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Are corporate affiliations conducive to nascent entrepreneurship?

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Abstract

Founding an entrepreneurial venture does not comprise a dichotomous choice between market entry and non-entry; instead, a wide variety of entrepreneurial strategies are available to the nascent entrepreneur. Using data from the second Panel Study of Entrepreneurial Dynamics (PSED II), a representative sample of nascent entrepreneurial activity in the United States, this study documents that nascent entrepreneurs generally choose between founding an independent new venture and following a type of corporate-affiliated entrepreneurial strategy (CAES), such as a franchise, spin-off, or similar approach. The success of this decision is contingent upon entrepreneurs' stock of human capital. Relevant industry experiences tend to reduce the likelihood of an entrepreneur employing a CAES, while managerial experience and previous start-up experience increases the probability. Overall, those nascent entrepreneurs who follow a CAES are more likely to achieve a first positive cash-flow; this highlights the benefits of corporate affiliations in the field of new venture founding.

Keywords Nascent entrepreneurship · Endogeneity · Corporate support · Performance · Spin-offs

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Introduction

Entrepreneurial ventures and incumbent or established firms have much to gain from joining forces (Barrett & Tsekouras, 2022; Devarakonda et al., 2022; Bermejo-Olivas et al. 2023). While startups bring innovative yet unproven ideas, incumbent firms can offer financial resources, scaling capabilities, and organizational efficiency. In collaborating with a startup, an established firm may gain access to new technologies, often at a time when valuations of the startup remain relatively low. Consequently, when founding new ventures, nascent entrepreneurs have several options available to support the pursuit of their aspirational entrepreneurial path (Glinyanova et al. 2021). On the one hand, an entrepreneur can independently create their own start-up and seek out potential investors. As a case in point, the amount of venture capital funding has risen substantially (Samila & Sorenson, 2011). On the other hand, a nascent entrepreneur can pursue a corporate affiliated entrepreneurial strategy (CAES). For example, spinning off a firm from previous employment presents an alternative route to founding a new business (Hellmann, 2006). Moreover, franchising opportunities have grown significantly over the past two decades, which has provided an easier route to becoming self-employed (Kaufman, 1999; Castrogiovanni et al., 2006). In addition, individuals can also become entrepreneurs by taking over existing businesses (Parker & van Praag, 2012). Consequently, research on incumbent-startup cooperation has received growing attention (Bergman & McMullen, 2022).

Notwithstanding the contributions of prior literature, the factors driving the choice to pursue a CAES and the corresponding performance implications remain less clear (Folta et al., 2010; Song et al., 2008). Among other elements, the applicability of human capital may differ substantially among the different entrepreneurial strategies. For example, task-related knowledge may have a far weaker relationship with the usual measures of founding success during the pursuit of a CAES, because organizational routines may be available or pre-defined, and existing infrastructure from other businesses may be used, such as in franchising arrangements. Accordingly, ventures might attract different types of entrepreneurs, depending upon whether they are independent or corporate-affiliated (Wood, 2009). Also, practical advice and guidance for successful startup founding may differ substantially (Parker & van Praag, 2012). This presents an opportunity to ask our first research question (**RQ1)**: *How do the human capital foundations of nascent entrepreneurs affect their choice to pursue a CAES?* In addition, we ask our second research question (**RQ2)**: *How does the choice of a CAES affect the performance of nascent entrepreneurs?*

We analyze RQ1 and RQ2 using data from the Second Panel Study of Entrepreneurial Dynamics (PSED II). The PSED II constitutes a representative survey of entrepreneurial activities in the United States and portrays individuals over the course of their business-creation processes. Between October 2005 and January 2006, initial phone interviews with 31,845 adults resulted in 1,214 adults who indicated that they were engaged in startup founding processes (Curtin & Reynolds, 2018). We investigate this representative sample of nascent entrepreneurs by implementing matching techniques to account for observable omitted selection, an approach also recently introduced to entrepreneurship research (Lyons & Zhang, 2018). In doing so, we account not only for self-selection in strategic foundation choices (Hamilton & Nick-

erson, 2003), but also for numerous other factors that could drive the choice to pursue a CAES. Existing research has shown that several individual characteristics, including education, family background, or industry experience, play important roles in choosing an entrepreneurial strategy (Gans et al., 2019; Parker & van Praag, 2012). Moreover, matching techniques enable us to model the choice of an entrepreneurial strategy as a treatment effect, to report how performance would have changed had a given entrepreneur pursued another entrepreneurial strategy. Our most important aim in this research is to improve the understanding of conceptual relationships to choose a CAES, and in turn how this choice relates to startup venture viability.

Our results demonstrate that individuals with varying levels of human capital select different entrepreneurial strategies. We find evidence that those nascent entrepreneurs who opt for a CAES when founding their new businesses benefit from this strategic choice. The treatment effects show that entrepreneurs tend to pursue CAES approaches in expectation of higher performance. Hence, we conclude that the performance of a given entrepreneur pursuing a CAES is conditional on skills and human capital; therefore, corporate-affiliated startups lead to better performance for some, but not generally for all, entrepreneurs. We thus highlight that existing literature investigating the relationship between entrepreneurial strategies and venture success warrants careful reexamination, because no one-size-fits-it-all approach exists.

The remainder of this article is structured as follows: Section two outlines the theoretical background and presents our research question. Section three describes the dataset used in the empirical analysis and presents the methodology. Section four presents the results. Section five discusses the findings, implications, limitations, and future research opportunities. This article concludes with a summary of the most important findings and their associated learnings for practitioners.

Theoretical background

Corporate-affiliated options for nascent entrepreneurs

Founding an entrepreneurial venture is not a dichotomous choice between entry and non-entry; instead, several options are available to entrepreneurs (Folta et al., 2010; Glinyanova et al. 2021). Hence, the modus operandi for aspiring entrepreneurs varies in practice. In addition to setting up their own independent new ventures, alternative entrepreneurial strategies are manifold; for example, nascent entrepreneurs may pursue multiple forms of CAES, as described below.

First, entrepreneurs can acquire an already-existing business to become self-employed. Generally, the transfer of business ownership follows a similar path to entrepreneurial actions, as organizational routines are implemented, or are undone, to change how the business operates. Moreover, evidence shows new product development and innovation are associated with buying into existing businesses as a form of nascent entrepreneurship (Ucsbasaran et al., 2001, 2003; Zahra, 1995). Nevertheless, entrepreneurs might bypass some of the steps required to create a new venture by purchasing an existing corporate shell as it provides routines and infrastructure they can leverage.

Second, spinning off a new corporate entity, or being sponsored by a former employer, can also provide viable alternatives when jump-starting an entrepreneurial career. In such cases, some organizational routines might be partially transferred from the sponsoring or pre-existing organization (Cooper & Dunkelberg, 1986; Hellmann, 2006). To this end, organizational lineage of the involved entrepreneurs might affect the shape of the business creation process (Greve & Salaff, 2003; Slotte-Kock & Coviello, 2010). For example, informal advice networks, inherited through existing contacts within the previous business environment, may provide additional assistance in facilitating the founding process (Kramer and Kanbach, 2023). Managerial routines offered through the affiliated or sponsoring corporation may further facilitate establishing the new endeavor. Spin-offs and sponsorship through former employers therefore present viable options for entrepreneurs that can help them to found successfully.

A further type of CAES involves acquisition of a franchise outlet. Kaufman (1999, p. 345) has described franchising as the ability to "be in business for yourself but not by yourself." In franchising, almost no previous industry experience is needed to run a new business, because the franchisor provides sector training and support to counter nascent entrepreneurial limitations in industry experiences (Castrogiovanni et al., 2006). Moreover, franchisors provide institutional knowledge to guide new owners in managing their own franchise outlets (Kaufman, 1999). Similarly, multi-level marketing initiatives are comparable to general sales activities with leadership provided through the multilevel organization (Sparks & Schenk, 2001). Consequently, entrepreneurs can reduce risks and uncertainties associated with the startup decision and gain assistance from an established corporate entity by participating in franchise networks (Kaufman, 1999; Peterson & Dant, 1990).

The relationship between new-venture modes and entrepreneur characteristics

Corporate affiliations and organizational support each provide benefits for nascent entrepreneurs when founding a new venture. However, while each alternative brings individual merits, these may not be applicable for all entrepreneurs alike (Folta et al., 2010; Song et al., 2008). Among other things, the applicability of human capital may differ substantially among the forms of entrepreneurship chosen (Unger et al., 2011). Following Becker (2009), we can differentiate two types of human capital: general-purpose human capital which is applicable across organizational boundaries; and firm-specific human capital, which is applicable only in one specific organization. Gibbons & Waldman (2004) have further fine-tuned this distinction by introducing the term 'task-related human capital' (in addition to 'task-specific human capital'), which is only applicable to a specific job. For entrepreneurs, task-related human capital usually combines management knowledge, startup experience, and industry knowledge (Cooper et al., 1994). Thus, the more task-related the human capital of a given entrepreneur, the more likely they are to use and apply it to their tasks as a business owner. It is therefore not surprising that entrepreneurial success is associated with higher levels of task-related human capital (Unger et al., 2011). One particular way, in which entrepreneurs can accumulate task-related knowledge is through previous startup experience (Cooper et al., 1994). Stuart and Abetti (1990:

151) have shown that "entrepreneurial experience… was by far the most significant factor" associated with the performance of a new venture. Consequently, experienced entrepreneurs may not need to seek advice or help from a franchisor or sponsor, but instead may feel sufficiently confident to embark alone on a new venture. Thus, we propose the following Hypothesis 1:

Hypothesis 1 Founders with higher entrepreneurial experience are (a) less likely to pursue a CAES and (b) more likely to achieve venture viability.

Concerning the relationship of human capital and organizational support, Sardy and Alon (2007) have documented that on average, entrepreneurial franchisees have less experience in the new industry in which they want to be active in, compared to other independent entrepreneurs. They relate this finding to the reliance of franchisee entrepreneurs on the institutional context of the franchisor. In franchising, entrepreneurs can use a parent company's brand name (Peterson & Dant, 1990), product (Shane & Hoy, 1996) and organizational support (Kauffmann, 1999; Stanworth et al., 1984) to bring a product to market. Less market knowledge in general is required to enter a new market when franchising. Accordingly, nascent entrepreneurs can venture into new industries more easily and are not bound by their previous work experiences. This is, however, not a necessity for entrepreneurs who already possess ample sectoral and managerial working experience; Folta et al. (2010) have shown that learning from within a secure corporate position is equivalent to creating a real option for entrepreneurship that can be exercised later. Also, unsatisfying prior employment experiences caused by, for example, lack of decision-making control, might induce entrepreneurs to avoid corporate affiliations (Douglas, & Shepherd, 2000). We therefore propose Hypothesis 2:

Hypothesis 2 Founders with higher sectoral or management experience are (a) less likely to pursue a CAES and (b) more likely to achieve venture viability.

Nevertheless, entrepreneurs possess discretion regarding how to pursue their goals (e.g., whether or not to pursue a CAES) in ways that enable them to overcome potential limitations regarding their human capital endowments. Knight (1989) has compared corporate entrepreneurs (intrapreneurs) and independent nascent entrepreneurs in the high-tech industry. The results show that independent entrepreneurs are plagued by a lack of general management training and experience that eventually hinders their success (Knight, 1989; Urbaniec and Zur, 2021). Technically and scientifically well-educated corporate entrepreneurs are more likely to create their innovations within a corporation. These business units tend to provide support and work designs tailored to technical innovations. Managerial routines offered through corporate affiliations could mirror this. Therefore, a CAES could substitute the lack of managerial talent with academically experienced entrepreneurs who possess task-related routines and support to foster success and innovation. Consequently, if nascent entrepreneurs know that they possess less task-related capital, but more general human capital, they can anticipate that their chances for success are lower if they start a completely new

and independent business. In turn, they might be more inclined to opt for a CAES instead. Hypothesis 3 summarizes this relationship:

Hypothesis 3 Founders with higher education are (a) more likely to pursue a CAES and (b) more likely to achieve venture viability.

New-venture mode as an endogenous entry choice

Independent and corporate-affiliated ventures will attract different kinds of entrepreneurs. Eventually, the entrepreneur should explore the option that yields the highest expected performance given their skills and previous experience. Consequently, the decision to become an entrepreneur is likely endogenous, and thus self-selected.

Making comparisons among modus operandi in this context is difficult, as entrepreneurs are not randomly assigned to either founding independent startups or joining corporate-affiliated frameworks. In light of this, comparing strategies without acknowledging self-selection might lead to erroneous conclusions; choosing one strategy over the other and simply comparing the unconditional performances of the given strategies might be misleading. For example, some entrepreneurs may base their decisions upon their belief that given their human capital endowments, one strategy will yield a higher benefit. Accordingly, performance is conditional on skills and human capital, and therefore certain strategies lead to better performance for some, but not generally, for all, entrepreneurs.

Unconditional empirical inferences might therefore be misleading when choices depend on entrepreneur skills, human capital endowments, and additional support through a corporate entity. Whether corporate ties are valuable to entrepreneurs depends on an individual entrepreneur's characteristics and on the choices they make. Entrepreneurs might choose to pursue a CAES for one of the two reasons: (1) to substitute for skills and routines they lack themselves, or (2) to complement and boost their existing skill sets. In the case of 1), we expect nascent entrepreneurs pursuing a CAES to out-perform those founding independent new businesses, because they not only possess access to entrepreneurial knowledge and training through CAES but also bring along additional skills not vested by other entrepreneurs. In the case of 2), we expect nascent entrepreneurs pursuing a CAES to perform better than those founding independent new businesses because of the increased skills and knowledge compared to solo entrepreneurs. The following hypothesis depicts this relationship:

Hypotheses 4 A positive relationship exists between pursuing a CAES and achieving venture viability.

Data and methods

To test our research hypotheses, we draw on the publicly available PSED II dataset provided by Curtin and Reynolds (2018). Between October 2005 and January 2006, they conducted initial phone interviews with 31,845 adults selected via a representative sample of US households, asking them whether they were currently engaged in startup founding processes. This led to the identification of 1,214 nascent entrepreneurs. Curtin and Reynolds (2018) contacted each of these individuals again in 2006 for a more thorough, 60-minute telephone interview. In the follow-up interview, they collected information on the status, characteristics and environment of the venture and the founding members. Further follow-up interviews took place every year until 2011; the interview topics varied based on the status of the start-up (Curtin & Reynolds, 2018).[1]

Due to its thorough sampling and follow-up procedures, the PSED II constitutes a representative survey of entrepreneurial activities in the United States that portrays individuals throughout their business creation process. Because the dataset uniquely documents the characteristics of nascent entrepreneurs, the sequences of their organizing activities, and the types and volumes of resources committed, the PSED II allows for in-depth characterizations and analyses of the new ventures. Given its substantially large cohort sample size, PSED II enables entrepreneurship researchers to make causal inferences while at the same time ensuring generalizability to a larger population of entrepreneurs. It is therefore unsurprising that multiple entrepreneurship studies have already employed this dataset (e.g., Hopp, 2015; Reynolds, 2011; Reynolds & Curtin, 2009; Thiess et al., 2016) and continue to do so (Crawford et al., 2022; Lewis et al., 2024).

Sample

Using the PSED II dataset, our initial sample consists of 1,214 entrepreneurs. However, some entrepreneurs in this sample might have begun their endeavors well before the initial interview. This would have provided them with more time to prepare their ventures and, consequently, increase their chances of reaching certain milestones before other members of the sample. Given that the PSED II dataset covers only five years, this short timeline might not be sufficient to compare the different groups and truncation periods. Gartner and Carter (2003), and Lichtenstein et al. (2007), have therefore suggested including only entrepreneurs who undertook their first activity within 24 months prior to the initial interview time. We follow this suggestion, and accordingly reduce the sample to include only nascent entrepreneurs. Nevertheless, the number of firms included in our empirical analyses differ, depending on the nature of the dependent variables used.

[1] More detailed descriptions for the methods and sampling used to generate PSED II and an overview on the data structure can be found in Curtin and Reynolds (2018).

Dependent variable

Completion of entrepreneurial organizing activities: Researchers have discussed a wide variety of measures to determine the point at which a nascent venture shifts from the end of the entrepreneurial organizing activities to an operational business: the ability to raise external money, the legal establishment of the new venture, the first sales, initial positive cash flow, and reaching the break-even point, among other (Gartner & Carter, 2003). Bygrave (1989) has asserted that the only way to know whether a new venture will generate a persistent business is to wait until the new venture is generating positive cash flows. The completion of the entrepreneurial organizing activities is therefore indicated in this study by ventures reaching for the first time a positive monthly *operating cash flow*. In the PSED II data set, respondents were asked whether monthly revenues had ever exceeded monthly expenses for their new venture, in other words, whether their new business ever had a positive monthly cash flow from operations. The dependent variable is equal to 1, if the entrepreneur achieved a positive operating cash flow and the business was thus successfully founded, and 0 otherwise. In order to test for the robustness of the results, we also compare the successful ventures against the entrepreneurs who indicated they had given up working on their ventures. The Appendix provides details on the definitions of all dependent variables.

Independent variables

Treatment variable

Entrepreneurial strategy We compare three different entrepreneurial strategies as proxies for, a corporate-affiliated new business, and a new business with other organizational support. We combine entrepreneurs who either purchased a new venture or were sponsored by an existing organization when setting up their new venture under the CAES category. Moreover, we combine entrepreneurs who acted as franchisees and those who started within a multilevel environment as proxy for "organizational support". Lastly, we categorized all other entrepreneurs who had no connections to any sort of corporation or organization as "independent new businesses."

Matching variables

Following our theoretical reasoning, we specifically include *Entrepreneurial Experience*, *Labor Market Experience*, and *Formal Education*, as matching variables.

Entrepreneurial experience

The PSED II dataset provides information on the number of other businesses each entrepreneur had previously helped to found as an owner. Moreover, it provides information available on the number of other businesses they owned at the time of the initial interview.

Labor market experience

PSED II provides information about the working experience of nascent entrepreneurs. Specifically, we employ the respective number of years for which the nascent entrepreneur had work experience within the same industry, had full-time paid work experience in general, and held managerial, supervisory, or administrative responsibilities.

Formal education

Respondents were asked during the initial PSED II data collection to indicate the highest level of education all members of the entrepreneurial team had completed. We recode this variable, originally ranging from elementary school to Ph.D., into "number of years of education" (Davidsson & Honig, 2003).

The PSED II dataset comprises data from both, solo entrepreneurs and team foundations. Fortunately, the dataset also provides information on the *Formal Education*, *Labor Market Experience* and *Entrepreneurial Experience* of all founding members. To make solo entrepreneurs and teams of varying size comparable, we therefore take the average levels of these factors for team foundations.

Control variables

As the motivation to start a business might vary among entrepreneurs, we also include questions from the PSED II on the likely effort provision of nascent entrepreneurs (Markman & Baron, 2003). We identify three questions that measure the motivation of nascent entrepreneurs to start their venture on a five-point, Likert-type scale. We inverted the scale used in the questionnaire so that higher values correspond to a higher motivation. A confirmatory factor analysis reveals that the five items load on one factor, and result in a satisfactory Cronbach's alpha of 0.72.[2]

On the nascent venture side, we proxy for the innovativeness and inventiveness of the venture using information (Goel & Göktepe-Hultén, 2013). Hereby we include three dummy variables capturing whether the company has been granted a patent, has a product ready for sale, and/or has engaged in proprietary technology development.

Moreover, effects may differ across industries. We therefore parcel out these effects by including industry dummy variables. We control for retail (89 firms), restaurants (21), consumer services (229), health (53), manufacturing (38), construction (39), wholesale (37), real estate (45), and consulting (47). We omit "consulting" as the reference group in each analysis to avoid perfect collinearity. The inclusion of industry dummies is indicated in the corresponding table. Coefficients are not tabulated to preserve lucidity.

[2] For more information, please consult the Appendix.

Methodology

We are interested not only in whether choosing to pursue a CAES has a positive effect on venture success, but also in how entrepreneurs' human capital affects the choice to pursue a CAES. Because we explicitly stipulate that the choice of pursuing a CAES is dependent upon entrepreneurs' human capital, we cannot regard our treatment variable (the chosen entrepreneurial strategy) as exogenous. Instead, we explicitly deal with a situation in which the treatment variable is endogenous. Under these circumstances, traditional regression models might not convey the true causal effects, because the error terms of the venture success regression are not independent from the error terms of the CAES choice regression (Hamilton & Nickerson, 2003). To overcome this problem, we would need to find a sample in which entrepreneurs are assigned randomly to either pursuing a CAES or founding an independent venture. However, given the endogenous choice for a specific mode, an entrepreneur who did not choose the corresponding mode cannot provide the counterfactual: for example, one entrepreneur might lack previous industry experience, while another has previously worked in the industry. This comparative difference could make a certain new venture creation mode more valuable for one, but not the other, thus again introducing endogeneity. Consequently, we need to statistically address endogeneity by controlling for observable selection. To accomplish this, we estimate the differences in venture viability probabilities conditional on the choice of an entrepreneurial strategy. Rubin (1974) has referred to this effect as the "treatment effect," while Hamilton and Nickerson (2003) have used the term "strategy effect." We follow the methodology suggested by Kaiser and Malchow-Moeller (2011) and use propensity-score matching to estimate the counterfactual outcome.

Propensity-score matching constitutes a quasi-experimental approach in which the researcher compares two observations possessing similar chances of being in the treatment group, generating the propensity score (Becker & Ichino, 2002). In our case, we estimate the propensity score by estimating logistic regressions with the *Entrepreneurial Strategy* as the dependent variable, and with the matching variables as the independent variables. We then use the propensity score to match entrepreneurs pursuing a CAES with those not pursuing a CAES. Due to the small number of observations in the control group, we match the treatment and control groups based on their nearest neighbors, as Abadie and Imbens (2002) and Abadie et al. (2004) have suggested. In this process, we use one to four neighbors to identify matches, rather than employing a one-to-one matching approach.

By matching individuals using the propensity score from the control group and the treatment group on their covariates, we ensure that the two groups are heterogeneous, regarding variables that affect both the choice of the entrepreneurial strategy and the likelihood of venture viability. We thus can infer the net effect of the treatment on outcomes, controlling for the selection into the treatment. In other words, we assess how entrepreneurs pursuing a CAES would have performed had they not chosen the corresponding entry mode. In consequence, causal inferences regarding choosing a CAES are conditional on the observable characteristics of the entrepreneurs. We thus find the effect of the chosen entrepreneurial strategy by comparing the actual out-

comes for entrepreneurs with the outcomes that would have resulted had they chosen an alternative modus operandi.

We estimate the propensity-score matching using the 'psmatch2' command in Stata 17. In addition, as a baseline model, we report the standard logistic regressions by using the foundation variables as outcomes, and the new-venture creation modes as a simple explanatory dummy variable. Accordingly, changes in effects can be observed and compared between the baseline and propensity-score matching models. Moreover, we also conduct an exploratory analysis, in which we split entrepreneurs choosing a CAES into two subgroups: those entrepreneurs who are closely affiliated with the organizational processes of existing businesses (i.e., those who either purchased or obtained sponsorship from an existing business) and those entrepreneurs who mainly received advice and guidance from existing businesses through marketing initiatives and franchising. We take this approach because of the different levels of pre-existing organizational structures and the variation in advice and support provided by franchisors provide, compared to other entrepreneurship strategies (Sardy & Alon, 2007). Further, we test the robustness of the results using different variants of the dependent variable.

Results

Descriptive statistics

Table 1 presents the summary statistics and correlation matrix. Regarding the performance measures, about 51% of the nascent entrepreneurs indicated that they had stopped working on their business during the five-year period from 2005 onwards. Meanwhile, 19% of all nascent entrepreneurs in the study reached a positive cash flow during that time. According to the above definition, these 19% of the individuals or teams founded their ventures successfully. We use both performance measures to compare the determinants of success and failure.

On average, nascent entrepreneurs in the sample had an education equivalent to 14.39 years of schooling (with a standard deviation of around two years), 23.92 years of work experience, thereof 12.45 years of managerial experience, and, in total, between eight and nine years of work experience in the relevant industry. Nearly two out of three nascent entrepreneurs had previously helped to start a new venture and nearly every fourth entrepreneur currently owned or had previously owned a business. Around 80% of the new ventures were founded as independent entities. Corporate-affiliated ventures and ventures that relied on organizational support each represented each about 10% of the sample.

Main analysis

Table 2 reports the results from the logistic regressions, which combined all outcome assessment models and the matching model. According to the logistic regression results, choosing a CAES yielded significantly higher chances of achieving a positive cash flow compared to both comparison groups, all other entrepreneurs (ß = 0.703,

Table 1 Summary statistics and correlation matrix

Variable	Mean	S.D.	1	2	3	4	5	6	7	8	9	10	11	12	13
Dependent Variables															
Positive Cash Flow	0.19	0.39													
Gave Up	0.51	0.50	-0.21												
Independent Variables															
Treatment Variables															
Purchased or Sponsored	0.11	0.31	0.00	0.07											
Franchise or Multilevel Marketing	0.09	0.28	0.13	-0.04	-0.11										
Matching Variables															
Formal Education	14.39	1.97	0.12	-0.03	0.02	-0.02									
Industry Experience	8.52	9.51	0.12	-0.10	-0.15	0.03	0.09								
Full-Time Experience	23.92	13.16	0.01	-0.03	-0.03	0.07	0.11	0.35							
Managerial Experience	12.45	10.71	0.08	-0.08	0.02	0.11	0.22	0.37	0.69						
Helped Start Other Business	0.64	0.93	0.03	-0.06	0.13	0.09	0.09	0.04	0.26	0.36					
Owned Other Business	0.23	0.47	-0.01	-0.03	0.11	0.09	0.10	0.02	0.15	0.26	0.60				
Control Variables															
Motivation	4.30	0.57	0.05	-0.07	-0.02	-0.03	-0.06	0.15	0.03	0.04	0.08	0.01			
Patent Granted	0.05	0.21	0.12	-0.02	0.00	0.07	0.01	0.02	0.00	0.04	0.06	0.05	-0.06		
Product Ready	0.44	0.50	0.20	-0.06	0.03	-0.08	0.12	-0.01	0.03	0.02	-0.01	0.02	-0.02	0.04	
Technology Developed	0.09	0.29	-0.01	-0.07	-0.03	0.02	0.09	0.09	0.06	0.08	0.10	0.11	0.02	0.27	0.00

Note Summary statistics and correlation matrix are based on 726 observations. All correlations above 0.1 are significant at least at the 5% level

$p<0.01$), and those entrepreneurs who gave up (ß = 0.577, $p<0.05$). Noticeably, we do not find significant effects of choosing a CAES on giving up the startup. However, the matching models indicate that we should not directly interpret the coefficients found in the three outcome assessment models because *Industry Experience* (ß = -0.031, $p<0.05$), *Managerial Experience* (ß = 0.041, $p<0.01$) as well as *Help Start Business* (ß = 0.293, $p<0.05$) significantly predict whether entrepreneurs choose a CAES. This especially raises endogeneity concerns because *Industry Experience* has significant coefficients in all three outcome assessment models.

The matching model in Table 2 provides the opportunity to investigate the validity of hypotheses 1–-3. We do not find support for Hypothesis 1. While the coefficient of *Owned Other Business* is not significant, we find a significantly positive effect for *Helped Start Other Business*, which contradicts Hypothesis 1 that posits a negative effect on startup experience from choosing a CAES. However, we find partial support for Hypothesis 2. *Industry Experience* has a significantly negative relationship to choosing a CAES, whereas *Managerial Experience* has a significantly positive relationship to choosing a CAES. Lastly, we do not find support for Hypothesis 3; the coefficient of *Formal Education* is not significant.

To overcome the endogeneity concerns arising from the observable omitted selection, we conduct propensity score matching. Table 3 reports on the efficiency of the matching algorithm in reducing biases among the matching and control variables. We find that the matching algorithm performs well, especially reducing biases in *Industry Experience* (bias reduction of 78.8%), *Managerial Experience* (bias reduction of 63.4%), *Helped Start Other Business* (bias reduction of 93.4%) and *Owned Other Business* (bias reduction of 78.8%). The first three variables are significant in the matching model of Table 2; this highlights the advantage of propensity-score matching over logistic regressions in this scenario. Moreover, while the balancing model indicates that the propensity-score matching does not reduce bias for *Formal Education* and *Full-Time Experience*, this is not problematic, because these two variables have already been shown to be balanced in the unmatched sample, and thus also do not exhibit significant coefficients in Table 2.

Table 4 shows the treatment effects derived from comparing the matched observations. The average treatment effect (ATE) indicates that choosing a CAES substantially raises the chances of obtaining a positive cash flow, both for the comparison of CAES entrepreneurs to all other entrepreneurs and the comparison of CAES entrepreneurs to only those who gave up on their venture. This is supported by the average treatment effect on the treated (ATT), which is significant in both cases. The ATT indicates that those choosing a CAES increased their success chances by 0.108 ($p<0.05$) compared to all other entrepreneurs and increased them by 0.139 ($p<0.05$) compared to those who gave up on their venture. The average treatment effect on the untreated (ATU) describes the extent to which those who had not chosen a CAES would have increased their success chances if they had chosen a CAES. We find that choosing a CAES would also be beneficial for all other entrepreneurs (ATU = 0.086), including those who gave up (ATU = 0.098). In addition, these two ATUs are slightly smaller than the corresponding ATEs. In other words, those who chose a CAES benefitted from slightly higher success chances than those who did not choose a CAES would have had had they chosen one. Table 4 also indicates the choice of a CAES had

Table 2 Outcome and matching models

	Outcome assessment model 1	Outcome assessment model 2	Outcome assessment model 3	Matching Model
	DV: positive cash flow	DV: give up	DV: positive cash flow vs. give up	DV: CAES
Treatment Variable				
CAES	0.703**	0.077	0.577*	
	(0.249)	(0.201)	(0.275)	
Matching Variables				
Formal Education	0.139*	0.004	0.171**	-0.034
	(0.055)	(0.041)	(0.064)	(0.054)
Industry Experience	0.040***	-0.015†	0.046***	-0.031*
	(0.012)	(0.009)	(0.013)	(0.013)
Full-Time Experience	-0.024*	0.011	-0.025†	-0.016
	(0.012)	(0.008)	(0.013)	(0.011)
Managerial Experience	0.019	-0.015	0.027†	0.041**
	(0.014)	(0.011)	(0.016)	(0.014)
Helped Start Other Business	0.149	-0.099	0.145	0.293*
	(0.137)	(0.111)	(0.154)	(0.132)
Owned Other Business	-0.395	0.103	-0.477	0.251
	(0.287)	(0.207)	(0.329)	(0.239)
Control Variables				
Motivation	0.309†	-0.193	0.457*	-0.125
	(0.188)	(0.138)	(0.206)	(0.179)
Patent Granted	1.233**	0.053	1.389**	0.446
	(0.424)	(0.378)	(0.500)	(0.441)
Product Ready	1.064***	-0.252	1.157***	-0.277
	(0.208)	(0.155)	(0.228)	(0.206)
Technology Developed	-0.450	-0.354	-0.298	-0.209
	(0.397)	(0.286)	(0.459)	(0.382)
Industry Dummies	Included	Included	Included	Included
Chi^2	81.35	25.66	80.30	62.88
$p > Chi^2$	0.000	0.177	0.000	0.000
Pseudo R^2	0.114	0.026	0.141	0.089
Observations	726	726	467	726

Note Coefficients correspond to the marginal effects derived for the independent variables calculated at the mean levels of the remaining variables derived from logistic regressions. † $p<0.1$, * $p<0.05$, ** $p<0.01$, *** $p<0.00$

Table 3 Matching efficiency for CAES

	Balancing model 1 treatment: CAES		
	Mean		Bias reduction
	Treated	Controls	in %
Matching Variables			
Formal Education	14.361	14.504	-822.6
Industry Experience	6.975	7.402	78.8
Full Time Experience	24.820	25.331	49.1
Managerial Experience	14.480	15.489	63.4
Helped Start Other Business	0.860	0.835	93.4
Owned Other Business	0.346	0.309	78.8
Control Variables			
Motivation	4.245	4.275	46.5
Patent Granted	0.073	0.086	58.9
Product Ready	0.401	0.376	55.5
	0.088	0.104	-190.1
Industry Dummies	Included	Included	Included
	LR Chi^2	$p>Chi^2$	Mean Bias
Unmatched	63.60	0.000	13.3
Matched	3.48	1.000	5.1

Note Mean values and bias reduction derived from propensity-score matching. $N=726$

Table 4 Treatment effects for CAES

	Outcome: positive cash flow	Outcome: give up	Outcome: positive cash flow vs. gave up
Treatment: CAES			
Average Treatment Effect	0.090	0.042	0.086
On the Treated	0.108*	0.007	0.139*
On the Untreated	0.086	0.051	0.098

Note Average treatment effects derived from propensity-score matching with standard errors in parentheses. P-values can only be calculated for the observed average treatment effect on the treated. * $p<0.05$

no substantial effect on whether entrepreneurs gave up their venture. We find only a small ATE of 0.042 and an insignificant ATT of 0.007 ($p>0.1$).

When unobserved variables exist that might affect selection into treatment and impact the outcome, hidden biases may arise, and the treatment effect need not be robust. To test the robustness of our results, we calculate different versions of the treatment effects using one to four nearest neighbors; simulations by Abadie and Imbens (2002) show that use of four neighbors usually achieve the most efficient estimator. None of the different approaches qualitatively affects our results. In addition, when employing one-to-one matching, only the significance level for the ATT in the CAES versus all other entrepreneur's sample changes, from 5 to 10%.

Exploratory analysis

We fine-tune our analyses by splitting up the CAES group into two subgroups: those entrepreneurs who were closely affiliated with the organizational processes of exist-

ing businesses (i.e., those who either purchased or obtained sponsorship from an existing business) and those entrepreneurs who mainly received advice and guidance from existing businesses through marketing initiatives and franchising.

To overcome the endogeneity concerns arising from the observed selection, we again employ propensity-score matching. The algorithm achieves fair balancing for both subdimensions of entrepreneurial strategies.[3] We then again calculate the treatment effects, which Table 5 shows. The results show that only purchasing an existing business or obtaining sponsorship from one had significantly positive effects on achieving a positive cash flow. We find no significant effect for franchising or multilevel marketing initiatives. However, while entrepreneurs who purchased or were sponsored by an existing business did not differ substantially in terms of giving up the startup efforts, we find an ATT of 0.113 for franchising and marketing initiative entrepreneurs, which approaches the 10% significance level.

Discussion

In this study, we analyze the impact of choosing CAES on the business-founding success of nascent entrepreneurs. Theory posits a positive impact due to organizational routines already in place, or via support offered by a supporting organization. We therefore hypothesize that those who employ a CAES will be more likely to successfully found a new venture. Accordingly, entrepreneurs who rely on corporate affiliations or organizational support might possess an advantage over independent entrepreneurs when founding their new ventures (Glinyanova et al., 2021).

Our results document that nascent entrepreneurs in the dataset who embarked on their ventures with corporate affiliations, through either purchasing an existing organization or obtaining sponsorship from a corporation, had higher chances to successfully reach a first positive cash flow. The chances were on average some 15% higher than compared with nascent entrepreneurs that did not rely on corporate affiliations. Moreover, the results reveal that entrepreneurs who founded their new business with

[3] Results are available from the corresponding author upon request.

Table 5 Treatment effects for subdimensions

	Outcome: positive cash flow	Outcome: give up	Outcome: positive cash flow vs. gave up
Treatment: Purchased or Sponsored			
Average Treatment Effect	0.205	-0.028	0.270
On the Treated	0.170**	-0.040	0.255**
On the Untreated	0.209	-0.026	0.273
Treatment: Franchise or Multilevel Marketing			
Average Treatment Effect	-0.062	0.079	0.031
On the Treated	0.042	0.119	0.022
On the Untreated	-0.074	0.074	0.032

Note Average treatment effects derived from propensity-score matching with standard errors in parentheses. P-values can only be calculated for the observed average treatment effect on the treated. ** $p<0.01$

the support of a franchise or multi-level organization did not exhibit higher chances to found successfully.

Overall, our findings indicate that those who opt for corporate affiliations have higher chances to reach a first positive cash flow. Our results thus document the positive impact of corporate affiliations on the probability of successfully navigating the entrepreneurial process. However, these effects only materialize for close corporate affiliations, and not for loose forms, like franchises or multi-level organizations.

We also document that certain human capital characteristics affect the choice to use a CAES. Contrary to our hypothesis, we do not find an effect of general human capital. However, in line with our hypothesis, we find that relevant industry experience reduces the likelihood of employing a CAES, while managerial experience and previous startup experience noticeably increases the probability.

Limitations

Our study is not without limitations. We focus on disentangling the relationships between different measures of human capital and founding choices made, but we do not fit these combined measures into the wider environmental context. Future studies could address these shortcomings, to situate the relationship of human capital and CAES into the wider social context. Addressing contingencies, such as when and under what circumstances different forms of CAES are more or less relevant, could enhance the broader understanding of human capital and its linkages with strategies (Shane & Venkataraman, 2000; Stephan & Uhlaner, 2010; Levie & Autio, 2008). Such efforts may help to identify relationships that are even stronger than those reported in this study or uncover factors that may mediate or moderate the effect of human capital on the strategic activities of nascent entrepreneurs.

While we elaborate on the upside of previous work and entrepreneurial experiences, we leave out potential downsides, such as decreased motivation or potential tendencies toward overconfidence among nascent entrepreneurs, which might partially explain our findings for managerial experience. Hence, it might be interesting to further extend our framework by including personal characteristics, such as growth aspirations and community factors, into our analysis to gain further insight into the driving forces behind choosing a CAES, and potentially into related hindrances (Bermejo-Olivas et al., 2023) We hope that our work constitutes a solid basis for future research into this important area, in both theory and practice.

Implications and conclusion

This study contributes to the literature in several important ways. Our results add to prior work studying heterogeneity within entrepreneurial founding processes. In addition, our results generate insights into the antecedents of entrepreneurial founding strategies and illuminate why some entrepreneurs might be more successful than others. We document that founding a new venture is not a dichotomous choice between self-employment and no self-employment, but instead is multifaceted. Consequently, our results suggest the need to make more fine-grained distinctions among

the varying degrees of entrepreneurial activity, to allow additional insights into the underlying decision process of entrepreneurs, and to derive practical implications for policymakers and entrepreneurs alike.

Our study also contributes to a recent stream of research that answers new research questions using seemingly older data (Crawford et al., 2022; Lewis et al., 2024; Sorgner & Wyrwich, 2022). We generally observe a trend where older data are becoming increasingly disfavored for publication (Hong et al., 2022). Yet PSED data is particularly important as it includes an examination of changes over time within cohort of entrepreneurs. The ability to make causal inferences and the ability to generalize to a larger population of entrepreneurs are of high importance and just because data was collected years ago does not automatically make findings drawn from this data obsolete.

This research includes practical implications. Understanding the requirements for policy advice based on these strategic foundation choices and their likely fit with entrepreneur characteristics is paramount when tailoring assistance and advice. Our results also show those who opt for CAES tend to be less experienced founders, and likely have less managerial experience but higher industry experience. Therefore, giving practical advice to these different types of founders therefore relies on an informed understanding of the addressed audience. Understanding the behaviors and skill sets of nascent entrepreneurs can thus help to tailor advice to increase their chances of entrepreneurial success. Mapping the interaction of human capital with the choice of whether to employ a CAES can help shift the paradigm toward a more dynamic view of entrepreneurship in general, and of knowledge transfer during entrepreneurial tasks in particular.

Appendix A– overview of PSED II variables employed in this study

Dependent variables	Operationalization
Positive Cash Flow (1/0)	Dichotomous variable indicating whether a given venture has achieved a monthly revenue was greater than all monthly expenses, including salaries for the owners active in managing the business (A35; 1 = revenues were greater than all monthly expenses; 0 otherwise.)
Give Up (1/0)	Dichotomous variable indicating whether disbandment has been reported (A35; 1 = disbandment; 0 otherwise.)
Positive Cash Flow vs. Give Up (1/0)	Dichotomous variable indicating whether a given venture has achieved a monthly revenue was greater than all monthly expenses, including salaries for the owners active in managing the business (A35; 1 = revenues were greater than all monthly expenses; 0 = disbandment). This variable coding omits those observed to have been observations that are still trying.
Independent Variables	
Treatment Variables	
Purchased or Sponsored (1/0)	Dichotomous variable based on A10. 1 = *purchase of an existing business or foundation or business that is sponsored by an existing business;* 0 otherwise

Dependent variables	Operationalization
Franchise or Multilevel Marketing (1/0)	Dichotomous variable based on A10. 1 = *acting as a franchisee or engaging in a multilevel marketing activity;* 0 otherwise
CAES (1/0)	Dichotomous variable; 1 = *purchased or sponsored OR franchise or multilevel marketing;* 0 otherwise
Matching Variables	
Formal Education	H6: *What is the highest level of education you have completed?* Coded: 8 = *up to eighth grade*, 10 = *some high school*, 12 = *high school degree*, 14 = *some college*, 16 = *Bachelor's degree*, 18 = *Master's degree*, 20 = *Ph.D. degree.*
Industry Experience	H1: *How many years of work experience have you had in the industry where this new business will compete?* Coded as number of years.
Full Time Experience	H20: *How many years of full time*, *paid work experience have you had?* Coded as number of years.
Managerial Experience	H21: *For how many years*, *if any*, *have you had managerial*, *supervisory*, *or administrative responsibilities?* Coded as number of years.
Helped Starting Business	H12: *How many other businesses have you helped to start as an owner or part-owner?* Coded as number of other businesses.
Owned Other Business	H13: *Besides the new business discussed in this interview*, *how many other businesses do you own?* Coded as number of other businesses.
Patent granted	D15: *In what month and year was a patent*, *copyright*, *or trademark granted? 1 = Patent granted*, *zero otherwise*
Product ready for sale	D6: *Is the product or service that this new business will sell completely developed and ready for sale or delivery? 1 = Ready for sale*, *zero otherwise*
Technology development	D11: *Has this new business developed any proprietary technology*, *processes*, *or procedures that no other company can use*, *will it develops proprietary technology*, *processes*, *or procedures in the future*, *or is this not relevant to the new business? 1 = Technology development*, *zero otherwise*
Control Variables	
Motivation	Average of three items (AY6: *Overall*, *my skills and abilities will help me start this new business*; AY7: *My past experience will be very valuable in starting this new business*; AY8: *I am confident I can put in the effort needed to start a business*. Likert scale: 1 = *strongly agree;* 2 = *agree*; 3 = *neither*; 4 = *disagree*; 5 = *strongly disagree*.) Reverse coded for the sake of easier interpretation. α = 0.72
Industry Dummies	B1: *Which of the following best describes this new business?* We control for retail (89 firms), restaurants (21), consumer services (229), health (53), manufacturing (38), construction (39), wholesale (37), real estate (45), and consulting (47). We omit "consulting" as the reference group in each regression to avoid perfect collinearity.

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