were startup entrepreneurs involved in the fundraising decisions of their ventures. In our definition, entrepreneurs do not necessarily need to be founders but need to hold a C-level position in the start-up to influence the startup's fundraising activity. Involvement in fundraising activity was confirmed at the beginning of the questionnaire. Because there is no comprehensive list of entrepreneurs available for Germany, we built on the complete sample of German entrepreneurs from Crunchbase and complemented it with additional hand-collected contacts of startups with VC funding or accelerator affiliation (as listed on websites of German VC funds and accelerators programs). In total 1537 entrepreneurs were contacted via email or LinkedIn, 187 responded to the survey, out of which 105 respondents completed the survey and fulfilled the control criteria. The relatively high drop-out rate during the survey can be attributed to the online conjoint experiment which is typically perceived as a demanding task (Reibstein et al. 1988). Ultimately, our study builds

on this final sample of 105 valid respondents, who provided us with 1680 judgments of CVC investor profiles. Our sample represents a heterogeneous group of entrepreneurs comparable to the German start-up landscape, as depicted in the German Start-Up Monitor, an annual online survey of more than 1500 German start-ups (Kollmann et al. 2018) in terms of company age (3.9 years), number of employees (median 12 employees), industry (40 percent software industry), investors involved (18 percent CVC funded), and founder age (average 38 years).

The entrepreneurs in the sample were mainly active at the C-Level (75 percent), of which most were CEOs (56 percent), CFOs (13 percent), and CTOs (12 percent). On average, they considered themselves experienced fundraisers and rated their fundraising experience as 4.6 on a seven-point Likert scale. Only 12 percent of entrepreneurs in the sample had raised less than €100,000, whereas 20 percent had raised between €100,000 and €500,000 and 11 percent between €500,000 and €1 million. Most had raised €1–5 million (37 percent), 8 percent €5–10 million, and 12 percent more than €10 million.

The median time taken to complete the survey was 13 min. Based on the two repeat profiles, we assessed the mean test/retest correlation as 0.772, which is in an acceptable range (e.g., Moser et al. 2017; Murnieks et al. 2016; Shepherd et al. 2019). For the subsequent analysis, we excluded the two repeat profiles, which leaves us with 16 profiles for the analysis.

### 3.3 Variables and measurements

To assess the factors influencing an entrepreneur's willingness to approach a CVC investor, we employed two levels of questions.

#### 3.3.1 Level 1: Assessment of an entrepreneur's willingness to approach a CVC investor

Each investor profile presented in the conjoint study consisted of the four attributes of (1) strategic motivation, (2) industry-specific deal experience, (3) access to firm-specific resources, and (4) financial commitment. Similar to other well-regarded conjoint studies (Behrens and Patzelt 2016; Drover et al. 2014a, b; Moser et al. 2017; Warnick et al. 2018) and consistent with cognitive psychology, attribute levels were described as being either 'high' or 'low' including an attribute description for each level. The descriptions of high versus low levels (see Table 4 in the appendix), thus, cater to the entrepreneurs' perception of CVC investor characteristics and not objective numbers, which might be perceived differently by different entrepreneurs. The attributed levels were defined as extreme but plausible anchors of a continuum. Before evaluating the profiles, we showed participants a detailed description of each attribute and value (see Table 4 in the appendix). Our dependent variable, namely, participants' rating of the likelihood of approaching the shown investor profile, was assessed based on the question "How likely is it that you strive to obtain an investment from this CVC investor in your next fundraising round?" We collected the answers on a seven-point Likert scale anchored by 1 = "very unlikely" and 7 = "very likely."

### 3.3.2 Level 2: Assessment of participant-level variables

After the conjoint experiment, an additional questionnaire was presented to capture details about the participating entrepreneurs and their ventures, including the moderating variables of financial and complementary resource need as well as their experience. We assessed the *resource need of the venture* by drawing on the resource need dimensions defined by Katila et al. (2008): financial resource need, manufacturing resource need, and marketing resource need. As participants from our pilot survey mentioned it several times, we also added the need for network and technological expertise, as highlighted by Maula et al. (2005). Respondents rated their resource needs on a seven-point Likert scale: “How important is access to the following resources for your business?” (1 = “highly unimportant,” 7 = “highly important”). In the analysis, we differentiated between the need for financial resources and complementary resources using the average evaluation of the different resource categories.

Additionally, they were asked to self-rate their fundraising experience on a seven-point Likert scale: “How do you rate your experience in attracting external capital for your startup?” (1 = “highly inexperienced,” 7 = “highly experienced”). The variable of CVC financing was collected by asking for several types of financing already used in their venture via checkboxes.

### 3.3.3 Controls

In the post-experiment questionnaire, we collected information about the venture and entrepreneur to control for confounding effects. In line with previous studies (Drover et al. 2014a, b; Valliere and Peterson 2007), the questions on startup attributes encompassed industry, age, number of employees, existing forms of startup financing, and total funds obtained. Moreover, we collected demographic data on sex, age, and position in the startup.

To capture the underlying preferences of entrepreneurs for various forms of financing, we also asked them to rate the attractiveness of five financing options (public funding, crowdfunding, business angel investments, IVC, and CVC) on a seven-point Likert scale (1 = “highly unattractive,” 7 = “highly attractive”). In the analysis, we used the stated attractiveness of CVC to control for the entrepreneur’s general preference for CVC investors. The stated preference for CVC is especially relevant as Bengtsson and Wang (2010) when analyzing the favorability of different investor types from an entrepreneur’s perspective, found that entrepreneurs hold a less favorable view toward CVC investors than toward IVC investors on average. Following the idea of ‘swimming with the sharks’ (Katila et al. 2008), we argue that entrepreneurs view CVC investments controversially. While some favor CVC investors, others have clear caveats and would rather refrain from CVC investment. Low generalized trust in CVC investors might explain these different preferences (see Bottazzi et al. 2016).

## 4 Analysis and results

We applied hierarchical linear modeling (HLM) in our analysis, which is suitable for the nested nature of conjoint data because it naturally models the relationship between the two levels and the potential heteroscedasticity of the data (Snijders and Bosker 1999). Prior conjoint studies have proven this method to be robust for analyzing this type of model (Drover et al. 2014a, b; Moser et al. 2017; Shepherd et al. 2019; Warnick et al. 2018). It allowed us to examine entrepreneurs' evaluation of CVC investor characteristics (level one) and consider differences among entrepreneurs and their ventures (level two). The parameter estimates generated in the HLM indicate the extent of the change in the willingness to approach a CVC investor as a function of a change in the attribute level from low to high.

The four groups used to rule out ordering effects show significant differences in their willingness to approach a CVC investor that can be attributed to random differences in the sample structure in the four versions (differences in average age, number of employees, and fundraising experience). Thus, we control for these sample differences by including the different versions of the study as control variables.

### 4.1 Descriptive statistics and correlations

In our study, each entrepreneur rated 16 investor profiles, providing us with 1680 data points nested in 105 entrepreneurs. Table 1 lists the means, standard deviations, and correlations of the level-two variables describing the entrepreneurs and their ventures. We do not report the level-one investor attributes since every entrepreneur rated the same profiles and thus there is no correlation within level-one and between level-one and -two variables.

Some of the variables show significant and somewhat high correlations such as fundraising experience and the age of the entrepreneur. To rule out multicollinearity problems, we calculated the variance inflation factors (VIFs) and condition index. The highest VIF was 1.46 and the highest index was 2.12, well below the acceptable threshold of 10 for VIFs (O'Brien 2007) and 30 for the index (Belsley et al. 1980).

### 4.2 Hierarchical linear model of entrepreneurs' assessment of CVC investors

The impact of CVC investors' characteristics on the entrepreneurs' assessment of their willingness to seek equity financing from a CVC investor is examined in the HLM analysis presented in Table 2. Model 1 includes only the control variables on level two. We find significant level two effects reinforcing the before-mentioned group differences in our four versions of the experiment. And we find a significant effect on entrepreneurs' general evaluation of the attractiveness of CVC investors. In model 2, we added the main effects of the level one CVC investor characteristics and the level two differences among entrepreneurs and their ventures. We find that all the level-one attributes are significant. Higher levels of strategic motivation (0.529,  $p < 0.001$ ), industry deal experience (0.478  $p < 0.001$ ), access to firm-specific resources (0.492,  $p < 0.001$ ), and financial commitment (0.921,  $p < 0.001$ ) lead

**Table 1** Descriptive statistics and correlations of the level-2 variables

| Variable                     | Mean   | SD    | 1      | 2        | 3        | 4      | 5      | 6     | 7      | 8 |
|------------------------------|--------|-------|--------|----------|----------|--------|--------|-------|--------|---|
| 1. Sex (male)                | 95.24% | n/a   | 1      |          |          |        |        |       |        |   |
| 2. Age (years)               | 38.22  | 8.93  | 0.177  | 1        |          |        |        |       |        |   |
| 3. No. of employees          | 21.17  | 29.07 | 0.017  | 0.236*   | 1        |        |        |       |        |   |
| 4. CVC financing             | 18.1%  | n/a   | -0.011 | 0.189    | 0.115    | 1      |        |       |        |   |
| 5. Attractiveness CVC        | 4.94   | 1.48  | 0.052  | 0.206*   | 0.096    | 0.203* | 1      |       |        |   |
| 6. Need for fin. resources   | 5.93   | 1.23  | -0.122 | 0.138    | 0.055    | 0.005  | 0.189  | 1     |        |   |
| 7. Need for compl. resources | 4.09   | 0.95  | 0.044  | 0.004    | -0.022   | 0.167  | 0.222* | 0.164 | 1      |   |
| 8. Fundraising experience    | 4.6    | 1.41  | 0.159  | 0.329*** | 0.409*** | 0.222* | 0.104  | 0.19  | -0.118 | 1 |

N=105; \* p<0.05, \*\* p<0.01

**Table 2** Hierarchical linear model of entrepreneurs' evaluation of CVC investors

| Variables   | Model 1 (controls) |          | Model 2 (main effects) |          | Model 3 (full model) |          |
|---|--------------------|----------|------------------------|----------|----------------------|----------|
|   | Coef               | Std. Err | Coef                   | Std. Err | Coef                 | Std. Err |
| Intercept   | 3.869***           | 0.110    | 3.874***               | 0.112    | 3.874***             | 0.112    |
| <i>Level 2 control</i>                                    |                    |          |                        |          |                      |          |
| Age   | - 0.039            | 0.054    | - 0.037                | 0.056    | - 0.037              | 0.056    |
| No. of employees  | - 0.018            | 0.054    | - 0.012                | 0.056    | - 0.012              | 0.056    |
| Preference CVC  | 0.161**            | 0.053    | 0.153**                | 0.055    | 0.153**              | 0.055    |
| Version 1   | 0.120              | 0.147    | 0.122                  | 0.149    | 0.122                | 0.149    |
| Version 2   | 0.409**            | 0.145    | 0.390**                | 0.148    | 0.390**              | 0.148    |
| Version 3   | 0.275 <sup>a</sup> | 0.159    | 0.278 <sup>a</sup>     | 0.166    | 0.278 <sup>a</sup>   | 0.166    |
| <i>Level 1 main effects</i>                               |                    |          |                        |          |                      |          |
| <i>H1a</i>  |                    |          |                        |          |                      |          |
| Strategic motivation                                      |                    |          | 0.529***               | 0.072    | 0.529***             | 0.070    |
| <i>H1b</i>  |                    |          |                        |          |                      |          |
| Industry deal experience                                  |                    |          | 0.478***               | 0.041    | 0.478***             | 0.040    |
| <i>H1c</i>  |                    |          |                        |          |                      |          |
| Access to firm-specific resources                         |                    |          | 0.492***               | 0.047    | 0.492***             | 0.045    |
| <i>H1d</i>  |                    |          |                        |          |                      |          |
| Financial commitment                                      |                    |          | 0.921***               | 0.056    | 0.921***             | 0.048    |
| <i>Level 2 main effects</i>                               |                    |          |                        |          |                      |          |
| Resource need: financial resources                        |                    |          | 0.074                  | 0.054    | 0.074                | 0.054    |
| Resource need: complementary resources                    |                    |          | 0.008                  | 0.055    | 0.008                | 0.055    |
| Fundraising experience                                    |                    |          | - 0.016                | 0.063    | - 0.016              | 0.063    |
| CVC financing   |                    |          | - 0.028                | 0.055    | - 0.028              | 0.055    |
| <i>Cross level interactions</i>                           |                    |          |                        |          |                      |          |
| Strategic motivation × resource need: financial R         |                    |          |                        |          | - 0.027              | 0.073    |
| Strategic motivation × resource need: complementary R     |                    |          |                        |          | 0.087                | 0.074    |
| Strategic motivation × fundraising experience             |                    |          |                        |          | - 0.130 <sup>a</sup> | 0.075    |
| Strategic motivation × CVC financing                      |                    |          |                        |          | 0.063                | 0.074    |
| Industry deal experience × resource need: financial R     |                    |          |                        |          | - 0.014              | 0.042    |
| Industry deal experience × resource need: complementary R |                    |          |                        |          | - 0.074 <sup>a</sup> | 0.042    |
| Industry deal experience × fundraising experience         |                    |          |                        |          | 0.001                | 0.043    |
| Industry deal experience × CVC financing                  |                    |          |                        |          | - 0.058              | 0.042    |

**Table 2** (continued)

| Variables  | Model 1 (controls) |          | Model 2 (main effects) |          | Model 3 (full model) |          |
|--|--------------------|----------|------------------------|----------|----------------------|----------|
|  | Coef               | Std. Err | Coef                   | Std. Err | Coef                 | Std. Err |
| Access to firm-specific resources × resource need: financial R     |                    |          |                        |          | - 0.096*             | 0.047    |
| <i>H2a</i>   |                    |          |                        |          |                      |          |
| Access to firm-specific resources × resource need: complementary R |                    |          |                        |          | 0.136**              | 0.047    |
| Access to firm-specific resources × fundraising experience         |                    |          |                        |          | - 0.017              | 0.048    |
| <i>H4</i>  |                    |          |                        |          |                      |          |
| Access to firm-specific resources × CVC financing                  |                    |          |                        |          | - 0.011              | 0.047    |
| <i>H2b</i>   |                    |          |                        |          |                      |          |
| Financial commitment × resource need: financial R                  |                    |          |                        |          | 0.190***             | 0.050    |
| Financial commitment × resource need: complementary R              |                    |          |                        |          | - 0.048              | 0.050    |
| <i>H3</i>  |                    |          |                        |          |                      |          |
| Financial commitment × fundraising experience                      |                    |          |                        |          | 0.146**              | 0.051    |
| Financial commitment × CVC financing                               |                    |          |                        |          | 0.118*               | 0.051    |
| Snijders/Bosker R-squared level 1                                  | 0.015              |          | 0.448                  |          | 0.490                |          |
| Snijders/Bosker R-squared level 2                                  | 0.171              |          | 0.190                  |          | 0.190                |          |

DV = willingness to partner with CVC; N = 1680 decisions nested within 105 entrepreneurs; all variables are z-standardized

<sup>a</sup><0.10 \*p<0.05 \*\*p<0.01 \*\*\*p<0.001

to a more favorable assessment of the CVC investor as a potential future partner. We thus find support for the relevance of our four hypothesized investor attributes. Yet, contrary to the derived baseline hypothesis 1 the strategic motivation of a CVC investor has a positive influence on the willingness to seek financing from a CVC investor. Figure 5 in the Appendix displays the z-standardized HLM coefficients and their 95 percent confidence intervals. While financial commitment has by far the highest effect on willingness to approach (0.921,  $p < 0.001$ ), the other attributes display similar importance (strategic motivation: 0.529,  $p < 0.001$ ; industry deal

experience: 0.478,  $p < 0.001$ ; access to firm-specific resources: 0.492,  $p < 0.001$ ). The main effects from level-two variables show no significant effect on the dependent variable.

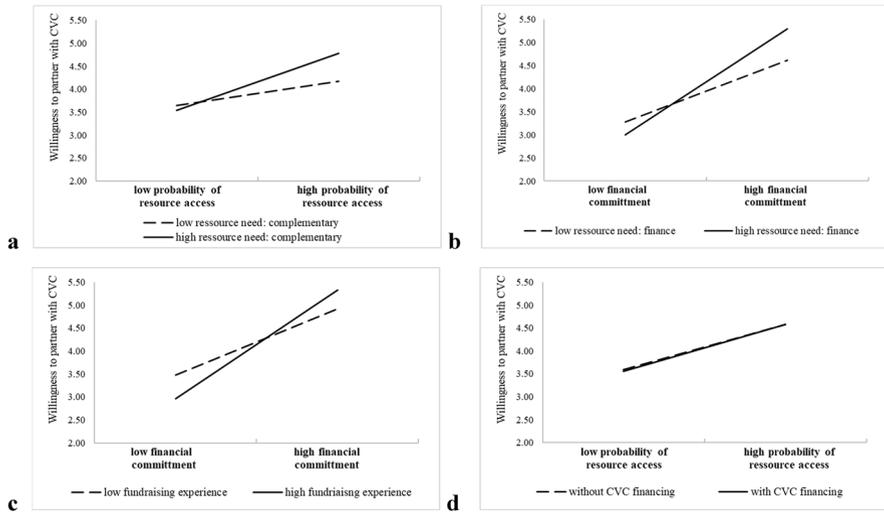
In Model 3, we explore the hypothesized cross-level effects between the level one CVC investor characteristics and the level two differences among entrepreneurs and their ventures. We did find significant interactions between the probability to access firm-specific resources and the venture's need for complementary resources (0.136;  $p < 0.01$ ), as well as between the financial commitment of a CVC investor and a venture's need for financial resources (0.190;  $p < 0.001$ ), thus confirming hypotheses H2a and H2b. Model 3 also shows a significant interaction between the financial commitment of a CVC investor and an entrepreneur's fundraising experience (0.146;  $p < 0.01$ ) as hypothesized in H3. However, we do not find support for H4. The interaction between the probability to access firm-specific resources and previous CVC financing is not significant.

The nature of the tested cross-level effects is displayed in Fig. 3. The four diagrams plot the entrepreneurs' willingness to approach a CVC investor on the y-axis and the particular investor characteristic under observation on the x-axis. The two lines represent high and low levels of resource need, as well as fundraising experience. The two levels are derived based on the 25th and 75th percentiles. For the dummy variable previous CVC financing the two lines display entrepreneurs with and without previous CVC financing.

Figure 3a plots the positive relationship between the probability to access firm-specific resources and the entrepreneurs' willingness to approach a CVC investor. The positive relationship is stronger when the venture's need for complementary resources is high than when it is low, thus supporting H2a. Figure 3b shows the positive relationship between the corporate parent's financial commitment and the entrepreneurs' willingness to approach a CVC investor is stronger when the venture's need for financial resources is high than when it is low, as hypothesized in H2b. Hypothesis 2c finds support in Fig. 3c. The diagram shows that the positive relationship between a CVC investor's financial commitment and the entrepreneurs' willingness to approach a CVC investor is stronger when the entrepreneur's fundraising experience is high than when it is low. The last diagram of Fig. 3 (3d) illustrates the positive relationship between the probability to access firm-specific resources and the entrepreneurs' willingness to approach a CVC investor. However, it does not support the hypothesis that the relationship is weaker for ventures with CVC financing than without. The non-significant result for hypothesis H4 in the HLM analysis is reaffirmed by the diagram. Figure 6 in the Appendix provides an overview of the confirmed and rejected hypotheses.

## 5 Discussion and implications

We examined how entrepreneurs trade off the benefits and risks associated with CVC investment and how important venture and entrepreneur characteristics influence an entrepreneur's willingness to target a CVC investor. We conducted a conjoint study to assess entrepreneurs' perception of a variety of CVC profiles with differing



**Fig. 3** Moderating relationships as hypothesized in H5a, H5b, H6, and H7

investment motivation (H1a), deal experience (H1b), access to resources (H1c), and financial commitment (H1d). The attributes demonstrate different relative importance, with financial commitment being the most important. This confirms previous findings that the financial resources committed by a CVC parent serve as a signal for entrepreneurs that long-term cooperation is being sought (Wadhwa and Basu 2013) and counteracts the perceived risk of CVC program abandonment (Zahra and Allen 2007). Yet, in contrast to the negative associations discussed in the literature, entrepreneurs perceive a high strategic motivation as a positive signal (contrary to H1a). As shown by previous research (e.g., Ivanov and Xie 2010) a strategically motivated investor can come with benefits if there is a strategic fit between the startup and the CVC investor. Moreover, the type of product market relationship (complementary or competitive) between the startup and the investor (Masulis and Nahata 2009) might be more relevant than the magnitude of an investor's strategic motivation. Inferring from our results, entrepreneurs seem to appreciate the potential benefits of a strategic CVC investor.

We further evaluated the influence of the need for financial and complementary resources on CVC investor attractiveness by drawing on resource dependency theory and existing findings on the role of resource needs in CVC investments (Katila et al. 2008). Moreover, we assessed how fundraising experience and CVC financing experience impact the entrepreneurs' trade-off of our CVC investor characteristics. In particular, the venture's resource need plays a crucial role in evaluating a CVC investor. For entrepreneurs with a high need for complementary resources, a high likelihood to access firm-specific resources increases their willingness to approach a CVC investor (H2a). This might provide CVC investors with a strategic advantage in attracting ventures with a high need for non-financial resources if they manage to provide access to these resources. Remarkably, entrepreneurs looking for

complementary resources do not evaluate the lack of providing access to promised resources much more negatively than entrepreneurs with a low need for complementary resources (see Fig. 3a). A CVC investor's complementary resources thus not only allow entering rigid syndication networks of VC investors (Keil et al. 2010) but also can serve as the key to access highly desirable investment opportunities. For entrepreneurs with a high need for financial resources, a high financial commitment of the CVC investors increases their willingness to approach a CVC investor (H2b). CVC investors trying to invest in these ventures with a high need for financial resources compete with IVC investors and other financing options. But the financial commitment of the CVC parent organization is not only of importance to all entrepreneurs but is of even higher importance to those who are more experienced in fundraising. For entrepreneurs with a high fundraising experience (compared to those with a low fundraising experience), a high financial commitment of the CVC investors increases their willingness to approach a CVC investor to a greater extent (H3). This could mean that the more experienced entrepreneurs are, the more non-financial resources are already available to them through previous partnerships, and this results in higher importance of the long-term financial predictability of the CVC investor. Alternatively, prior investment relationships have not led to the value-added hoped for through non-financial resources and thus financial aspects are prioritized by more experienced entrepreneurs. It can also mean that more experienced entrepreneurs are more forward-thinking and look for signals of a long-term commitment from the CVC investor (Wadhwa and Basu 2013). We did not find support for the cross-level effect of previous CVC financing (H4), which implies that either there is no specific positive or negative effect of a previous CVC financing, but the more general interaction with investors (as measured by fundraising experience) affects the investor evaluation. Or the quality of the relationship with the previous CVC investor, which we, unfortunately, cannot distinguish, is more informative than the mere CVC investment.

## 5.1 Theoretical contribution

In this study, we developed a concept of the perception and judgment of the information influencing entrepreneurs' decision to approach a CVC investor and provided evidence for its relevance in their early consideration of potential investors. While the literature highlights the benefits and risks associated with CVC investment (for example, Maula 2001; Park and Steensma 2012; Zu Knyphausen-Aufseß 2005), the trade-off that leads entrepreneurs to decline financing offers (Smith 2001) and makes CVC investors struggle to gain the investments they want (Gompers 2002) is barely understood. Our conjoint study thus adds to the under-researched field of CVC investor attractiveness.

The present study thereby draws on resource-dependency theory and has surfaced an important aspect of resource dependence for young ventures. While typical resource dependence studies focus on dependencies after forming relationships, they are ignoring anticipatory processes before tie formation (Hallen et al. 2014). In this respect, some previous studies have looked at defense mechanisms

used by young ventures (Colombo and Shafi 2016; Hallen et al. 2014; Katila et al. 2008). We further argue that not only defense mechanisms but also the entrepreneurs' perceived resource dependence throughout their venture's lifecycle is anticipated by them and informs their decision-making when raising funds from investors. Both the CVC investor's long-term financial commitment, as well as the provided access to firm-specific resources, and the resources entrepreneurs perceive as a high necessity for their venture have a significant influence on the entrepreneurs' decision-making. We, therefore, argue that the entrepreneurs' resource awareness impacts tie formation.

Moreover, focusing on the entrepreneur's perspective in the deal origination stage, we find that entrepreneurial and venture characteristics serve as drivers in the decision to approach a CVC investor. Few studies have thus far examined VC investments from the entrepreneur's perspective (Drover et al. 2014a, b; Granz et al. 2021; Hsu 2004; Smith 2001; Valliere and Peterson 2007; Zheng 2011). We, thereby, add to the literature on the role of entrepreneurial experience and its impact when starting and scaling a new venture (Falik et al. 2016; Glücksman 2020; Shepherd et al. 2020; Valliere and Peterson 2007). Our study reinforces the importance of entrepreneurs' fundraising experience as a specific type of experience (for example, Valliere and Peterson 2007). More specifically we hypothesize and evaluate the distinct relationship between CVC attractiveness and entrepreneurs' prior experience with CVC investors. Although we did not find confirmation for this, it opens up the discussion on more specific types of experiences relevant to the fundraising process.

Finally, the methodology allows us to bring forward the controversy around strategically motivated CVC investors (Katila et al. 2008; Röhm et al. 2018; Zahra and Allen 2007). The results show that from the entrepreneur's perspective, strategic motivation is perceived as an appealing characteristic of a CVC investor. This however does not necessarily contradict previous research which has identified risks of being associated with a CVC investor but rather shifts the focus to the entrepreneur's perception of risks and potential rewards in the deal origination stage. The entrepreneur's perception might thereby be influenced by his/her confidence in deploying certain defense mechanisms as described by Hallen et al. (2014) or Maula et al. (2009). Similarly, other long-term benefits as being associated with a strategic investor might impact the entrepreneur's perception. A strategic investor can serve as a potential future acquirer of the startup (Dimitrova 2015; Guo et al. 2015; Ivanov and Xie 2010) or signal quality to potential acquirers in an exit scenario (Chemanur et al. 2014). Hence, despite the risk of being associated with a CVC investor, the potential upsides of being associated with a CVC investor should not be underestimated.

## 5.2 Practical contribution

Because entrepreneurs invest time and effort in assessing potential investors (Smith 2001), CVC investors should be aware of the investor selection process of

entrepreneurs to optimize their communication and management efforts. This is especially relevant because the number of globally active corporate investors has increased drastically since 2011 (Himler 2017) and CVC investors often struggle to secure the deals they want (Gompers 2002; Katila et al. 2008; Santos and Eisenhardt 2009). The main driver of CVC attractiveness remains financial commitment. This is especially true for experienced entrepreneurs and ventures that have previously received CVC financing. Thus, CVC investors should put effort into their self-presentation as valuable and financially stable investors. If a company decides to set up a CVC unit, a long-term commitment of funds can raise its reputation and ensure a stronger deal flow. This is especially true when getting in contact with experienced entrepreneurs.

Although we found that financial commitment is the most important driver of entrepreneurs' willingness to approach a CVC, this does not mean that CVC investors need to depict themselves as financial investor only. The strategic motivation of a CVC investor is perceived as a positive factor by the entrepreneurs in our sample. We can only speculate that entrepreneurs might perceive it as implausible if a CVC investor claims to have no strategic agenda.

Furthermore, not every venture seems likewise interested in CVC investors. If a high resource need is given, the CVC should aim to provide those firm-specific resources and build a reputation for reliable resource commitment. This might become a competitive advantage for those CVCs that can contribute additional non-financial resources.

### 5.3 Limitations and future research

As with every study, our conjoint study has its limitations. Inherent to the conjoint methodology, our sample size of 1680 investor evaluations corresponds to 105 individuals. The small number of participants is common in conjoint studies due to the length and demanding tasks it presents (Reibstein et al. 1988). Nonetheless, the sample used in our study is comparable to the size of other conjoint studies (for example, Drover et al. 2014a, b; Valliere and Peterson 2007; Warnick et al. 2018) and shows high similarity to the German startup universe as depicted in large startup population studies.

Moreover, the methodology builds on an artificial setting with hypothetical profiles to measure intended rather than actual decision-making behavior. The evaluation of hypothetical profiles leads to highly similar outcomes to those found in actual decision-making (Riquelme and Rickards 1992). We tried to mitigate this concern by validating that our study design is close to real-world circumstances through interviews with entrepreneurs and research experts before the study. One element we omitted is the decision-making dynamic within entrepreneurial teams (West 2007), which could provide more insights into future studies. First studies show that the status of a team member within the founding team as well as the congruence or incongruence of how founders depict the future of their company can lead to different opportunity development (Preller et al. 2020). Future studies should explore if these team processes are relevant to investment decisions and how the fundraising

experience, which we found to be an important aspect, potentially aligns founders in this process.

We furthermore focus on the deal origination stage in which entrepreneurs screen potential investors, assuming that entrepreneurs learn about investors early in the process and in many cases take the first decision to approach them. In this early stage of the process, beliefs and attitudes about investors and expected consequences are fundamental before committing to the subsequent time-consuming fundraising processes. In the later stages of the fundraising process (e.g., the negotiation phase), other attributes might come into play. Future studies can thus build on our findings in this early stage by assessing the role of different investor selection criteria throughout the fundraising process. Qualitative case-based research is well suited to provide detailed insights into how entrepreneurs' evaluation criteria for investors change throughout different fundraising phases.

In line with resource dependence theory, we have shown that the resources needed by a venture affect the entrepreneurs' evaluation of potential CVC investors as providers of not only financial resources. Taken together with other findings that show that firms profit most if there is a fit between the resources needed by the venture and offered by the CVC (Alvarez-Garrido and Dushnitsky 2016; Ivanov and Xie 2010), this raises the question of how well entrepreneurs are able to judge what resources their venture needs in the long term and which will be most crucial to attract externally. For high-growth, highly innovative ventures facing many uncertainties this resource awareness cannot be taken as given. Future studies should therefore study resource awareness as an antecedent for tie formation.

## 6 Conclusion

This study offers comprehensive evidence and insights into the role played by different investor attributes as well as venture and entrepreneurial characteristics on the entrepreneur's willingness to approach a CVC investor. Until now, the understanding of the entrepreneur's consideration of investors before negotiations start has been somewhat vague. Moreover, CVC investment has been described as a double-edged sword, with CVC investors seemingly less attractive than IVC investors due to their strategic motivation. We, therefore, examine how entrepreneurs trade off the benefits and risks associated with CVC investment as well as how important venture and entrepreneur characteristics influence an entrepreneur's willingness to strive for an investment from a CVC investor.

We find that characteristics of the CVC investor, namely its motivation, its experience with investment deals, the access to its firm-specific resources, and the long-term financial commitment of funds, are important aspects to entrepreneurs with financial commitment being the most important one. However, entrepreneurs' evaluation of the appeal of these characteristics differs depending on their need for specific resources and fundraising experience.

## 7 Research data policy and data availability statement

The datasets generated and analysed during the current study are available from the corresponding author on reasonable request.

## Appendix

Figures 4, 5, 6 and Tables 3 and 4.

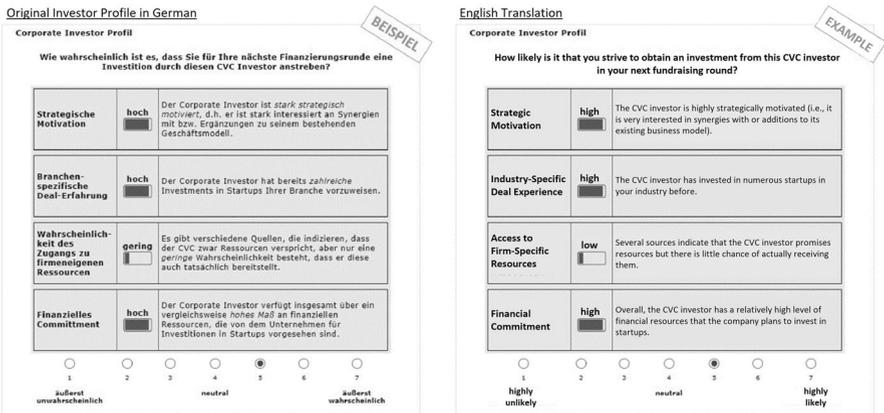


Fig. 4 Investor profile as seen by the participants in the online conjoint experiment

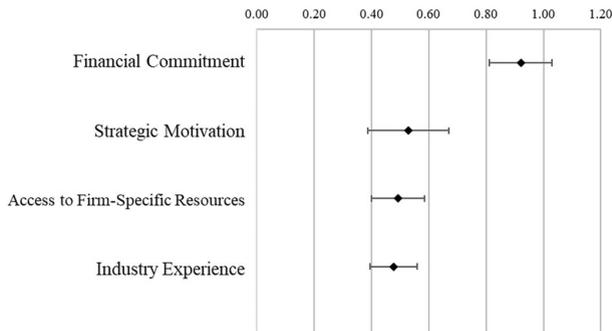


Fig. 5 Z-standardized HLM coefficients of investor attributes and 95% confidence intervals. Confirmed hypotheses are printed in bold

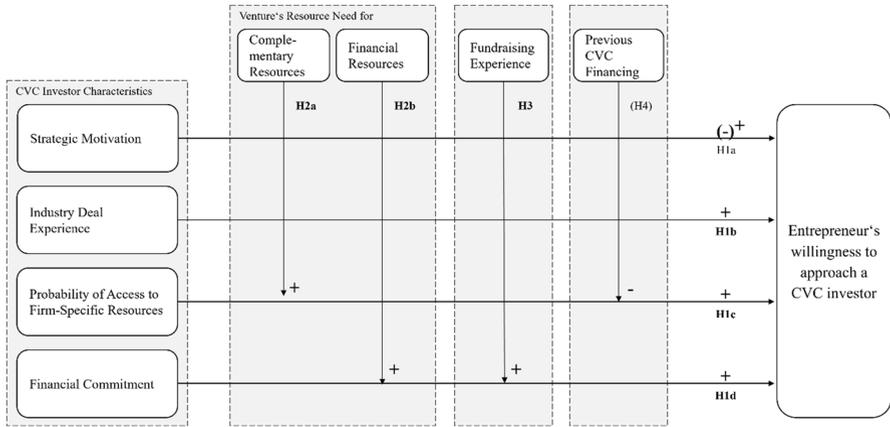


Fig. 6 Overview of confirmed/rejected hypotheses

Table 3 Introductory text and task description as seen by the participants

Original text in German

English translation

**Einführung**

Als Entscheidungsträger in Ihrem Start-Up werden Sie gebeten, eine Anzahl **hypothetischer Corporate Venture Capital (CVC) Investoren** zu beurteilen. Als CVC Investor wird dabei ein Investor verstanden, bei welchem das zur Finanzierung von jungen Unternehmen benötigte Eigenkapital von einem etablierten Unternehmen zur Verfügung gestellt wird. Im Gegenzug erhält der Investor Anteile an dem Unternehmen.

**Ihre Aufgabe**

Stellen Sie sich vor, dass Ihre **nächste größere Finanzierungsrunde** ansteht. Hierfür liegen Ihnen auch die Kontakte zu verschiedenen CVC Investoren vor. Sie müssen nun eine **Priorisierung** vornehmen, **mit welchen CVC Investoren Sie eine Investitionsbeziehung anstreben** möchten.

- Im Folgenden werden die Eigenschaften verschiedener potentieller CVC Investoren anhand von **vier Parametern** beschrieben (siehe nächste Seite).
- Sie müssen für **mehrsach aufeinanderfolgende Investor-Profile** eine **Bewertung vornehmen**, wie wahrscheinlich Sie eine Investition durch den jeweiligen Investor anstreben würden.
- Kreuzen Sie die **Bewertungsziffer** an, die Ihrer Einschätzung am nächsten kommt.
- Treffen Sie Ihre Beurteilungen **bestmöglich**, basierend auf den Ihnen zur Verfügung stehenden Informationen und entscheiden Sie **intuitiv**.
- Gehen Sie davon aus, dass Ihr **Bedarf an finanziellen Ressourcen** für die anstehende Finanzierungsrunde durch alle dargestellten Investoren **abgedeckt** werden kann.
- Alle weiteren potentiellen Entscheidungsparameter und Umwelteinflüsse sind als **konstant** anzusehen.

**Introduction**

As a decision maker in your start-up, you will be asked to rate several hypothetical corporate venture capital (CVC) investors. A CVC investor is understood to be an investor for whom the equity required to finance young companies is made available by an established company. In return, the investor receives shares in the company

**Your task**

- Imagine that your next major round of funding is coming up. For this purpose, you also have contacts to various CVC investors. You now need to prioritize which CVC investors you want to pursue an investment relationship with
- In the following, the characteristics of various potential CVC investors are described using four parameters (see next page)
  - For several consecutive investor profiles, you must assess how likely you are to seek an investment from each investor
  - Tick the rating number that comes closest to your assessment
  - Make your best judgment based on the information available to you and decide intuitively
  - Assume that your need for financial resources for the upcoming round of financing can be covered by all the investors shown
  - All other potential decision parameters are to be regarded as constant

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**Table 4** Main effects as tested in the conjoint experiment

| Attribute                         | Value | Description   |
|-----------------------------------|-------|---|
| Strategic motivation              | High  | The CVC investor is highly strategically motivated (i.e., it is very interested in synergies with or additions to its existing business model)            |
|                                   | Low   | The CVC investor is only slightly strategically motivated (i.e., it is not very interested in synergies with or additions to its existing business model) |
| Industry-specific deal experience | High  | The CVC investor has invested in numerous startups in your industry before  |
|                                   | Low   | The CVC investor has so far barely invested in startups in your industry  |
| Access to firm-specific resources | High  | Several sources indicate that the CVC investor is highly likely to provide the promised proprietary resources   |
|                                   | Low   | Several sources indicate that the CVC investor promises resources but there is little chance of actually receiving them                                   |
| Financial commitment              | High  | Overall, the CVC investor has a relatively high level of financial resources that the company plans to invest in startups                                 |
|                                   | Low   | Overall, the CVC investor has a relatively low level of financial resources that the company plans to invest in startups                                  |

How likely is it that you strive to obtain an investment from this CVC investor in your next fundraising round?  
Seven-point Likert scale: 1 = “very unlikely”, 7 = “very likely”

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## Declarations

**Conflict of interest** The authors declare that they have no conflict of interest.

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