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Is Speedy Start-up Always Better? The role of entrepreneurs' prior experience*

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Abstract

Recent start-up policies and programs increasingly emphasize accelerating the entrepreneurial process, yet the effectiveness of such rapid progress remains unclear. This study investigates the relationship between the duration of nascent entrepreneurial activity and start-up size. Using a rich dataset of new firms in Japan, we examine how the duration of preparation time relates to start-up size. Drawing on the resource-based view in combination with the concept of time compression diseconomies, we argue that the need to accumulate resources in the nascent phase of entrepreneurship depends on entrepreneurs' prior management and industry work experience. The results reveal that longer preparation increases start-up size for entrepreneurs without prior experience, whereas its marginal returns diminish for those with such experience. These findings imply that the advantages of speed primarily apply to those who possess sufficient initial resources. Consequently, policies should avoid one-size-fits-all acceleration and instead be tailored to the individual entrepreneur's background.

Keywords: Entrepreneur, human capital, nascent entrepreneurial activity, prior experience, speed, start-up size.
JEL classification: L26, M13

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1. Introduction

Governments worldwide increasingly promote entrepreneurial activity through policies and programs aimed at accelerating the entrepreneurial process (e.g., Hochberg, 2016; Merguei and Costa, 2022). These initiatives include seed accelerators, start-up competitions, and government-backed financing schemes, reflecting the belief that entrepreneurs who move quickly can seize fleeting opportunities and secure first-mover advantages (e.g., Stayton and Mangematin, 2019). However, there are also risks associated with promoting acceleration. When individuals are pushed to enter the market prematurely, they may make early entry mistakes, leading to start-ups that lack adequate preparation, resources, or capabilities (Camerer and Lovallo, 1999; Chen et al., 2018). This raises a central and policy-relevant question: Should the nascent phase of entrepreneurship—the period between the conception of a business idea and the official launch of a start-up—be accelerated or is it more beneficial to allow this phase to unfold steadily?

This nascent phase of entrepreneurship is crucial for acquiring resources, building capabilities, and reducing uncertainty (e.g., Reynolds and Miller, 1992; Castrogiovanni, 1996; Coad et al., 2025).[1] During this phase, entrepreneurs engage in business planning, market research, and fundraising, all of which can enhance survival and growth prospects; yet its optimal duration remains an open question. Despite substantial research on nascent entrepreneurial activities. (e.g., Brinckmann et al., 2010; Bennett and Chatterji, 2023), we still know little about whether accelerating or extending the nascent phase improves subsequent outcomes. In particular, evidence on how its duration shapes start-up size remains scarce. This relationship warrants investigation to clarify how preparation time translates into actual start-up size at founding. Such an understanding appears essential for determining whether an extended duration potentially serves as a strategic substitute for resource constraints or whether premature start-up inherently limits a firm's initial size. This study addresses this gap by examining how the duration of the nascent phase influences start-up size.

[1] The nascent period is sometimes also called the gestation period (Coad et al., 2025). In this study, we use the term *nascent phase* instead of *gestation period*.

Importantly, the benefits of preparation may differ across entrepreneurs with different levels of human capital because nascent entrepreneurial activity entails acquiring knowledge and skills and collecting information necessary to establish the new firm. In particular, prior experience can shape how effectively individuals use the nascent phase, suggesting that its value is heterogeneous. Specifically, for those with limited initial endowments, time becomes a non-substitutable input for resource accumulation.

By analyzing the interaction between preparation duration and prior experience, this study thus offers a more nuanced understanding of the entrepreneurial process. Using detailed survey data from a representative sample of new firms in Japan, we examine whether the duration of nascent entrepreneurial activity is related to start-up size and whether this relationship is moderated by entrepreneurs' prior experience. This study provides insights into the mechanisms linking preparation time to outcomes and offers implications for both policy and practice.

This study makes three contributions. First, we provide empirical evidence on the relationship between the duration of the nascent phase and start-up size, an area that has received little attention despite its importance for long-term firm trajectories (Coad et al., 2014; Coad et al., 2016). Second, we extend the resource-based view (RBV) to the entrepreneurial process by highlighting the role of prior management and industry work experience in moderating the value of preparation time. This contributes to the debate on "speed vs. deliberation" by showing that the optimal pace of entry is contingent on the entrepreneur's initial resource endowment. Third, our findings offer practical implications for policymakers, suggesting that entrepreneurial support should be tailored to individual human capital rather than following a standardized "acceleration" model.

The remainder of this paper is organized as follows. Section 2 reviews the related literature and develops the hypotheses. Section 3 describes the dataset and empirical model. Section 4 presents the estimation results along with several robustness checks. Section 5 summarizes the key findings and discusses their practical implications as well as the limitations of the study. The final section provides concluding remarks.

2. Background and hypotheses development

2.1. Nascent entrepreneurial activity and start-up size

New start-ups are expected to stimulate innovation, job creation, and economic growth (e.g., Aghion et al., 2009; Koellinger and Thurik, 2012; Haltiwanger et al., 2013). However, many exit within their first few years of operation (Bartelsman et al., 2005). A substantial body of research shows that the conditions under which start-ups enter the market—especially start-up size—persist and strongly shape their subsequent survival and growth (Mata et al., 1995; Geroski et al., 2010; Coad et al., 2016). For example, research on entry modes shows that spin-offs (or spinouts) often possess resource endowments obtained in previous employment and therefore exhibit superior performance (Helfat and Lieberman, 2002; Andersson and Klepper, 2013; Adams et al., 2016). Similarly, start-ups founded by entrepreneurs with higher levels of human capital such as business and managerial experience tend to begin larger and are more likely to succeed (Dahl and Reichstein, 2007; Coad et al., 2014). These considerations suggest that activities undertaken before start-up, including those conducted during the nascent phase, play an important role in determining start-up conditions, especially start-up size. However, despite the importance of start-up size at founding, no prior studies have directly examined how nascent entrepreneurial activity influences start-up size at founding.

Nascent entrepreneurs engage in a variety of preparatory activities—including market research, business planning, and fundraising—to acquire critical knowledge and resources before founding (Reynolds and Miller, 1992; Carter et al., 1996; Delmar and Shane, 2003; Wagner, 2006; Bennett and Chatterji, 2023; Coad et al., 2025). In the Global Entrepreneurship Monitor, nascent entrepreneurial activity refers to individuals who have taken concrete steps toward creating a business they will own but whose venture has not yet paid salaries or wages for more than three months; this distinguishes nascent entrepreneurs from new business owner-managers and is a core component of Total Early-stage Entrepreneurial Activity, a key metric from the Global Entrepreneurship Monitor (Reynolds et al., 2005).

Drawing on the RBV, we view the nascent phase as a critical period for accumulating strategic resources. From this perspective, organizational capabilities are built through the steady accumulation of resource stocks over time (Dierickx and Cool, 1989; Amit and Schoemaker, 1993). Strategic resources such as organizational legitimacy, supply networks, and specialized routines are path dependent, meaning that they derive from the specific history of preparatory activities carried out (Barney, 1991; Knott et al., 2003). Because these stocks are developed internally, they cannot be instantly acquired without a significant time investment (Helfat, 1994). The fundamental distinction here is that while resource flows can be adjusted instantaneously, strategic resource stocks cannot; therefore, the accumulation of these resources is inherently time dependent. Consequently, attempts to bypass this duration through rapid acceleration lead to "time compression diseconomies" (Dierickx and Cool, 1989), where the effectiveness of resource accumulation is diminished because the necessary sequence of preparation cannot be compressed without compromising the quality of the resulting resource base. As Dierickx and Cool (1989) illustrate, maintaining a consistent rate of effort over a longer interval produces a larger increment in the stock of know-how than doubling the effort over a shorter period. Thus, the duration of the nascent phase is not only a reflection of activity volume but also a fundamental constraint on the start-up's initial resource configuration. Consequently, the duration of the nascent phase is expected to be positively associated with the size of the firm at founding, as it allows for a more robust accumulation of strategic resource stocks.

The nascent phase is a formative period in which individuals transform their endowments into an initial configuration of resources and capabilities. Activities such as planning and outreach to lenders or investors help build legitimacy and facilitate access to financing for early hires and resources, while market research, testing, and expert consultation shape the entry decision and sequencing of pre-start-up tasks (Carter et al., 1996; Bennett and Chatterji, 2023). For these reasons, nascent entrepreneurial activities are likely to influence the conditions under which a new firm is launched.

Although some studies have examined nascent entrepreneurial activities, much of this work has focused on business plans.[2] For example, Castrogiovanni (1996) argues from a theoretical viewpoint that pre-start-up planning increases the probability of survival by helping entrepreneurs anticipate risks and allocate resources efficiently. Using a sample of 223 new firms in Sweden, Delmar and Shane (2003) show that pre-launch planning reduces the risk of a start-up disbanding by facilitating product development and organizational structuring. As an exception that directly addresses the speed to launch, Tian et al. (2019) find an inverted U-shaped relationship between preparation speed and profitability in a sample of 145 nascent entrepreneurs in China, suggesting that both overly rapid and overly delayed entry can harm performance.

Nevertheless, important gaps remain. Empirical evidence on the effects of the duration of nascent entrepreneurial activities is limited and the above studies rely on small, non-representative samples, raising concerns about the generalizability of their findings. Moreover, prior studies have examined survival or profitability but have not directly assessed how preparation influences start-up size at founding, a foundational condition known to shape long-term firm trajectories (Coad et al., 2014; Coad et al., 2016). Because start-up size is theoretically central to post-entry outcomes, understanding whether and how the duration of nascent entrepreneurial activities affects initial size is both analytically and practically significant.

Policymakers increasingly target this phase through training, financing, and incubation programs designed to lower entry barriers and support capability development (Stayton and Mangematin, 2019). Yet the nascent phase also entails important trade-offs. Rapid entry may allow entrepreneurs to seize market windows or obtain early-mover advantages (Lieberman and Montgomery, 1988), whereas premature entry risks failure because of insufficient resource accumulation (Lichtenstein et al., 2007). Longer preparation may produce two contrasting effects. It can simply generate delays during which little or no learning occurs,

[2] A substantial body of research has examined the link between business planning and performance (see Brinckmann et al., 2010 for a review). However, the vast majority of these studies focus on planning *after* start-up, whereas relatively few investigate the pre-start-up period during which nascent entrepreneurs prepare for start-up.

offering limited benefits for start-up size. Alternatively, additional time can facilitate learning, business plan refinement, and uncertainty resolution, thereby improving start-up conditions. However, excessively prolonged preparation may incur opportunity costs or result in diminishing returns (Tian et al., 2019), particularly because knowledge naturally decays over time (Karadag and Poppo, 2023). According to the bathtub metaphor of resource stock accumulation (Dierickx and Cool, 1989), these stocks naturally decay or erode in the absence of adequate maintenance flows. From this perspective, while a certain duration is required to overcome time compression diseconomies, an excessively long period may allow the accumulated resource stock to decrease through obsolescence. These considerations suggest that a sufficient duration of nascent entrepreneurial activity is essential for the effective accumulation of strategic resource stocks, which in turn facilitates larger start-up size. Based on this reasoning, we propose the following hypothesis:

H1: The duration of nascent entrepreneurial activity is positively associated with start-up size.

2.2. The moderating role of prior experience

According to the RBV, the effects of nascent entrepreneurial activities on start-up size may depend heavily on the entrepreneur's human capital (Colombo and Grilli, 2005). Prior management experience provides entrepreneur-specific human capital such as leadership and organizational skills (Brüderl et al., 1992; Staniewski, 2016; Jiao et al., 2023). Similarly, industry work experience provides industry-specific human capital such as sectoral knowledge and networks (Colombo and Grilli, 2010; Grilli, 2011; Kato, 2020). Integrating these into the framework of resource stock accumulation, we view these two types of experience as the initial resource stocks an entrepreneur carries into the nascent phase (Dierickx and Cool, 1989).

Managerial capabilities are developed through experiential learning and tacit knowledge accumulation (Hitt et al., 2001) and are strong predictors of start-up size (Dahl and Reichstein, 2007; Coad et al., 2014). Crucially, this experience shapes the value of preparation through the lens of time compression diseconomies. Entrepreneurs lacking management experience face resource constraints and cannot easily

bypass time compression diseconomies (Dierickx and Cool, 1989); they require a steady pace of accumulation because strategic resources are developed internally and cannot be purchased instantly (Amit and Schoemaker, 1993; Helfat, 1994). As Brinckmann et al. (2010) suggest, the effectiveness of planning and preparation is often limited for those who lack prior information and established routines. Because the effectiveness of preparation is initially limited by these shortcomings, entrepreneurs without prior experience must invest a more extensive period to compensate for the lower efficiency of their resource accumulation process. Because the successful accumulation of strategic resources is inherently time-consuming, these entrepreneurs must leverage the duration of the nascent phase to build stocks from a lower initial level. Any attempt to shorten the duration leads to time compression diseconomies, as the necessary sequence of preparation cannot be compressed without compromising quality.

Just as managerial routines require time to develop, industry-specific human capital is subject to the same logic of time compression diseconomies. Entrepreneurs who enter an industry without prior work experience in the related field are similarly constrained by the need for a non-compressible preparation period to establish critical supply networks and validated customer insights. Because these industry-specific resources are path dependent (Knott et al., 2003) and cannot be instantly acquired, the duration of the nascent phase becomes a vital substitute for the lack of initial sectoral endowments. Any attempt to bypass this process through rapid entry risks diminishing returns to effort, as these essential resources require a specific time path for stable accumulation (Dierickx and Cool, 1989).

By contrast, entrepreneurs with prior management or industry work experience begin with stronger initial endowments, so the marginal returns to prolonged preparation are lower. Within the context of time compression diseconomies, these experienced entrepreneurs are less constrained by the nascent phase because their prior human capital already satisfies the time-dependent requirements for resource accumulation. Their pre-existing stocks thus serve as an initial “resource mass” (Dierickx and Cool, 1989) that reduces the marginal gain from further time-consuming preparation. This is consistent with the finding that business planning yields greater returns for firms with prior operational information and routines in

place than for those without (Brinckmann et al., 2010). For these individuals, managerial and industry-specific human capital acts as a substitute for an extended preparation period during the nascent phase, as the necessary time-dependent accumulation has already occurred during their prior careers (Dierickx and Cool, 1989; Amit and Schoemaker, 1993). Extended preparation may impose opportunity costs or erode early-mover advantages (Lieberman and Montgomery, 1988). Using the bathtub metaphor (Dierickx and Cool, 1989), the risk of knowledge decay through obsolescence (Karadag and Poppo, 2023) outweighs the potential benefit of further preparation time.[3]

Based on these arguments, we suggest that prior management and industry work experience not only exert a direct positive effect on start-up size but also moderate the impact of preparation duration. Therefore, we present the following hypothesis:

H2: Prior experience (i.e., management and industry work experience) negatively moderates the effect of the duration of nascent entrepreneurial activities on start-up size.

Figure 1 summarizes these arguments, illustrating the conceptual framework of how prior experience and preparation duration interact to determine initial start-up size. Based on the RBV, experienced entrepreneurs start with a high marginal benefit from preparation owing to their pre-existing resource bundles, although these returns eventually reach a point of diminishing returns. By contrast, inexperienced entrepreneurs face time compression diseconomies if they launch too quickly; they require an extended duration to accumulate the necessary resources through a compensatory learning process. Consequently, the advantage gap between the two groups converges as formal preparation substitutes for a lack of prior experience, eventually leading to more comparable start-up size.

[3] Consistent with this, the benefits of entrepreneurial training vary by prior management experience (Battaglia et al., 2025).

3. Data and model

3.1. Data

Japan provides a particularly suitable setting to examine the implications of accelerating the entrepreneurial process. The country has long exhibited persistently low business start-up rates, hovering around 5% since the 1990s (Honjo, 2015). In response, the Japanese government has recently prioritized start-up support policies, launching a five-year plan in 2022 that explicitly sets quantitative targets to increase the number of start-ups 10-fold. These ambitious initiatives emphasize the short-term acceleration of entrepreneurial activity. Against this backdrop, Japan offers a valuable context to investigate whether compressing the nascent phase is beneficial or detrimental, thereby providing broader insights for both policy and practice.

To test our hypotheses, we draw on data from the *New Firm Start-up Panel Survey* conducted by the Japan Finance Corporation (JFC).[4] This survey covers firms that received start-up loans from the JFC and provides rich information on entrepreneur backgrounds, pre-start-up activities, financing methods, business performance, and management challenges. While the dataset includes 3,517 firms and is somewhat selective toward higher-quality firms among new firms, it has the unique advantage that all firms responded to the first-wave survey at the time of founding, eliminating concerns about non-response bias. For our analysis, we focus on the cohort of firms founded in 2016. After excluding observations with missing values, the final sample consists of 2,895 firms across a wide range of industries and regions.

This dataset has several strengths compared with other data sources in Japan. First, unlike official statistics such as the *Economic Census* conducted by the Ministry of Internal Affairs and Communications to provide a comprehensive structural snapshot of all establishments and enterprises in Japan, the JFC survey is specifically designed to capture the dynamic pre-entry process. Second, while private-sector databases such as those from Teikoku Databank provide highly valuable and unique data on entrepreneur and firm characteristics based on their independent credit investigations and original research, they typically lack

[4] The survey questionnaire is available at https://www.pdrc.keio.ac.jp/paneldata/datasets/corporate-panel/ (accessed August 17, 2025) but only in Japanese. Access to the individual-level data from the New Firm Start-up Panel Survey by the JFC was specially granted through the Panel Data Research Center at Keio University. However, to protect confidentiality and prevent the identification of individual firms, some variables (e.g., firm location and financing sources) are withheld from the dataset.

detailed information on the nascent phase such as the specific duration of preparation time. By contrast, our data allow for a granular analysis of pre-start-up activities that are not recorded in these credit-based or structural databases. Third, although the Global Entrepreneurship Monitor offers insights into nascent entrepreneurial activity, it is based on household surveys and often suffers from limited sample sizes for specific cohorts in Japan. Our data, derived from a large-scale sample of 2,895 verified start-ups, provide higher statistical power. However, one limitation is that because the JFC is a government-affiliated lender, the firms in our sample may be more formal and growth-oriented than the smallest mom-and-pop microenterprises. Nevertheless, this selectivity is balanced by the data's high reliability and breadth of pre-entry information, which are essential for examining the link between preparation time and start-up size.

3.2. Model

This study focuses on start-up size (firm size at founding) as the primary outcome. While the prior literature frequently employs post-entry outcomes such as survival probabilities and growth rates to measure success (Colombo and Grilli, 2005, 2010; Coad et al., 2016; Coad and Kato, 2021: Kato et al., 2022), these outcomes are heavily contingent on initial conditions at founding (e.g., Gambler's Ruin Theory; see Coad et al., 2013 for more details). Specifically, a larger initial scale acts as a buffer, enabling firms to better withstand the stochastic shocks characterizing post-entry growth (Coad et al., 2014). Consequently, the way entrepreneurs use the nascent phase to mobilize resources decisively shapes their long-term trajectories.[5] In addition, focusing on start-up size addresses practical data constraints. In the panel survey used in this study (2016–2020), response rates declined sharply after the second wave, introducing risks of response and survivorship bias. By using size at founding, we ensure a more reliable and comprehensive analysis of the effects of nascent entrepreneurial activities across the full sample.

Based on these considerations, we begin with the following baseline specification:

[5] This focus on start-up size is consistent with the imprinting perspective, which suggests that the conditions established at a firm's inception exert a lasting influence on its future evolutionary path (Geroski et al., 2010).

$$\textit{Start-up size}_i = \alpha + \beta_1 \textit{Duration}_i + \beta_2 \textit{Management experience}_i + \beta_3 \textit{Industry work experience}_i + \gamma X_i + \varepsilon_i, \quad (1)$$

where *Start-up size* represents start-up size, measured as the number of workers at founding (including the entrepreneur); this is the dependent variable. Unlike sales, which are realized only after start-up (market entry) and reflect post-entry outcomes, employment at founding directly indicates the resources mobilized at founding. Sales can also be highly volatile and shaped by external market conditions, whereas employment provides a more stable and comparable measure across firms. Consistent with prior studies (e.g., Mata and Machado, 1996; Geroski et al., 2010; Coad et al., 2014), we regard the number of workers as an appropriate and widely accepted indicator of start-up size.[6]

Duration is the key independent variable indicating the duration of nascent entrepreneurial activity. It is defined as the period from the initiation of concrete preparations such as searching for a location, seeking business partners, and recruiting employees to the official launch of the business.[7] Theoretically, this variable captures the time-dependent flow required to accumulate strategic resource stocks.

To capture entrepreneurs' human capital, we focus on two indicators: *Management experience*, which identifies entrepreneurs with previous managerial responsibilities (e.g., managers, company presidents, and executives), and *Industry work experience*, which indicates whether entrepreneurs have prior employment in a field related to their new business. As Brinckmann et al. (2010) suggest, the effectiveness of preparation and planning is largely contingent on whether an entrepreneur possesses prior information and established routines. X_i represents other entrepreneur-specific characteristics and control variables. To examine whether the effect of preparation duration depends on prior experience, we extend the model by including an interaction term between duration and prior experience:

[6] Coad et al. (2014, Table 1) provide a survey of previous studies on the determinants of start-up size, showing that 13 of the 15 reviewed papers use the number of employees as the proxy for start-up size.
[7] The survey collected information on both the date of business start-up and the date when preparation began, and we define duration as the difference between these two points.

$$\textit{Start-up size}_i = \alpha + \beta_1 \textit{Duration}_i + \beta_2 \textit{Management experience}_i + \beta_3 \textit{Industry work experience}_i + \beta_4(\textit{Duration}_i \times \textit{Experience}_i) + \gamma X_i + \varepsilon_i, \quad (2)$$

where $\textit{Experience}_i$ denotes either management experience or industry work experience. The models are estimated separately for each type of prior experience, allowing us to assess whether managerial or industry background moderates the relationship between preparation duration and start-up size, while avoiding the potential multicollinearity that might arise if both interactions were included simultaneously. Based on our theoretical framework, we expect the coefficient of the interaction term (β_4) to be negative. This expectation—rooted in time compression diseconomies—is particularly severe for entrepreneurs who lack established routines and prior operational information (Brinckmann et al., 2010). For these inexperienced individuals, duration is a non-substitutable input for resource accumulation. Conversely, for experienced entrepreneurs, prior routines act as a "substitute" for an extended nascent phase, thereby reducing the marginal gains from further preparation time.

In addition to the major independent variables, we include a set of controls for entrepreneur characteristics and firm attributes. Following previous studies (Bates, 1990; Kato and Honjo, 2015), we account for education (*Education*, a dummy for university-level education or higher), age at founding (*Age*, measured in months), and sex (*Male*, a dummy for male entrepreneurs) at the entrepreneur level. We also control for *Previous income* to capture financial constraints before start-up and for whether the entrepreneur expressed an intention to expand the business at founding (*Growth intention*). At the firm level, we include a dummy for *Joint stock company*, a dummy for *Independent firm*, and sector dummies to capture systematic industry differences.

Our empirical strategy involves estimating Poisson regression models given the count nature of the dependent variable. For the moderating effect test, we include the interaction terms between duration and management experience/industry work experience (*Duration* × *Management experience, Duration* × *Industry work experience*).

4. Results

4.1. Descriptive statistics

Figure 2 illustrates the distribution of the duration of nascent entrepreneurial activity. The majority of entrepreneurs completed their preparations within two years, although the distribution shows a long right tail, indicating that a smaller group engaged in substantially longer preparation. Table 1 provides the definitions and descriptive statistics of the variables used in the analysis. The average start-up size at founding (*Start-up size*) is relatively small, with entrepreneurs typically launching firms with an average of 3.069 workers (including the entrepreneur). The duration of nascent entrepreneurial activity (*Duration*) varies considerably, reflecting the diverse pathways to business creation; the average duration is 8.832 months with a standard deviation of 10.934. In terms of background, about 41.5% of entrepreneurs possess prior management experience (*Management experience*), while over 82.6% have worked in related industries (*Industry work experience*).

The sample also shows that most entrepreneurs are men (80.7%), a substantial proportion indicate intentions to expand their businesses (65.1%), and the vast majority (93.0%) operate as independent firms.

Table A1 in the Appendix presents the sectoral distribution of the 2,895 start-ups in the sample. The largest shares are found in services (25.9%), healthcare (17.0%), and restaurants (15.9%), followed by retail (11.1%) and construction (9.5%), whereas other sectors show smaller proportions. Table A2 in the Appendix reports the correlation matrix of the variables.

4.2. Estimation results

Table 2 shows the results of Poisson regressions for the full sample. In column (i), without the interaction term, *Duration* is not significant. In column (ii), which includes the interaction term, the main effect of *Duration* on *Start-up size* is positive and statistically significant, whereas the *Duration* × *Management experience* interaction is negative and significant. This aligns with the conceptual model in Figure 1, indicating that entrepreneurs with managerial experience face diminishing—if not negative—returns to extended preparation. As shown in column (iii), the results for industry work experience show a similar

pattern: the main effect of *Duration* is positive and significant, whereas the *Duration* × *Industry work experience* interaction is negative and significant. This indicates that longer preparation generally increases start-up size but this benefit is concentrated among entrepreneurs without prior industry work experience, for whom extended preparation helps compensate for their lack of sector-specific knowledge and networks.

These findings provide strong empirical evidence for the substitution effect between formal preparation and prior human capital, as proposed in our RBV framework. However, for entrepreneurs with management and industry work experience, the marginal gains from longer preparation are weaker or absent, consistent with the notion that their accumulated tacit knowledge and initial resource stocks allow them to bypass lengthy planning phases without compromising initial start-up size.

Among the control variables, *Age*, *Previous income*, and *Joint stock company* are strongly and positively associated with larger start-up size, whereas *Independent firms* tend to be smaller, possibly reflecting the resource advantages of franchise systems or corporate start-ups compared with purely autonomous start-ups. Overall, these findings underscore the importance of simultaneously considering preparation time and entrepreneurial background.

Figure 3(a) shows adjusted predictions by management experience for durations between 0 and 24 months. The curve for entrepreneurs with management experience slopes downward, whereas that for those without experience slopes mildly upward. This indicates that additional preparation yields negative returns for experienced entrepreneurs but positive returns for inexperienced ones, consistent with the negative *Duration* × *Management experience* interaction in Table 2. Figure 3(b) presents adjusted predictions by industry work experience. Entrepreneurs with industry work experience show a downward slope, indicating that longer preparation reduces expected start-up size. By contrast, entrepreneurs without industry work experience display a clearly upward-sloping curve, implying that extended preparation contributes to larger start-up size. This divergence is consistent with the *Duration* × *Industry work experience* interaction in Table 2.

Notably, in both cases, the two curves intersect at 15–17 months. Beyond this intersection point, the predicted start-up size for inexperienced entrepreneurs surpasses that for their experienced counterparts. This suggests that sufficiently long preparation can compensate for a lack of initial human capital, whether managerial or industry-specific. This divergence not only aligns with the interaction effects in Table 2 but also mirrors the convergence paths in Figure 1, confirming that preparation duration and prior experience act as functional substitutes in the resource accumulation process.

These results suggest that both H1 and H2 are supported.

4.3. Robustness checks

We conducted additional estimations as robustness checks. First, we restricted the sample to firms with growth intentions (*Growth intention*=1) because entrepreneurs without such aspirations are unlikely to aim for larger start-up size at founding.[8] The results for this subsample in Table 3 are broadly consistent but reveal some differences. In column (ii), *Duration* is not significant, whereas *Duration* × *Management experience* remains negative and significant, reinforcing the substitution effect between managerial experience and lengthy preparation. By contrast, neither duration nor its interaction with *Industry work experience* is significant in this subsample. This suggests that among growth-oriented entrepreneurs, sector-specific knowledge plays a limited role in shaping how preparation time translates into start-up size. One interpretation is that growth-oriented founders, regardless of their industry background, may prioritize rapid increases in size and aggressive resource mobilization, which overrides the typical compensatory role of preparation time observed in the full sample. These results imply that entrepreneurial growth aspirations condition the ways in which experience and preparation affect start-up size.

Second, we adopted an instrumental variable (IV) approach because *Duration* is potentially endogenous. For instance, more capable or ambitious entrepreneurs may simultaneously choose shorter

[8] As another robustness check, we re-estimated the models using a truncated negative binomial specification. This approach may be appropriate because our dependent variable, start-up size, takes only positive integer values and exhibits over-dispersion, which may not be fully captured by the Poisson model. The truncation at one further accounts for the fact that start-ups necessarily begin with at least one worker (the entrepreneur). The results from the truncated negative binomial model are highly consistent with our main Poisson estimates, reinforcing the robustness of our findings.

preparation periods and larger starting sizes, which would downwardly bias the conventional estimates of *Duration*. Entrepreneurs may choose longer or shorter preparation periods based on unobserved characteristics such as ambition, managerial ability, and access to informal resources, which can also directly influence start-up size. Moreover, reverse causality may arise if entrepreneurs planning larger projects deliberately extend the preparation period. In such cases, conventional Poisson estimates would be biased. The IV strategy addresses this concern by exploiting exogenous sources of variation in preparation duration, thereby allowing for the consistent estimation of its causal effect on start-up size.

As our instrument, we construct an interaction term between the lagged industry-level separation rate and a dummy indicating that the entrepreneur reported having no alternative employment opportunities as the reason for starting a business (*Separate_altemp*).[9] The industry-level separation rate reflects exogenous variation in labor market instability across industries and years, which is unlikely to directly determine start-up size once sectoral controls are included. At the same time, necessity-driven entrepreneurs—those reporting no alternative employment opportunities—are particularly sensitive to labor market shocks and therefore more likely to adjust their preparation duration in response. The interaction thus satisfies the relevance condition by capturing heterogeneous exposure to exogenous labor market fluctuations, while the exclusion restriction is plausible because industry-level separation rates should not directly influence the initial firm size beyond their effect on preparatory activities. Consistent with the relevance and validity of the instrument, Table A2 in the Appendix shows that this instrument is strongly and significantly correlated with the endogenous regressor (*Duration*) but not significantly correlated with the dependent variable (*Start-up size*), supporting both its relevance and its validity. In addition, although not reported in the tables, the first-stage regressions of the IV Poisson model confirm that the instrument has a strong and statistically significant effect on *Duration*.

[9] Using region-level variables as instruments would have been one possible option. However, in the dataset we were provided, regional identifiers are withheld to avoid the risk of disclosing individual firms. Therefore, we could not exploit variation at the regional level. Instead, we combined coarse industry-level information with available firm-level characteristics to construct an appropriate instrument. Within these constraints, the chosen instrument represents the most feasible and credible option.

Table 4 reports the results from the IV Poisson regressions, where marginal effects rather than coefficients are presented.[10] In the non-IV Poisson models (Tables 2 and 3), we explicitly included interaction terms between *Duration* and the variables for prior experience. However, incorporating such interaction terms is challenging in the IV setting. Therefore, instead of interacting variables directly, we split the sample according to prior experience and compared the marginal effects of *Duration* across the subsamples. Column (i) shows the estimates for the full sample, indicating that *Duration* has a significantly positive effect on start-up size. Columns (ii) and (iii) present the subsample estimates by *Management experience*. The results reveal that *Duration* has no significant effect among entrepreneurs with management experience, whereas it exerts a positive and significant effect among those without such experience. Columns (iv) and (v) split the sample by *Industry work experience*. In both subsamples, *Duration* has a positive effect but the marginal effect is substantially larger for entrepreneurs without prior industry work experience than for their counterparts with such experience. Notably, the marginal effect of *Duration* in the IV model is substantially larger than the coefficients in the non-IV models. This discrepancy suggests that the causal impact of preparation on start-up size is masked by endogeneity in simpler specifications. From the perspective of the RBV and time compression diseconomies, this may indicate that while preparation facilitates resource accumulation, its effectiveness depends on the pre-existing resource base of the entrepreneur. Overall, these results demonstrate that the impact of preparation duration is not only statistically significant but also moderated by prior experience, thereby providing further support for our hypotheses.

5. Discussion

5.1. Summary of the findings

Using data on Japanese start-ups, this study shows that the effect of the duration of nascent entrepreneurial activity on start-up size is not uniform. Extended preparation benefits entrepreneurs without management

[10] The first-stage results of the IV Poisson model are available from the authors upon request.

or industry work experience, whereas experienced entrepreneurs achieve comparable outcomes with a shorter duration of nascent entrepreneurial activity. From the perspective of the RBV, prior experience represents a critical intangible resource that allows entrepreneurs to identify and mobilize the necessary inputs efficiently. For those lacking such a resource base, extended preparation serves as a compensatory mechanism to accumulate the requisite capabilities. Notably, our findings suggest that this compensatory process is so effective that inexperienced entrepreneurs can eventually surpass their experienced counterparts in terms of start-up size if they dedicate sufficient time to preparation. These results thus highlight that the value of preparation depends critically on entrepreneurs' backgrounds, with duration acting as a functional substitute for prior human capital. Furthermore, the finding that compressed preparation time does not necessarily lead to larger start-up size—especially for novices—supports the notion of time compression diseconomies, where rapid resource accumulation leads to decreasing returns because of the path-dependent nature of learning and networking. These insights caution against one-size-fits-all acceleration programs and suggest that policies and strategies should be tailored to different types of entrepreneurs to improve their effectiveness.

5.2. Practical implications

The findings carry important implications for policymakers and entrepreneurs. From a public policy perspective, they caution against one-size-fits-all acceleration programs that assume all entrepreneurs benefit equally from rapid entry. Instead, policy support should be differentiated by experience level. Novice entrepreneurs—who lack managerial or industry work experience—are more responsive to programs that emphasize capability building, structured planning, and resource mobilization. For these individuals, attempting to accelerate the process may trigger time compression diseconomies, resulting in an insufficient resource base at founding. By contrast, experienced entrepreneurs already possess relevant human capital and require less extensive preparation, as they can leverage their existing networks and tacit knowledge. Therefore, they would benefit more from targeted support such as access to finance, networks, and specialized expertise. More broadly, policymakers should focus on improving the quality of preparatory

activities such as expert consultation, financial planning, and business model validation, rather than simply reducing time-to-market.

From a managerial perspective, the findings suggest that entrepreneurs should align their preparation strategies with their backgrounds. Novice entrepreneurs are advised to devote more time to structured planning, training, and mentoring to compensate for their limited experience. They should recognize that rushing the preparation phase can be counterproductive because of the limits of rapid learning. By contrast, experienced entrepreneurs should avoid unnecessary delays and focus on high-value targeted tasks that complement their existing resource bundles. Such alignment enables the more efficient use of resources and increases the initial size of new start-ups.

5.3. Limitations and future research

Several limitations should be acknowledged. First, although this study highlights the potential drawbacks of accelerating the entrepreneurial process, it does not directly assess policy interventions designed to promote rapid start-up entry. Instead, the results suggest that reducing preparation time is not invariably beneficial and that its value depends on entrepreneurs' background and experience. Future research could benefit from directly evaluating the effectiveness of start-up acceleration policies to complement the insights of this study. Second, because the sample is restricted to firms that received start-up loans from the JFC, the external validity of the findings may be limited, as these start-ups are likely to represent relatively high-quality firms. Third, the dataset excludes entrepreneurs who initiated but abandoned the entrepreneurial process, raising the possibility of survivorship bias. Incorporating data on failed attempts would allow for a more robust estimation of how human capital and preparation truly mitigate the risks of early-stage exit. Finally, the analysis focuses on start-up size as the key outcome, whereas future research could include longer-term measures such as survival, growth trajectories, and profitability. Investigating how the interaction between preparation duration and experience affects long-term performance would provide a more comprehensive test of the RBV and time compression diseconomies in the entrepreneurial context.

6. Conclusions

This study examined the relationship between the duration of nascent entrepreneurial activity and start-up size, focusing on how this relationship was moderated by an entrepreneur's prior human capital. Using a large sample of Japanese start-ups, the analysis indicated that the effect of preparation duration differs across entrepreneurs. While experienced entrepreneurs could leverage their prior human capital stocks to launch at a comparable size with shorter preparation, novice entrepreneurs achieved larger start-up size through a more extended nascent phase. These findings suggest that for those without prior experience, a longer duration serves as a compensatory mechanism to accumulate the necessary resource stocks—consistent with the RBV—and mitigate potential time compression diseconomies. Ultimately, the results imply that the optimal pace of the entrepreneurial process is contingent on the initial resources and experience that an entrepreneur possessed at the onset of the start-up.

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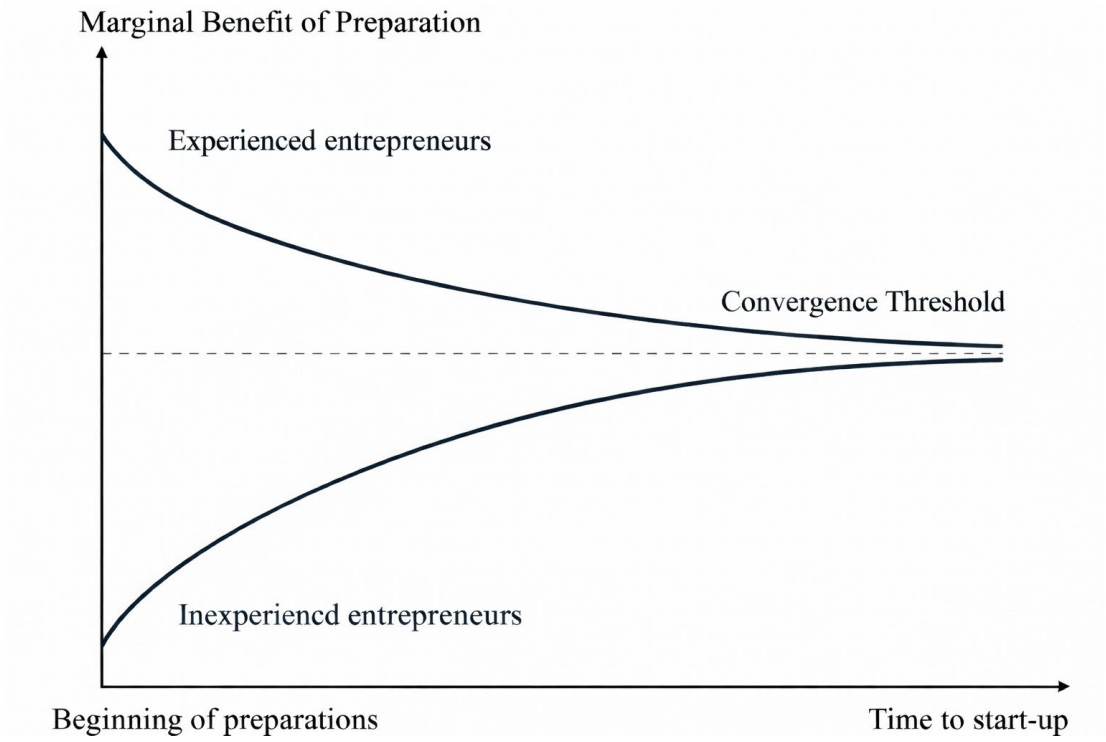


Figure 1. Hypothetical relationship between the duration of nascent entrepreneurial activities (from the beginning of preparation to the time to start-up) and entrepreneurs' marginal benefit of preparation according to prior experience.

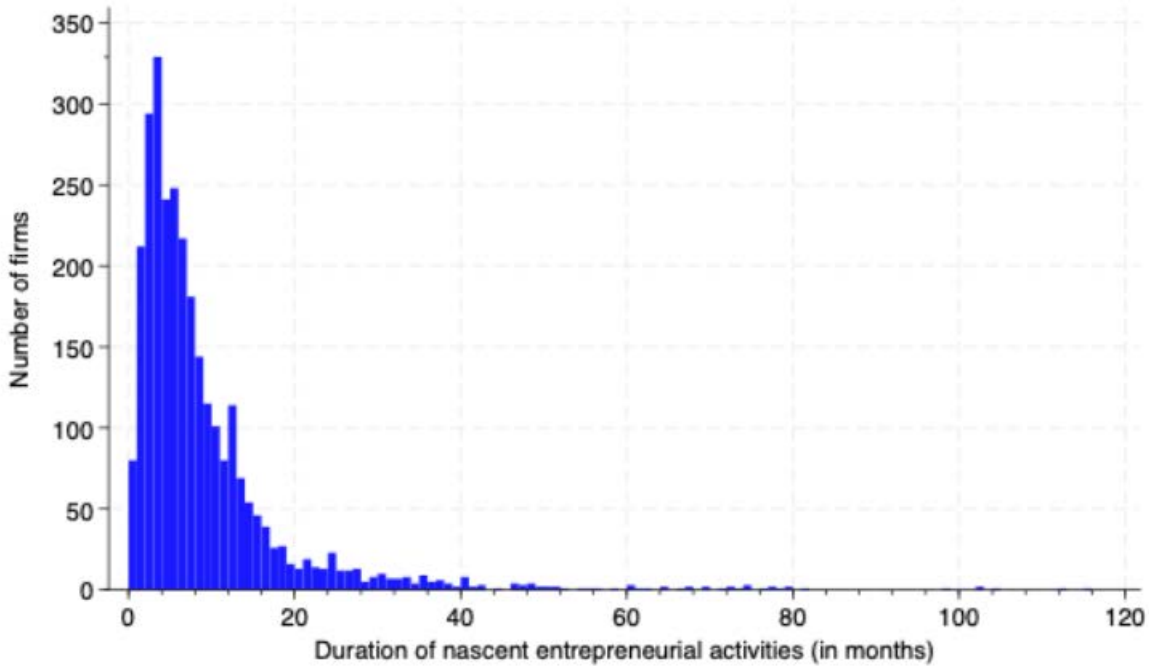
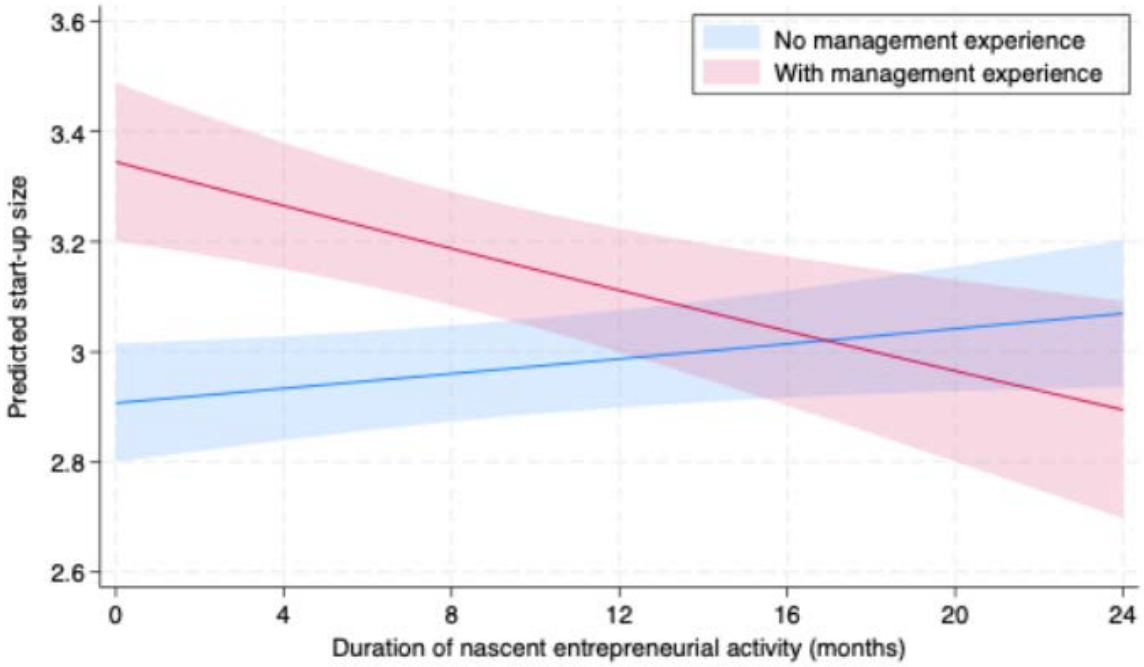


Figure 2. Distribution of the duration of nascent entrepreneurial activities.

(a) Management experience



(b) Industry work experience

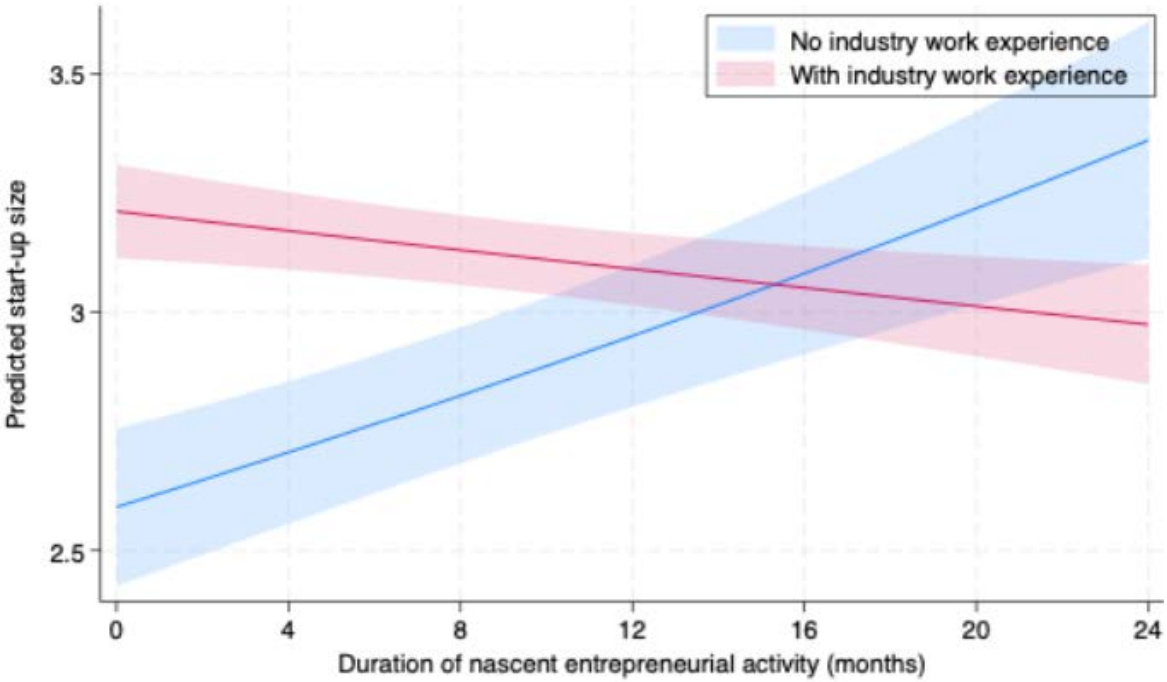


Figure 3. Predicted start-up size by previous experience.
Notes: Predicted start-up size from the Poisson regressions with log link; 95% CIs are pointwise and computed via the delta method with robust standard errors. The x-axis is truncated to the observed support (0–24 months).

Table 1. Definitions and descriptive statistics of the variables (*N*=2895).

Variable	Definition	Mean	Std. dev.
(Dependent variable)			
Start-up size	Number of workers (including the entrepreneur) at start-up.	3.069	3.942
(Major independent variables)			
Duration	Duration from the beginning of actual preparations for starting the business (e.g., considering locations, searching for business partners, recruiting employees) to the launch of the business (in months).	8.832	10.934
Management experience	Dummy variable: 1 if the entrepreneur has prior management experience in other firms (work experience at the management level, company president or executive), 0 otherwise.	0.415	0.493
Industry work experience	Dummy variable: 1 if the entrepreneur has prior work experience in related businesses, 0 otherwise.	0.826	0.379
(Other variables)			
Education	Dummy variable: 1 if the entrepreneur has university-level education (undergraduate or graduate level), 0 otherwise.	0.354	0.478
Age	The entrepreneur's age at start-up (in months).	510.254	115.385
Male	Dummy variable: 1 if the entrepreneur is male, 0 if female.	0.807	0.395
Previous income	Logarithm of the entrepreneur's income before start-up (monthly).	36.066	27.367
Growth intention	Dummy variable: 1 if the entrepreneur intends for the firm to expand, 0 otherwise.	0.651	0.477
Joint stock company	Dummy variable: 1 if the firm is started as a joint-stock company, 0 otherwise.	0.283	0.451
Independent firm	Dummy variable: 1 if the firm is started as an independent firm, 0 if the firm is affiliated with a franchise.	0.930	0.256
Separate_altemp	An interaction term between the lagged industry-level separation rate and a dummy indicating that the entrepreneur reported having no alternative employment opportunities.	0.191	1.921
Sector dummies	Dummy variables for different sectors (see Table A1).	-	-

Table 2. Poisson regressions: the full sample.

Variable	(i) *Start-up size*	(ii) *Start-up size*	(iii) *Start-up size*
(Major independent variables)			
Duration	0.000	0.002*	0.011***
	(0.001)	(0.001)	(0.002)
Management experience	0.069***	0.140***	0.070***
	(0.023)	(0.030)	(0.023)
Industry work experience	0.085***	0.085***	0.215***
	(0.029)	(0.029)	(0.036)
Duration × Management experience		-0.008***	
		(0.002)	
Duration × Industry work experience			-0.014***
			(0.002)
(Other variables)			
Education	-0.002	0.002	-0.003
	(0.023)	(0.023)	(0.023)
Age	0.0005***	0.0005***	0.0005***
	(0.000)	(0.000)	(0.000)
Male	0.043	0.046	0.038
	(0.030)	(0.030)	(0.030)
Previous income	0.004***	0.003***	0.004***
	(0.000)	(0.000)	(0.000)
Growth intention	0.004	0.002	0.006
	(0.024)	(0.024)	(0.024)
Joint stock company	0.264***	0.260***	0.261***
	(0.026)	(0.026)	(0.026)
Independent firm	-0.666***	-0.665***	-0.670***
	(0.034)	(0.034)	(0.034)
Constant term	0.368***	0.343***	0.267**
	(0.112)	(0.113)	(0.114)
Sector dummies	Yes	Yes	Yes
Observations	2,895	2,895	2,895
Log likelihood	0.112	0.113	0.114
Pseudo R^2	-6879.720	-6872.388	-6862.699

Note: Standard errors in parentheses. *** $p<0.01$, ** $p<0.05$, * $p<0.1$.

Table 3. Poisson regressions: *firms with growth intention* (*Growth intention*=1).

Variable	(i) *Start-up size*	(ii) *Start-up size*	(iii) *Start-up size*
(Major independent variables)			
Duration	-0.001	0.002	-0.001
	(0.001)	(0.002)	(0.003)
Management experience	0.075***	0.134***	0.075***
	(0.028)	(0.036)	(0.028)
Industry work experience	0.121***	0.121***	0.120***
	(0.035)	(0.035)	(0.044)
Duration × Management experience		-0.007***	
		(0.003)	
Duration × Industry work experience			0.000
			(0.003)
(Other variables)			
Education	0.018	0.021	0.018
	(0.028)	(0.028)	(0.028)
Age	0.0002*	0.0002*	0.0002*
	(0.000)	(0.000)	(0.000)
Male	-0.025	-0.023	-0.025
	(0.039)	(0.039)	(0.039)
Previous income	0.003***	0.003***	0.003***
	(0.000)	(0.000)	(0.000)
Joint stock company	0.226***	0.223***	0.226***
	(0.030)	(0.030)	(0.030)
Independent firm	-0.718***	-0.715***	-0.718***
	(0.040)	(0.040)	(0.040)
Constant term	0.693***	0.665***	0.694***
	(0.137)	(0.138)	(0.139)
Sector dummies	Yes	Yes	Yes
Number of observations	1,885	1,885	1,885
Log likelihood	-4274.398	-4270.765	-4274.398
Pseudo R^2	0.132	0.133	0.132

Note: Standard errors in parentheses. *** $p<0.01$, ** $p<0.05$, * $p<0.1$.

Table 4. IV Poisson regressions (marginal effects).

		Management experience		*Industry work experience*	
	Full sample	= 0	= 1	= 0	= 1
Variable	(i) dy/dx	(ii) dy/dx	(iii) dy/dx	(iv) dy/dx	(v) dy/dx
(Endogenous variable)					
Duration	0.109***	0.114**	0.122	0.217***	0.095**
	(0.040)	(0.050)	(0.080)	(0.084)	(0.043)
(Major independent variables)					
Management experience	0.468*			0.500	0.467*
	(0.248)			(0.694)	(0.244)
Industry work experience	0.142	0.016	0.372		
	(0.269)	(0.359)	(0.400)		
(Other variables)					
Education	-0.198	0.166	-0.67	-1.467*	0.051
	(0.257)	(0.308)	(0.794)	(0.747)	(0.240)
Age	0.002*	0.004	0.000	0.006	0.002**
	(0.001)	(0.003)	(0.002)	(0.006)	(0.001)
Male	0.173	0.517	-0.290	-0.932	0.377
	(0.278)	(0.493)	(0.683)	(0.995)	(0.306)
Previous income	0.008**	0.001	0.017**	0.005	0.008**
	(0.004)	(0.008)	(0.008)	(0.009)	(0.004)
Growth intention	-0.115	-0.059	-0.247	0.628	-0.087
	(0.328)	(0.382)	(0.636)	(0.654)	(0.317)
Joint stock company	1.079***	0.962***	1.217**	2.116*	1.044***
	(0.306)	(0.344)	(0.591)	(1.252)	(0.310)
Independent firm	-2.407***	-2.627***	-2.221**	-3.600*	-2.608***
	(0.470)	(0.599)	(0.871)	(1.882)	(0.460)
Sector dummies	Yes	Yes	Yes	Yes	Yes
Number of observations	2895	1695	1200	503	2392

Note: Standard errors in parentheses. *** $p<0.01$, ** $p<0.05$, * $p<0.1$. *Separate_altemp* is used as an instrumental variable in the first stage explaining *Duration*.

Appendix

Table A1. Sectoral distribution in the sample.

Sector	*N* of firms	%
(1) Construction	276	9.53%
(2) Manufacturing	105	3.63%
(3) Information & Communication	80	2.76%
(4) Transportation	78	2.69%
(5) Wholesale	130	4.49%
(6) Retail	320	11.05%
(7) Restaurant	461	15.92%
(8) Accommodation	9	0.31%
(9) Healthcare	491	16.96%
(10) Educational services	87	3.01%
(11) Services (excluding 8–10)	751	25.94%
(12) Real estate	88	3.04%
(13) Other sectors	19	0.66%
Total	2895	100.00%

Table A2. Correlation matrix of the variables (*N*=2895).

Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Start-up size	1											
Duration	0.004	1										
Management experience	0.067**	-0.069**	1									
Industry work experience	-0.031	0.008	-0.023	1								
Education	0.030	0.017	0.036	-0.082**	1							
Age	0.064**	-0.041*	0.253**	-0.147**	0.075**	1						
Male	0.040*	0.017	0.140**	0.101**	-0.013	-0.080**	1					
Previous income	0.128**	0.005	0.240**	-0.004	0.142**	0.156**	0.252**	1				
Growth intention	0.013	-0.037*	0.122**	-0.030	0.082**	-0.074**	0.158**	0.117**	1			
Joint stock company	0.060**	-0.096**	0.282**	-0.005	0.119**	0.148**	0.133**	0.275**	0.217**	1		
Independent firm	-0.180**	0.016	-0.045*	0.202**	-0.065**	-0.032	-0.060**	-0.020	-0.046*	0.038*	1	
Separate_altemp	-0.014	-0.049**	0.004	0.003	0.009	0.054**	-0.016	-0.010	-0.008	0.004	-0.016	1

Note: ** $p<0.01$, * $p<0.05$.