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Nikiforou, Argyro (Iro); Dencker, John C.; Gruber, Marc

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Necessity entrepreneurship and industry choice in new firm creation

Argyro (Iro) Nikiforou¹ | John C. Dencker² | Marc Gruber³

¹Centre for Technology Entrepreneurship, Technical University of Denmark, Lyngby, Denmark

²D'Amore-McKim School of Business, Northeastern University, Boston, Massachusetts

³College of Management of Technology, Ecole Polytechnique Fédérale de Lausanne, Lausanne, Switzerland

Correspondence

Argyro (Iro) Nikiforou, Technical University of Denmark, Centre for Technology Entrepreneurship, Produktionstorvet 426, 125, 2800 Kgs. Lyngby, Denmark.
Email: argnik@dtu.dk

Abstract

Research Summary: Research on necessity entrepreneurship has generated important insights, yet it views necessity entrepreneurs in developed countries as one encompassing group of unemployed individuals—ignoring that the level of need is not uniform but instead increases with time spent in unemployment. We begin to unpack the role of unemployment duration in necessity entrepreneurship by asking how it affects one of the most fundamental decisions in start-ups: “what business should I be in?” Analyzing primary data on 576 necessity entrepreneurs combined with three secondary data sets, we find that unemployment duration affects whether ventures are launched in “home” or in external industries, and moderates the extent to which founders' industry experience and the attractiveness of external opportunities relative to those in the “home” industry shape industry choice.

Managerial Summary: Necessity entrepreneurs—individuals who create new firms because they have no other options for work—represent a substantial proportion of world-wide entrepreneurial activity, and, in developed countries, often come from the ranks of the unemployed. We analyze these entrepreneurs by answering the question “what business should I be in?,” a fundamental strategic decision that

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founders make. Our findings reveal that duration in unemployment is a key, hitherto unexamined factor that systematically affects the industry-choice decision in startups. Moreover, we find that duration of unemployment moderates the founder's industry experience and the attractiveness of external opportunities relative to those in the "home" industry, with a markedly different picture for the long-term unemployed—suggesting the need for customized government policies for formerly unemployed entrepreneurs.

KEYWORDS

early-stage strategic choices, founders, industry choice, necessity entrepreneurship, new firm strategy

1 | INTRODUCTION

Necessity entrepreneurs—individuals who create new firms because they find “themselves with no other options for work than self-employment” (Acs, 2006, p. 98)—represent a substantial proportion of entrepreneurial activity around the world, accounting for more than half of all entrepreneurs in developing countries, and roughly one-fifth in developed countries (Global Entrepreneurship Monitor, 2017; Vivarelli, 2013). Although a general appreciation of necessity entrepreneurship and its outcomes is evident in the literature (cf. Caliendo & Kritikos, 2010; Dencker, Bacq, Gruber, & Haas, in press), a closer inspection of this work indicates that research has focused mostly on bottom-of-the-pyramid individuals in the developing world (Brewer & Gibson, 2014). It would, however, be desirable to improve our knowledge of necessity entrepreneurship in developed countries—where necessity entrepreneurs often come from the ranks of the unemployed—because such findings would allow a clear comparison with the vast literature on opportunity entrepreneurship, and could reveal boundary conditions of existing theoretical insights.

From a conceptual perspective, the current framing of necessity entrepreneurship lumps necessity entrepreneurs into one encompassing group of unemployed individuals (e.g., Global Entrepreneurship Monitor, 2017; ILO, 2012). This predominant approach thus ignores that the level of need will increase the longer an individual is unemployed, and renders researchers blind to differences that an individual's level of need may have on his or her organizational-level decisions. Arguably, at the beginning of an unemployment spell, necessity entrepreneurs may not be much different from employee entrepreneurs (Agarwal, Echambadi, Franco, & Sarkar, 2004; Campbell, Ganco, Franco, & Agarwal, 2012; Gambardella, Ganco, & Honoré, 2014; Ganco, 2013). As unemployment spells increase in length, however, individuals will experience greater levels of need: not only will they feel increasingly distressed as unemployment deprives them of key psychological needs that employment fulfills (Paul & Moser, 2009), but they will also be pressured by the depreciation of their financial, human and social capital (Storey, 1991). Hence, an important implication is that necessity entrepreneurs who are short-term unemployed will likely behave in ways similar to opportunity entrepreneurs when setting up their firms, whereas the long-term unemployed are likely to behave in considerably

different ways (Boyce, Wood, Daly, & Sedikides, 2015). By investigating the duration of an individual's unemployment spell and its effect on new firm creation, we hope to bring much needed nuance into our understanding of necessity entrepreneurship, and to advance theory that reconciles disparate predictions obtained from work on opportunity entrepreneurship on one hand, and from employment research on increasing need levels and ensuing behavioral changes of the unemployed on the other hand.

In order to demonstrate our claims regarding effects of unemployment duration on new venture creation, we examine one of the most fundamental strategic decisions that entrepreneurs face when setting up their firms, that is, “what business should I be in?” (Abell, 1980; Gruber & Tal, 2017; Hofer & Schendel, 1978). Theory on opportunity entrepreneurship and studies of the role of capabilities in market entry indicate that entrepreneurs typically launch their businesses in the industry in which they gathered experience (their “home” industry), not least because of the considerable benefits that industry experience can provide in new firm creation (Cooper, Gimeno-Gascon, & Woo, 1994; Dencker & Gruber, 2015; Helfat & Lieberman, 2002; Helfat & Raubitschek, 2000). Case in point, research on employee entrepreneurship (Agarwal et al., 2004) defines the phenomenon as “the intra-industry founding of a new venture by an individual who previously worked for an incumbent firm” (Ganco, 2013, p. 666). Similarly, Fern, Cardinal, and O'Neill (2012) document that founders' pre-entry experience significantly constrains initial strategy choices. However, drawing on the aforementioned general arguments from employment research, one may expect that the longer the unemployment spell of necessity entrepreneurs, the more will they differ from opportunity entrepreneurs in firm-related behaviors and actions, even when it comes to fundamental decisions such as industry choice in start-ups. That is, as necessity entrepreneurs face depreciating human and social capital and a growing need to generate an income, they may increasingly be tempted to leave their industry experience behind and consider setting up their businesses in other industry domains, particularly if these external industries offer more fertile ground than their home industries do (Shane, 2004). In effect, the consideration of other industry domains (the “*opportunity landscape*”) could be especially pertinent for necessity entrepreneurs, as they tend to be located in underperforming industries.¹

We draw on strategy, entrepreneurship and employment research to develop hypotheses on how the *duration of unemployment* affects the founder's industry-choice decision, taking into account the founder's *industry experience* and the relative *attractiveness of the opportunity landscape* (i.e., the attractiveness of external industries relative to the founder's home industry). We test our predictions by analyzing a unique dataset of 576 individuals who transitioned from unemployment to entrepreneurship in Greece. We combine the primary data with secondary data on industry-specific characteristics obtained from three third-party sources. This research context lends itself well to a study of necessity entrepreneurship, since Greece was hit extremely hard by the European economic crisis: for the period we study empirically (2008–2013), its GDP decreased by 25%, with the unemployment rate being, on average, 17% of the labor force during this time period (Eurostat, 2015). From an econometric perspective, this research context allows us to observe substantial variation in our variables of interest. For instance, the ventures in our sample were created in many different industries, and there are key differences in unemployment spell length, indicating critical variance in the level of need of the individuals that we study.

¹By asking how unemployment duration affects the industry choice decision, we can bring to the forefront the notion of the opportunity landscape—a notion that, despite its importance, is surprisingly little studied (McMullen & Shepherd, 2006), arguably due to the aforementioned focus on home industry venturing (e.g., Agarwal et al., 2004) and to a more general lack of research on crucial pre-launch choices in new firm creation (Fern et al., 2012).

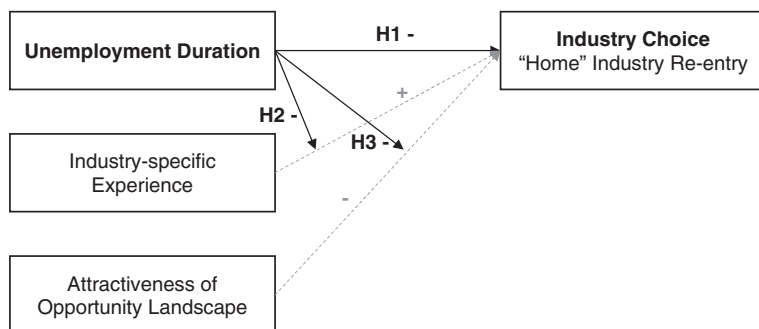
2 | HYPOTHESES DEVELOPMENT: UNEMPLOYMENT DURATION AND INDUSTRY CHOICE IN NECESSITY ENTREPRENEURSHIP

Drawing on general accounts of how an increasing unemployment duration can give rise to different ways of thinking, behaving and acting (Boyce et al., 2015), we argue that individual-level differences in unemployment duration will affect organizational-level decisions and, in particular, one of the most important strategic decisions taken by entrepreneurs, namely: “what business should I be in?” (Abell, 1980; Hofer & Schendel, 1978). As prior work indicates, the industry in which a new business is located not only defines a fundamental feature of the organization and affects venture creation in a path-dependent manner (Boeker, 1989), but also shapes its performance potential (Gruber, MacMillan, & Thompson, 2008; McDougall, Covin, Robinson, & Herron, 1994). In effect, because a venture's industry defines its economic setting, it affects in key ways whether a new firm can flourish. For instance, evidence shows that industries diverge significantly in terms of their attractiveness for new firms, with some offering more fertile ground than others (Shane, 2004). These observations from entrepreneurship research mirror the longstanding discourse in strategy on the importance of industry effects in shaping firm performance (Porter, 1985; Sohl, Vroom, & Fitz, in press). For example, McGahan and Porter (1997, p. 29) suggest that industry directly accounts for 36% of explained variation in business-specific profits, and that “industry effects are more persistent over time than business-specific or corporate-parent effects.”

Although the industry setting in which a new firm is created has a fundamental effect on the emerging organization and its future performance, the notion that nascent entrepreneurs consider various industry settings (opportunities) prior to deciding which business they should be in remains underdeveloped—in no small part because the founder's prior experience (in particular, employment experience) constrains the strategic choices considered in new firm creation in a path-dependent manner (Fern et al., 2012; Gruber et al., 2008; Shane, 2000). In other words, the prevailing assumption in much of the literature is that new firms are created in the home industry of the founder (Campbell, Kryscynski, & Olson, 2017; Ganco, 2013), with research on opportunity identification and market entry showing that only a minority of entrepreneurs consider alternative opportunities prior to launching their ventures (Gruber, 2010; Gruber, MacMillan, & Thompson, 2013). As such, the notion that individuals identify so-called “third-person opportunities” that then trigger “first-person opportunity” exploitation (McMullen & Shepherd, 2006) has rarely been subjected to scholarly inquiry (Gruber et al., 2013). It is important to note, however, that the unemployed tend to be located in underperforming industries and, thus, the consideration of other, potentially more attractive industry domains seems to be a particularly pertinent feature of necessity entrepreneurship—one that needs to be core to our theorizing.

Following this line of reasoning, we develop our theorizing on the influence of an individual's unemployment duration on industry choice in two main steps: we begin with a baseline examination and investigate the direct effect of unemployment duration on the industry-choice decision (Hypothesis 1). Specifically, we compare the long-term unemployed with the short-term and the medium-term unemployed entrepreneurs. We then enrich our theorizing by drawing on the two key factors just discussed—the individual's industry-specific experience and the attractiveness of other industry domains relative to the home industry (the attractiveness of the opportunity landscape)—to examine how variation in unemployment duration *moderates* the effect that these key factors have on

FIGURE 1 Conceptual framework



industry choice (Hypotheses 2 and 3).² Figure 1 provides an overview of the conceptual framework guiding our research.

2.1 | Hypothesis 1: unemployment duration and industry choice

Our first hypothesis examines the direct effect that the unemployment duration experienced by an individual has on the industry-choice decision in entrepreneurship. This requires us to consider two intermediate steps that can occur in any order, or in tandem: the link between unemployment duration and the decision to become self-employed, and the link between unemployment duration and the decision to leave the home industry.

With respect to the decision to become self-employed, the risk of entering self-employment occurs at all points of an unemployment spell. For instance, recently laid-off individuals may no longer desire to work for an employer, but instead prefer to pursue their (so far withheld) entrepreneurial desires (cf. Dencker, Gruber, & Shah, 2009), whereas those who have been unemployed for some period of time may discover an opportunity to exploit during their job search. In addition, individuals who have been unemployed for a long period of time may perceive that they are unhireable, and thus resort to self-employment to fulfill their needs (Dencker et al., in press).

With respect to the decision to leave the home industry, based on research on pre-entry capabilities and market entry (e.g., Helfat & Lieberman, 2002; Helfat & Raubitschek, 2000) and on employee entrepreneurship (e.g., Ganco, 2013), we argue that at the beginning of an unemployment spell, individuals becoming self-employed will most likely re-enter their home industry, as they not only seek to capitalize on their pre-entry experience but, due to their prior knowledge (Gruber et al., 2013; Shane, 2000), are also likely to already know of opportunities in that setting. Yet, on the contrary, with increasing unemployment duration, founders arguably will be more likely to start their ventures in external industries, for three reasons.

First, nearly a century of research on the psychological consequences of unemployment shows that the unemployed become increasingly desperate and experience distress with increasing duration of their unemployment spell (Eisenberg & Lazarsfeld, 1938; Fryer, 1997; Paul & Moser, 2009). This is so because employment helps fulfill a number of important psychological needs such as providing

²Note that we do not hypothesize about the direct effects of industry-specific experience on the industry-choice decision and of the attractiveness of the opportunity landscape (relative attractiveness of external vs. home industry) on the industry-choice decision, as these effects are fairly predictable given that they have been examined in prior research, including the literature on capabilities and market entry (cf. Helfat & Lieberman, 2002); rather, in light of our focal interest in improving understanding of the role of necessity in entrepreneurship, we examine how unemployment duration moderates these two direct relationships in Hypotheses 2 and 3.

status, time structure, social contact, collective purpose, and activity—and being unemployed means that one is deprived of these important psychological benefits (Jahoda, 1982). In addition, the unemployed are subjected to a substantial psychological cost as time passes, given that they experience continued failures in job seeking and repeatedly conjure feelings of rejection (Krueger & Mueller, 2012). Hence, similar to the unemployed workers' willingness to move to other industries as they become more and more desperate (cf. Moscarini, 2001), we expect that, *ceteris paribus*,³ they will seek to create a venture external to their home industry.

Second, an increase in duration of unemployment connotes increasing financial pressures, as unemployment benefits decrease and eventually terminate, as an individual's savings end, and as costly replacements or repairs (e.g., of household items) become necessary (Frese & Mohr, 1987; Fryer, 1997). Thus, as time passes, the unemployed find that they are unable to pursue minor goals (e.g., going out for dinner) and major goals (e.g., offering proper education to their children) in their life—important developments that run counter to their human desire for self-directedness and agency (Fryer, 1997) and that lower their standard of living. Again, with such increasing financial pressure, the unemployed will feel a greater need to start “any” type of self-employment activity that could produce an income and are more likely to create ventures in external industries.

Third, individuals will experience increasing social (family, friends etc.) and institutional (e.g., employment agencies) pressures to take up an economic activity as unemployment duration increases. Similar to the argument on financial pressures, with prolonged unemployment these factors create (additional) social-psychological distress (Fryer, 1997) that will make the unemployed more and more likely to start any type of self-employment activity that could provide relief from their distress, and thus will be more likely to do so in external industries.

In sum, necessity entrepreneurs will be more likely to start their ventures in external industries the longer they are unemployed, and thus, we propose the following relationship:

Hypothesis 1 (H1). *As the duration of unemployment increases, the likelihood that necessity entrepreneurs will re-enter their home industry will decrease.*

2.2 | Hypothesis 2: unemployment duration and industry-specific experience

Extending our theoretical account, we examine how unemployment duration *moderates* the relationship between founder industry-specific experience and industry choice. Industry-specific experience develops due to prior work in an industry setting (Agarwal et al., 2004; Chatterji, 2009; Ganco, 2013). Even in the most mundane industries, much tacit knowledge must be accumulated to understand how the industry works (Gimeno, Folta, Cooper, & Woo, 1997). This knowledge is neither firm-specific nor general, but rather unique to the industry in which it was obtained (Neal, 1995)—and would lose its value if a founder creates a firm in a different industry (Fern et al., 2012).

Following ideas first laid-out in Penrose (1959), prior research on entry indicates that the industry-choice decision depends on the amount of industry-specific experience a potential founder has, often in a path-dependent way (Helfat & Lieberman, 2002). This is so because founders with high levels of industry experience are endowed with deeper knowledge of how to conduct business in their home industry, and therefore are likely to seek to exploit such expertise (Agarwal et al., 2004; Campbell et al., 2012; Fern et al., 2012; Ganco, 2013; Hannan, Burton, & Baron, 1996). Yet, ties to the home industry also trace to founder social capital, which increases with time spent in an

³This decision will also depend on variation in human capital and industry attractiveness (see Hypotheses 2 and 3).

industry. As a result, individuals with substantial experience in an industry are deeply embedded in their home settings (Granovetter, 1985; Stinchcombe, 1965), which would give them a survival advantage should they re-enter their home industries (Agarwal et al., 2004).

Whereas prior research indicates that greater industry-specific experience connotes a higher likelihood of starting a venture in the home industry, we claim that the strength of this important relationship will be *moderated* by the founder's unemployment duration. Two arguments suggest that the effect of industry-specific experience on the industry-choice decision will be decreasing with increasing unemployment duration. First, at the very beginning of an unemployment spell, necessity entrepreneurs may not be too different from employee entrepreneurs (Campbell et al., 2012; Ganco, 2013), therefore making it likely that their industry experience leads to the creation of a venture in the home industry.⁴ Yet, the longer individuals remain in unemployment, the wider will be the gap between their existing human and social capital and the human and social capital required for employment in the home industry (Kiker & Roberts, 1984; Lazear, 1976), thereby leading to a gradual loosening of bonds to the home industry. In this regard, unemployment leads to a deterioration of skills and contacts specific to previous employers, occupations, and industries, and impedes the accumulation of work experience (e.g., Arulampalam, Gregg, & Gregory, 2001; Lazear, 1976), including the accumulation of up-to-date knowledge as the industry may be changing and evolving.⁵ Thus, with increasing time spent in unemployment, the gap between the skills possessed by individuals and those required by employers (Handel, 2003) will become wider—and hence the more that these individuals will question the potential fit with their home industry, thereby increasing the likelihood that they will create new firms in external industries.

Second, an increasing duration of unemployment may motivate individuals to move to an external industry since they suffer from stigmatization in their home industry (Eriksson & Rooth, 2014). In particular, “scarring” effects of unemployment (e.g. the unemployed being perceived as “losers” by key industry stakeholders, or responsible for their unemployment status) are reinforced the longer the unemployment period is (Eriksson & Rooth, 2014; Heckman & Borjas, 1980; Karren & Sherman, 2012; Vishwanath, 1989). Moreover, the isolation of the stigmatized from others in the community (Link & Phelan, 2001) should decrease the attachment of the unemployed to the home industry and their feelings of industry membership. That is, network ties that root individuals with industry experience to their home industries not only fray with increasing duration of unemployment, but are also severed due to the stigma attaching to these individuals. For example, industry actors may shun the long-term unemployed, or at least are less likely to act as references for them in the marketplace. As a result, we expect that the longer people are unemployed, the more they will change the way they view themselves and their fit with the home industry—and thereby will become more likely to found firms in external industries.

Against the backdrop of these arguments, we propose the following relationship:

Hypothesis 2 (H2). *The duration of unemployment weakens the positive relationship between industry-specific experience and the likelihood that necessity entrepreneurs re-enter their home industry.*

⁴Although research on employee entrepreneurship defines the phenomenon as the intra-industry founding of a new venture (cf. Ganco, 2013), we acknowledge that, from an empirical perspective, employees may also establish ventures in other industries, including vertically-integrated ones (e.g., Adams, Fontana, & Malerba, 2015).

⁵We thank one of our anonymous reviewers for highlighting this argument.

2.3 | Hypothesis 3: unemployment duration and the relative attractiveness of the opportunity landscape

We extend our theorizing by considering the role of the attractiveness of industry settings in the industry-choice decision, bringing to the forefront the notion of the opportunity landscape. Our reasoning echoes McMullen and Shepherd (2006) and Shepherd, McMullen, and Jennings (2007), who emphasize that entrepreneurial action can be seen as a sequence in which environmental factors—third-person opportunities—attract the attention of a person, who then decides to engage in first-person action (creating a new venture). While we do not claim, and our theory does not require, that individuals possess comprehensive knowledge of how their home industry is performing relative to all other industry settings, it is reasonable to assume that prospective founders have a sense of the performance of external industries vis-à-vis their home industry. Moreover, we do not claim that founders need to know about entrepreneurial opportunities in other industry settings *ex ante* (Shane, 2000). Rather, we argue that even casual, everyday observations about the performance of other settings relative to the home industry will drive individuals to seek out opportunities in external industries if they represent “greener pastures.”⁶

The attractiveness of external industries vis-à-vis the founder's home industry create pull- and push-effects (Schjoedt & Shaver, 2007). If external industries are performing better than an individual's home industry, the opportunity landscape will exert pull-effects. This is because better performing industries—and the relatively more munificent settings they offer (Lumpkin & Dess, 2001)—make it easier for founders to establish their firms as viable entities. For instance, research highlights that environmental munificence has a positive influence on profitability (Kotha & Nair, 1995). The opportunity landscape can also exert push-effects, driving the founder away from the home industry. For example, industries characterized by shrinking demand not only make it more difficult for founders to attract the financial capital required for the creation of their ventures, but also create challenges in achieving sales and gaining a foothold in the marketplace due to relatively intense competition among incumbent firms (Castrogiovanni, 1996; Lumpkin & Dess, 2001). Thus, individuals in lower performing industries will be concerned about whether the demand in their home industry will be able to sustain the creation of their venture (cf. Wu, 2013).

Due to pull- and push-effects, an attractive opportunity landscape will tempt individuals to exploit opportunities in greener pastures, rather than remain in lower performing home industries. However, taking into account an individual's unemployment duration, we propose that the effects of an attractive opportunity landscape will not be uniform. Rather, industry-choice decisions will be *more strongly* influenced by an attractive opportunity landscape the longer an individual is unemployed—a line of reasoning mirroring research on displaced workers showing that home industry conditions influence job search behavior and hence the decision about where to create a firm (Fallick, 1993). Specifically, two main performance-related arguments suggest an increasing enticement by an attractive opportunity landscape the longer an individual is unemployed.

First, increasing unemployment duration connotes heightened sensitivity to the potential financial performance of the venture. As discussed in Hypothesis 1, the unemployed experience a greater need to generate an income due to the depletion of financial savings over time (Brief, Konovsky, Goodwin, & Link, 1995; Frese & Mohr, 1987; Fryer, 1997). When external industries are more attractive than the home industry, the factors pushing individuals away from their home industry are high because home industry settings are less munificent. That is, less munificent settings (a) make it

⁶For instance, research shows that people can find opportunities in other industries by searching known information channels (Fiet, 2007) and/or by engaging with their social networks (Gruber et al., 2013).

difficult for firms to obtain resources (Brüderl & Schüssler, 1990; Castrogiovanni, 1996; Starbuck, 1976)—a problematic condition for new firms seeking to become viable organizational entities; (b) are less forgiving of managerial errors (Beard & Dess, 1981; Castrogiovanni, 1996), making it more likely that new firms with limited organizational slack will fail; and (c) make it more difficult for new firms to attract and retain customers and, hence, survive and grow (Castrogiovanni, 1996; Gruber et al., 2008). Thus, because of an increasing need to generate an income, we expect that the longer someone is unemployed, the more likely it is that this individual will create a firm in a more attractive external industry than in their relatively less attractive home industry.

Second, with increasing unemployment duration, individuals will be more motivated by an attractive opportunity landscape due to lower opportunity costs of moving away from the home industry. In particular, due to depreciation of skills and contacts over time, the longer an individual spends in unemployment, the less human and social capital is lost in a move to an external industry. Similarly, because of stigmatization occurring over time, any legitimacy benefits that individuals may initially draw on in firm creation in the home industry will decrease as well, making it more difficult to obtain resources and organize new firm operations (Stinchcombe, 1965; Delmar & Shane, 2004). In contrast, the short-term unemployed should be less enticed by an attractive opportunity landscape, given that their previous resource expenditures in learning the routines and the practices of the domain (Tykocinski & Ortmann, 2011), in developing their network of contacts, and in building a reputation, will not have depreciated as much—a line of reasoning that resonates with rationales discussed in studies on employee entrepreneurship, where firm creation in the home industry is the general expectation (e.g., Ganco, 2013).

Taken together, these financial performance and opportunity cost arguments suggest the following relationship:

Hypothesis 3 (H3). *The duration of unemployment amplifies the negative relationship between the attractiveness of the opportunity landscape and the likelihood that necessity entrepreneurs re-enter their home industry.*

3 | DATA AND METHODS

We use primary and secondary data to examine how an individual's unemployment duration influences the industry-choice decision. For our primary data, we surveyed a sample of individuals who created new ventures with financial assistance from the National Employment Agency in Greece. These respondents were part of a “New Entrepreneurs 33–64 Years” program that was designed to support their transition from unemployment to self-employment. Individuals were eligible to apply for the program if they were registered with the Employment Agency. Those applying attended a one-week entrepreneurship seminar offered by the Employment Agency before submitting a business plan for approval by the Employment Agency. Each applicant received 15,000 Euro during the first year of their business activity, 5,000 Euro for the second year of operation, and 1,000 Euro for the third year of operation.

We collected data using a self-designed questionnaire administered in 2013 and filled in by formerly unemployed entrepreneurs who created businesses in 2008 and 2009. Firms in our sample include those that were still in existence, and those that had failed at some point prior to the survey. As discussed below, we combine this primary data with secondary data on industry characteristics obtained from both the Greek Statistical Office and the Independent Authority for Public Revenue

(i.e., the official Revenue Authority in Greece), as well as data on skill-relatedness obtained from the database developed by Neffke and Henning (2013).

3.1 | Primary data

Survey design and response rate. We developed a questionnaire based on a comprehensive literature review as well as from insights based on interviews with both Employment Agency employees and necessity entrepreneurs. We pre-tested the questionnaire on five employees from the Employment Agency and 19 founders who varied in terms of gender, age, education, business activities, etc. For instance, these founders created firms in industries as varied as gardening services, retail footwear, florists, tax consultancy, funeral parlors and speech therapy. Minor wording and format modifications were made in order to improve the clarity of several questions.

Of the program participants to whom the employment agency sent requests to perform a survey, 610 opted to participate, representing a response rate of 56%. Employees of the Greek Employment Agency administered the questionnaires to these founders. We discarded 34 responses due to missing information on key variables, giving us a sample size of 576 and an effective response rate of 53%. We tested for non-response bias by comparing the age and gender of respondents and non-respondents, and did not uncover any evidence of such bias.

3.2 | Secondary data

We combine the survey data with secondary data from three main third-party sources. First, we obtained data on industry demand conditions and industry wage levels from the Greek Statistical Office (ELSTAT), which is responsible for collecting and disseminating Greek statistics to the statistical office of the European Union. The industry revenue indices obtained from this agency allow us to create a measure that captures the relative attractiveness of the opportunity landscape (Hypothesis 3). From the same source, we obtained data to control for dynamism and the wage levels in the home industry. Second, we obtained secondary data on new firm failure rates for the focal industry from the Independent Authority for Public Revenue in Greece—the official Revenue Authority in Greece whose mission is to determine, assess and collect tax, customs, and other public revenue. Third, we obtained data on skill relatedness from the database developed by Neffke and Henning (2013) to account for the fungibility of skills of necessity entrepreneurs.

3.3 | Measures

Dependent variable. *Industry choice* is coded one if the industry in which founders created a firm was the same as the industry in which they worked prior to becoming unemployed, and zero otherwise. We measured industry at the one-digit level (i.e., the “letter” level of the classification of economic activities in the European Community [NACE Rev. 2]), which corresponds to sectors such as “C. Manufacturing” and “F. Construction.” This approach is conservative as it connotes a considerable “distance” in terms of moving from the home industry to an external industry and usually involves a (significant) loss of industry-specific experience. This logic is akin to unrelated diversification moves examined in strategy research (e.g., Palich, Cardinal, & Miller, 2000).

Independent variables. Our focal independent variable is the founder's *duration of unemployment*, a commonly used empirical way of analyzing necessity entrepreneurship (cf. Dencker et al., in press). We measure duration of unemployment based on survey respondent's choices among nine

unemployment categories that are measured in months: “less than 1,” “1 to 2,” “3 to 4,” “5 to 6,” “7 to 9,” “10 to 12,” “13 to 24,” “25 to 36,” and “more than 36.”⁷ These categories do not reflect a purely linear measure, and thus, following theory and convention, we created three dummy measures to capture short- (less than 13 months), medium- (13–24 months), and long-term (greater than 24 months) unemployment. We generated these categories based on our theorizing that necessity entrepreneur's behaviors and actions vary by unemployment duration, and on commonly held unemployment groupings, which were refined in the aftermath of the 2008–2009 economic crisis to separate the long-term unemployed into those who have been out of work for 13–24 months and those that have been unemployed for a period greater than 24 months (BLS, 2016; Eichhorst, Neder, Tobsch, & Wozny, 2015; Europa, 2016).

In our examination of necessity entrepreneurship, we focus on the role of founder industry-specific experience in shaping industry choice, while controlling for the founder's general human capital (cf. Mayer, Somaya, & Williamson, 2012). Following prior research (Delmar & Shane, 2004), *industry-specific experience* measures the number of years that founders worked in the industry in which they held a job prior to becoming unemployed (i.e., their home industry).

We construct our measure for *attractiveness of the opportunity landscape* in two steps. First, to capture the relative attractiveness of different industry settings we follow the logic of firm diversification studies and consider industry-specific growth rates. Growth rates are comparable across industries, as they denote the rate of revenue change rather than the absolute value of the turnover of an industry (Wu, 2013). Because we are interested in the relative attractiveness of industries, this measure captures the revenue growth rate of the industry in which the founder worked prior to becoming unemployed (home industry) subtracted from the average of the revenue growth rates of all other industries (external industries). The home industry component as well as the external industry component of this measure are based on the respective four-quarter moving average of the revenues growth rates prior to new firm creation and, thus, reflect the growth trend (cf. Wu, 2013). We obtained the required data from the Greek Statistical Office, applying the most recent sector classification in the European Community (NACE Rev. 2).

In a second step, we take into account that some industry settings may be more “distant” to a founder because of skill fungibility (Helfat & Lieberman, 2002), and weigh the growth-rate measure with a skill-relatedness measure developed by Neffke and Henning (2013).⁸ This index is particularly pertinent for our work, as it is derived from data capturing labor flows between industries. Because Neffke and Henning (2013) draw on data from Sweden, we adapted their index with information on the knowledge barriers of the focal industry in the geographical context of our study (Greece). Our rationale is that industry barriers affect industry choice (Bates, 1995) as knowledge requirements (e.g., certificates required for some industries in Greece) may serve as barriers lowering the fungibility of their skills. We took the average of skill relatedness indices for each focal industry to capture the moves from the focal (source) industry to all remaining industries, and then weighted it with the knowledge barriers of the focal industry. We obtained the measure of knowledge barriers using expert coding, that is, we asked two experts of Greek nationality to assess each industry according to the knowledge barriers encountered in new firm entry (inter-rater agreement: 0.93).

⁷We argued that with an increasing unemployment duration, individuals will experience a greater level of need to generate an income. While unemployment duration is an objective measure, the level of need experienced by an individual also has subjective elements. Robustness tests employing a self-assessed scale of necessity corroborate the findings obtained with our primary, objective measure, and therefore strongly support its use (see Online Appendix S1).

⁸We thank our editor for this suggestion.

Control variables. We control for a number of individual- and industry-level factors that are likely to affect new firm emergence.

Demographic and individual characteristics. We control for founder's *gender* and *marital status*, as both may influence career experiences and entrepreneurial choices (Dimov, 2010; Folta, Delmar, & Wennberg, 2010). *Gender* was coded one if the founders were males, and zero if they were females, and *marital status* was coded one if the respondent was married, and zero otherwise. We also control for founder's *age* at the time of business foundation, as founder's age has been found to affect new firm creation (Lévesque & Minniti, 2006). Given potential variation in *financial capital* among respondents, we include a self-reported measure of the amount of financial support provided by family members (ranging on a 5-point Likert-type scale from "no support" to "a lot of support"). Finally, we also took into account psychological factors that may differ across founders, that is, measures that capture the founder's *openness to experience* and *extraversion* (Barrick & Mount, 1991; Borkenau & Ostendorf, 1993).

Human capital characteristics. We use five human capital controls: education, breadth of industry experience, prior entrepreneurial experience, prior management experience, and prior leadership experience. *Education* is an important source of human capital (Becker, 1964) and its measure is a dummy variable coded one if the founder had a bachelor's or higher degree and zero otherwise, and was created based on the information respondents provided on the formal education degrees they had obtained (primary school through tertiary education). Because founders could obtain experience in multiple industries, we include a control for *industry breadth*. A broader set of industry experience may increase the number of alternative industries the founders will consider for re-entry (Gruber, 2010) and is measured as a count of the number of industries in which the founder acquired work experience prior to the foundation of their business.

Because prior experience in entrepreneurship might influence new firm emergence and performance (Gruber et al., 2008), we employ a dummy variable that flags if the founder possessed *entrepreneurial experience* (1 = yes, 0 = no). We control for *management experience*, as founders possessing management experience have a better understanding of the content and the scope of their business activity (Dencker & Gruber, 2015). We created this composite measure based on founders' management education (a dummy variable indicating whether the founder had any type of formal management education) and managerial experience (self-assessed by founders at the time they created their business on a 5-point Likert-type scale). Based on this information, we coded our management experience measure "1" when respondents had either management education or "high" or "very high" levels of managerial experience, and "0" otherwise.

Finally, following Dencker et al. (2009), we control for the founder's prior *leadership experience*, which can affect the entrepreneurship process. We measure leadership experience from respondents' reports of the highest position they had ever attained prior to launching the venture: "technical employee (non-leadership position)," "technical employee (leadership position)," "manager (non-leadership position)," "manager (leadership position)," and "other." Respondents selecting the "other" category were asked to describe their highest previous position. Based on this information, we coded a dummy measure that indicates whether the founder possessed leadership experience (=1), or not (=0).

Industry characteristics. We control for three industry factors. First, we include *failure rates* of new firms in the founder's home industry. This measure is based on the failure rates of new firms in a particular industry prior to the creation of the new venture. We created this measure using data obtained from the Independent Authority for Public Revenue in Greece based on the most recent sector classification in the European Community (NACE Rev. 2). Second, we control for industry

dynamism to better capture industry characteristics (Dess & Beard, 1984). In particular, this measure is based on the respective four quarters of industry sales, and is calculated by capturing the errors around the beta line. Third, we include the *wage levels* to reflect the labor market conditions in the home industry. We created the industry dynamism and wage levels measures by using data obtained from the Greek statistical office.

4 | RESULTS

4.1 | Descriptive statistics

Table 1 presents the descriptive statistics and correlation matrix for our variables. We note that there is considerable variation in the focal measures observed in our data. In particular, there is a fairly broad range of unemployment duration and industry-specific experience among founders in our sample, and considerable variation in terms of the attractiveness of the opportunity landscape. For example, more than a quarter of founders in our sample are long-term unemployed (>24 months). Moreover, an inspection of industries entered by founders who did not create firms in their home industries reveals that the most common destination industries (trade and tourism) were above average in terms of growth rates in the period before founding, and of the least common destination industries, one was well below average in terms of growth (finance), and another was roughly average in this regard (education).

4.2 | Multivariate analyses

Results from our logit regression models are presented in Table 2. Model 1 includes the control measures, Model 2 adds our focal *duration of unemployment* variable dummies (with the long-term unemployed the reference category), and Model 3 adds measures of the founder's *industry-specific experience*, and the *attractiveness of the opportunity landscape*. Models 4 and 5 add interactions between duration of unemployment and industry-specific experience, and between duration of unemployment and the attractiveness of the opportunity landscape respectively. Finally, Model 6 presents the full model including all interactions. The results are robust across the models, and the predictor variables significantly increase the explanatory power of our models (as measured by twice the difference in the log likelihoods and compared to a χ^2 statistic with degrees of freedom equal to the number of newly added variables).

Hypothesis 1 proposed that necessity entrepreneurs are less likely to create a firm in their home industry decreases the longer they are unemployed. As Model 2 of Table 2 shows, the industry-choice decision varies considerably by duration of unemployment. The estimated coefficients for the short-term and the medium-term unemployed are 0.942 ($p = .000$) and 0.630 ($p = .041$), respectively. The estimated coefficient of 0.942 means that for the short-term unemployed, compared with the long term unemployed, the logarithm of the odds ratio of re-entering their home industry was 94.2% higher. Likewise, the estimated coefficient of 0.630 means that for the medium-term unemployed, the logarithm of the odds ratio of re-entering their home industry was 63% higher. In other words, the odds of re-entering the home industry for the short-term unemployed are 2.56 times the odds of the long-term unemployed ($p = .000$), and the odds of the medium-term unemployed are 1.87 times the odds of the long-term unemployed ($p = .041$). Translating this into marginal effects, it means a 19.4% and a 12.7% higher re-entry probability for the short-term unemployed and the medium-term unemployed respectively, compared to the long-term unemployed. Considering that the average probability of re-entering the "home" industry is 0.44, a 19.4% difference for the short-

TABLE 1 Descriptive statistics and correlations

	Mean	SD	Min	Max	1	2	3	4	5	6	7	8	9
1. Industry choice	0.44	0.50	0	1	1								
2. Short-term unemployed	0.57	0.50	0	1	0.19	1							
3. Medium-term unemployed	0.15	0.36	0	1	-0.01	-0.49	1						
4. Long-term unemployed	0.27	0.45	0	1	-0.20	-0.71	-0.26	1					
5. Industry-specific experience	9.19	7.35	0.00	39.00	0.22	0.21	0.00	-0.24	1				
6. Attractiveness of opportunity landscape	2.14	6.07	-22.22	46.19	-0.05	0.04	-0.01	-0.04	0.03	1			
7. Gender (Male = 1)	0.42	0.49	0	1	0.16	0.28	-0.01	-0.31	0.24	0.06	1		
8. Marital status (Married = 1)	0.76	0.43	0	1	0.01	-0.08	-0.07	0.15	0.10	0.04	-0.01	1	
9. Founder's age	39.26	5.77	33.00	62.00	0.01	-0.13	0.02	0.13	0.21	0.01	-0.01	0.01	1
10. Financial capital	3.73	1.45	1	5	-0.03	-0.10	0.02	0.09	-0.08	-0.02	-0.08	0.02	-0.05
11. Openness	3.82	0.67	1.75	5	0.08	0.02	0.00	-0.02	0.03	0.01	-0.02	-0.03	0.05
12. Extraversion	3.60	0.69	1.50	5	0.03	0.01	-0.02	0.01	0.02	-0.02	-0.17	-0.05	0.00
13. Education	0.17	0.38	0	1	0.15	0.12	-0.06	-0.09	-0.10	-0.04	0.10	-0.06	-0.12
14. Industry breadth	1.53	1.18	0	7	0.07	0.20	0.05	-0.25	0.05	-0.04	0.20	-0.10	-0.04
15. Entrepreneurial experience	0.21	0.41	0	1	0.08	0.00	0.02	-0.01	0.15	-0.05	0.11	-0.04	0.22
16. Management experience	0.33	0.47	0	1	0.13	0.12	-0.07	-0.08	0.05	-0.09	0.10	0.02	-0.06
17. Leadership experience	0.21	0.41	0	1	0.19	0.13	0.05	-0.18	0.20	-0.02	0.15	0.02	0.03
18. New firm failure rates	4.19	2.17	0.24	9.31	0.06	-0.04	0.00	0.04	-0.08	0.02	-0.03	-0.04	0.05
19. Industry dynamism	0.05	0.04	0.01	0.20	-0.16	-0.01	0.02	0.00	-0.08	0.37	-0.07	-0.02	0.02
20. Industry wage levels (in thousands)	20.05	3.04	16.01	35.61	-0.21	-0.02	-0.03	0.05	-0.08	-0.26	0.01	0.06	-0.04

TABLE 1 (Continued)

	10	11	12	13	14	15	16	17	18	19	20
1. Industry choice											
2. Short-term unemployed											
3. Medium-term unemployed											
4. Long-term unemployed											
5. Industry-specific experience											
6. Attractiveness of opportunity landscape											
7. Gender (Male = 1)											
8. Marital status (Married = 1)											
9. Founder's age											
10. Financial capital	1										
11. Openness	-0.02	1									
12. Extraversion	-0.06	0.31	1								
13. Education	-0.03	0.00	0.01	1							
14. Industry breadth	-0.12	0.09	0.02	0.05	1						
15. Entrepreneurial experience	-0.06	0.10	0.08	-0.04	0.23	1					
16. Management experience	-0.06	0.12	0.07	0.38	0.06	0.05	1				
17. Leadership experience	-0.09	0.09	0.05	0.16	0.16	0.03	0.23	1			
18. New firm failure rates	0.05	0.02	0.06	0.09	0.01	-0.04	0.02	0.06	1		
19. Industry dynamism	-0.05	-0.03	0.02	0.03	-0.03	0.00	-0.02	-0.05	0.10	1	
20. Industry wage levels (in thousands)	-0.02	-0.09	0.01	0.13	0.03	-0.05	0.04	-0.03	0.10	0.11	1

Note: *n* = 576 firms/founders. Descriptive statistics and correlations apply to the first year of founding. Variables capturing founder experience or age (i.e., industry-specific experience, age, and years of education) are mean-centered for the regression analysis.

TABLE 2 Logit regression models predicting the likelihood of creating a firm in the home industry (models using dummy values for unemployment duration)

Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Gender (Male = 1)	0.518 (0.194) [0.007]	0.310 (0.202) [0.126]	0.253 (0.210) [0.230]	0.277 (0.211) [0.191]	0.267 (0.213) [0.208]	0.297 (0.214) [0.165]
Marital status (Married = 1)	0.173 (0.215) [0.421]	0.262 (0.218) [0.229]	0.216 (0.224) [0.337]	0.228 (0.225) [0.312]	0.259 (0.228) [0.256]	0.268 (0.229) [0.242]
Founder's age	0.003 (0.017) [0.872]	0.011 (0.017) [0.520]	-0.002 (0.018) [0.892]	0.001 (0.018) [0.961]	-0.005 (0.018) [0.787]	-0.001 (0.018) [0.940]
Financial capital	-0.017 (0.064) [0.795]	-0.003 (0.065) [0.961]	0.001 (0.067) [0.993]	0.001 (0.067) [0.983]	0.002 (0.067) [0.975]	0.003 (0.068) [0.959]
Openness	0.132 (0.146) [0.369]	0.127 (0.148) [0.391]	0.141 (0.150) [0.346]	0.165 (0.151) [0.273]	0.129 (0.152) [0.396]	0.147 (0.153) [0.334]
Extraversion	0.073 (0.141) [0.605]	0.052 (0.143) [0.716]	0.034 (0.145) [0.813]	0.026 (0.146) [0.857]	0.038 (0.147) [0.794]	0.035 (0.148) [0.810]
Education	0.891 (0.276) [0.001]	0.889 (0.279) [0.001]	1.072 (0.287) [0.000]	1.073 (0.288) [0.000]	1.070 (0.289) [0.000]	1.073 (0.290) [0.000]
Industry breadth	0.010 (0.083) [0.909]	-0.052 (0.086) [0.542]	-0.041 (0.087) [0.633]	-0.077 (0.089) [0.386]	-0.052 (0.087) [0.549]	-0.088 (0.089) [0.327]
Entrepreneurial experience	0.301 (0.237) [0.204]	0.364 (0.241) [0.130]	0.267 (0.244) [0.275]	0.271 (0.245) [0.267]	0.262 (0.249) [0.291]	0.269 (0.249) [0.280]
Management experience	0.132 (0.215) [0.540]	0.109 (0.219) [0.620]	0.013 (0.224) [0.952]	0.017 (0.224) [0.939]	0.011 (0.226) [0.962]	0.014 (0.226) [0.952]
Leadership experience	0.656 (0.234) [0.005]	0.572 (0.238) [0.016]	0.442 (0.244) [0.070]	0.472 (0.244) [0.053]	0.470 (0.247) [0.057]	0.500 (0.247) [0.043]
New firm failure rates	0.077 (0.043) [0.074]	0.085 (0.044) [0.052]	0.101 (0.045) [0.023]	0.107 (0.045) [0.017]	0.100 (0.045) [0.027]	0.106 (0.045) [0.020]

TABLE 2 (Continued)

Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Industry dynamism	-8.157 (2.357) [0.001]	-8.726 (2.383) [0.000]	-5.866 (2.702) [0.030]	-6.113 (2.693) [0.023]	-5.255 (2.725) [0.054]	-5.365 (2.735) [0.050]
Industry wage levels	-0.000 (0.000) [0.000]	-0.000 (0.000) [0.000]	-0.000 (0.000) [0.000]	-0.000 (0.000) [0.000]	-0.000 (0.000) [0.000]	-0.000 (0.000) [0.000]
Short-term unemployed (less than 13 months)		0.942 (0.246) [0.000]	0.797 (0.253) [0.002]	0.778 (0.258) [0.003]	0.969 (0.274) [0.000]	0.938 (0.276) [0.001]
Medium-term unemployed (13–24 months)		0.630 (0.309) [0.041]	0.531 (0.313) [0.089]	0.476 (0.319) [0.136]	0.798 (0.337) [0.018]	0.737 (0.343) [0.032]
Industry experience			0.050 (0.014) [0.001]	0.101 (0.029) [0.001]	0.049 (0.015) [0.001]	0.097 (0.029) [0.001]
Attractiveness of opportunity landscape			-0.042 (0.020) [0.034]	-0.043 (0.020) [0.029]	0.027 (0.032) [0.406]	0.022 (0.032) [0.503]
Short-term unemployed x Industry experience				-0.077 (0.034) [0.022]		-0.073 (0.034) [0.030]
Medium-term unemployed x Industry experience				-0.032 (0.045) [0.478]		-0.023 (0.046) [0.614]
Short-term unemployed x Attractiveness of opportunity landscape					-0.082 (0.039) [0.035]	-0.077 (0.039) [0.047]
Medium-term unemployed x Attractiveness of opportunity landscape					-0.147 (0.053) [0.006]	-0.143 (0.053) [0.008]
Constant	2.368 (1.072) [0.027]	1.919 (1.100) [0.081]	2.799 (1.183) [0.018]	2.743 (1.186) [0.021]	2.860 (1.186) [0.016]	2.845 (1.193) [0.017]
Observations	576	576	576	576	576	576
Log-likelihood	-349.648	-342.006	-333.554	-330.629	-329.047	-326.354
χ^2	92.52	107.81	124.71	130.56	133.72	139.11
Prob > χ^2	0.000	0.000	0.000	0.000	0.000	0.000

Note: Standard errors in parentheses; *p* values in brackets.

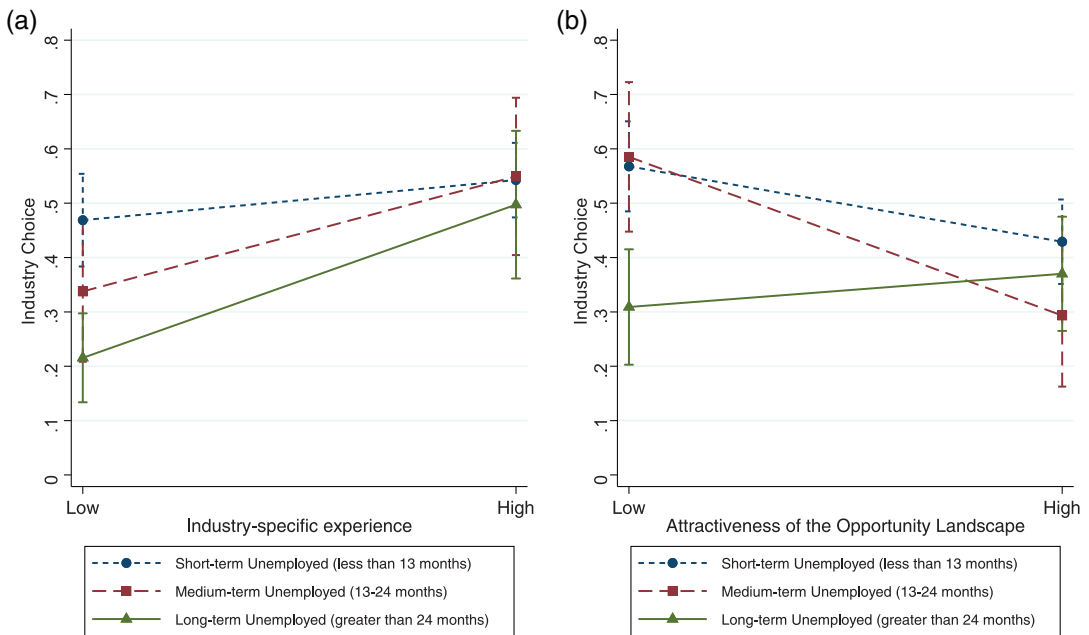


FIGURE 2 (a, b). Interaction effects. (a) Industry-specific experience and industry choice (b) attractiveness of opportunity landscape and industry choice. *Note:* Industry choice is coded one if the industry in which the individual founded a firm was the same as the industry in which that individual worked prior to becoming unemployed, and zero otherwise. Predictive margins with 95% confidence intervals

term unemployed and a 12.7% difference for the medium-term unemployed, compared to the long-term unemployed, is considerable. Thus, consistent with H1, founders with the greatest time spent in unemployment behave very differently when setting up their firms than do founders who have spent less time in unemployment.

Turning to industry-specific experience, Hypothesis 2 proposed that the founder's unemployment duration will moderate the relationship between industry experience and industry choice. As Model 4 of Table 2 shows, there is a significant (and negative) interaction effect ($b = -.077$, $p = .022$) between the unemployment duration and the level of industry experience, but only for the short-term unemployed (relative to the long-term unemployed).

To see more clearly how duration of unemployment moderates the effect of industry-specific experience on industry choice, we calculated marginal effects of the three unemployment variables. Figure 2a provides predictive margins for these variables at low (-1 SD) and high ($+1$ SD) levels of industry experience (based on Model 4 of Table 2). Marginal effects were calculated using the margins command for STATA (Mitchell, 2012). At low levels of industry experience, the marginal effect is 0.468 for the short-term unemployed ($p = .000$), 0.337 for the medium-term unemployed ($p = .000$), and 0.215 for the long-term unemployed ($p = .000$). Thus, at low levels of experience, our findings are consistent with the notion that the depreciating and stigmatizing effects of an increasing duration of unemployment lead to a lower probability of creating a firm in the home industry—with the probability lowest for the long-term unemployed. This pattern holds for founders with high experience, albeit with smaller differences between the unemployment groups in the likelihood of founding a firm in the home industry. At high levels of industry experience, the marginal effect is 0.542 for the short-term unemployed ($p = .000$), 0.549 for the medium-term unemployed ($p = .000$), and 0.497 for the long-term unemployed ($p = .000$).

We also obtained contrasts of marginal predictions using the contrast command in STATA (Mitchell, 2012). For industry experience interactions, the contrast of short-term with long-term unemployed is significant ($p = .022$), but the other two contrasts (short-term vs. medium-term, and medium-term vs. long-term) are not. In effect, at any level of industry-specific experience, the long-term unemployed are less likely to create a firm in their home industry than the short-term unemployed. However, the slope for the long-term unemployed is relatively steeper than that of the short-term unemployed—an intriguing and unexpected result suggesting that founders experiencing longer unemployment spells may be more susceptible to the sunk cost fallacy. Although these patterns are consistent with H2, in that founders who were long-term unemployed are more likely to create a venture in their home industry than low-necessity founders regardless of level of experience, they also highlight that the rate at which founders abandon their industry experience differs by duration of unemployment and experience, and not in trivial ways.

Hypothesis 3 investigates the moderating effect of unemployment duration on the relationship between the attractiveness of the opportunity landscape and industry choice. Results in Model 5 in Table 2 show that unemployment duration moderates this relationship, albeit in ways only partly consistent with H3. Compared to the long-term unemployed, the interaction effects between the attractiveness of the opportunity landscape and the short- and medium-term unemployed categories are negative and significant: $b = -.082$ ($p = .035$) for the interaction with the short-term unemployed and $b = -.147$ ($p = .006$) for the interaction with the medium-term unemployed. In order to better understand the interaction effect, we calculated the marginal effects of the three unemployment variables ($\pm 1 SD$).

Figure 2b (based on Model 5 in Table 2) provides predictive margins and reveals considerable differences between the long-term unemployed and other necessity entrepreneurs in their response to external opportunities. At low levels of attractiveness of the opportunity landscape, the marginal effect is 0.567 for the short-term unemployed ($p = .000$), 0.585 for the medium-term unemployed ($p = .000$), and 0.308 for the long-term unemployed ($p = .000$). At high levels of attractiveness of the home industry vis-à-vis the external industries, the marginal effect is 0.429 for the short-term unemployed ($p = .000$), 0.293 for the medium-term unemployed ($p = .000$), and 0.370 for the long-term unemployed ($p = .000$). Contrasts of marginal predictions are significant for the contrast of the short-term vs. the long-term unemployed ($p = .035$) and for the contrast of the medium-term vs. the long-term unemployed ($p = .006$), but not for the contrast of the short-term vs. the medium-term unemployed ($p = .176$). Overall, our findings suggest that the long-term unemployed do not react positively to more attractive external opportunities when embarking on their entrepreneurial endeavor. To assess the robustness of our results, we performed a number of tests that can be found in the Online Appendix S1.

5 | DISCUSSION

Necessity entrepreneurship is a highly prevalent phenomenon in the developing world and in developed countries, where necessity entrepreneurs come from the ranks of the unemployed (Block & Wagner, 2010; Brewer & Gibson, 2014; Global Entrepreneurship Monitor, 2017). By explicitly considering duration of unemployment as a key marker of the level of need experienced by an individual we set out to offer a more nuanced understanding of necessity entrepreneurship, and to reconcile disparate predictions from work on opportunity (employee) entrepreneurship on one hand, and employment research on the other hand. We examined how unemployment duration affects one of the most fundamental strategic decisions entrepreneurs face when setting up their firms, that is, “what business should I be in?” (Abell, 1980; Hofer & Schendel, 1978). Whereas research on market entry (Helfat & Lieberman, 2002) and on opportunity (employee) entrepreneurship (Ganco, 2013) suggests that entrepreneurs launch businesses in the industries in which they gathered their experience (their home industry), arguments

from employment research make us expect that the longer the unemployment spell of necessity entrepreneurs, the more they will differ in their firm-related actions from opportunity entrepreneurs—even when fundamental decisions such as industry choice are considered in new firm creation.

Our analyses reveal that unemployment duration experienced by necessity entrepreneurs has a significant negative effect on the likelihood they create a firm in their home industry. Extending this baseline relationship, we also find that unemployment duration moderates how prior industry-specific experience affects industry choice. For individuals who experienced long unemployment spells, the effect of industry-specific experience on industry choice differs starkly from the short-term unemployed, as at any given level of experience, the long-term unemployed are less likely to remain in their home industry than are the short-term unemployed.

A similar pattern emerges for the interaction between the unemployment duration and the opportunity landscape, albeit in varied and partly unexpected ways: as the attractiveness of external industries increases, the likelihood of creating a firm in the home industry decreases for necessity entrepreneurs who experienced short- or medium-term unemployment spells. For the long-term unemployed, we see a markedly different and surprising picture emerge, in that the relative attractiveness of the opportunity landscape increases the likelihood of creating a firm in the home industry instead of external industries.

Overall, by making the duration of an individual's unemployment our focal study variable and examining how it affects one of the fundamental strategic decisions in entrepreneurship, we obtained results that offer novel theoretical insights as well as implications for public policy.

5.1 | Theoretical implications

Several theoretical implications emerge from our study. First, and perhaps most importantly, our findings call for a more nuanced understanding of necessity entrepreneurship, as the prevailing binary characterization (opportunity vs. necessity entrepreneurship) masks important differences in necessity entrepreneurship. This simple characterization has been useful for initial research on the topic, yet, now that scholars have become more aware of its significance, they need to change their thinking and apply a more fine-grained lens to the phenomenon—a lens that allows scholars to capture its richness and heterogeneity. In this regard, our results not only extend psychological research on the effects of unemployment duration on a person's thinking, behaving and acting (Boyce et al., 2015) to the study of (new) firms, but also allow us to show that differences in unemployment duration have important ramifications for organizational-level decisions.

Second, our focus on necessity entrepreneurship can be viewed as a natural extension to the growing literature on employee entrepreneurship (e.g., Agarwal et al., 2004; Campbell et al., 2017; Ganco, 2013; Klepper & Sleeper, 2005). Entrepreneurs coming from the ranks of the short-term unemployed may not be too different from entrepreneurs who launch their ventures from their employed position. Our results reveal two important insights in this regard: (a) that the short-term unemployed are highly likely to create ventures in their home industry, and are much less tempted by an attractive opportunity landscape—findings that strongly support notions in the employee entrepreneurship literature, where employee entrepreneurship is defined as “home-industry venturing” (cf. Ganco, 2013) and, thus, the potentially “tempting” nature of the opportunity landscape is not part of existing theoretical discourse; and (b) that the strong path dependencies will be eroded with increasing unemployment duration, making it more likely that a venture is created in an external industry—yet only up to a point, where individuals with the longest time spent in unemployment exhibit strategic decision-making rationales that are inward-looking, void of any considerations of the venturing context (i.e., attractiveness of the opportunity landscape).

Third, our findings advance strategy research examining early-stage strategic choices in new firm creation—an area we are just beginning to understand, yet one that is of key significance, given that

early strategic choices often have long-term effects on firms (Fern et al., 2012; Gruber et al., 2013; Shane, 2004). We do so by studying perhaps the most far-reaching early-stage strategic decision that founders will make: “what business should I be in?” Our findings allow us to add critical insights to existing theoretical accounts, as theorizing in this vein has focused on factors related to the founder's knowledge and experience (Fern et al., 2012). We show that unemployment duration is a key moderating variable of the two main factors driving this strategic decision: the founder's pre-existing industry experience and the relative attractiveness of external opportunities. In fact, the effects that these core variables have on industry choice can turn out very differently once we consider the duration of the necessity entrepreneur's unemployment.

Fourth, although conceptual studies note the importance of a person's exposure to third-person opportunities (McMullen & Shepherd, 2006), and research has shed light on this key element in the entrepreneurship process (Autio, Dahlander, & Frederiksen, 2013), our study is the first to show empirically how the position of entrepreneurs in the opportunity landscape affects where they create new firms. We thus add a critical element to accounts examining factors shaping founders' attraction to opportunities, and hence entry decisions (Haynie, Shepherd, & McMullen, 2009; Shepherd, Williams, & Patzelt, 2015). Notably, our theory complements rather than contradicts accounts that point to the key role of prior knowledge in the pre-launch entrepreneurship process (Gruber et al., 2013; Shane, 2000), as we provide a detailed discussion as to why entrepreneurs may consider opportunities in potentially greener pastures, an aspect that was lacking in previous studies.

Fifth, our results add to classic discourse on strategic decision-making and market entry, as we show how the level of necessity experienced by decision-making agents affect their strategic decisions in ways not readily extrapolated from existing theories. Although strategy research highlights how contingency factors affect agents' awareness and interpretation of information and, thus, decision-making (e.g., Bromiley, 1981), the literature has yet to show how need affects strategic decisions. This observation is particularly true for work examining market entry (e.g., Helfat & Lieberman, 2002; Helfat & Raubitschek, 2000). Our findings not only point to the important role of necessity, but also highlight the role of depreciating capabilities and of the external context in affecting market entry decisions. Our conceptual framework and the insights drawn from it thus can inform studies examining pre-entry capabilities and their effects on entry.

Finally, our study advances knowledge of the role of path dependence in organizations (e.g., Beckman & Burton, 2008) to explore the little studied issue of when agents break paths and/or create new ones (Garud & Karnøe, 2001; Gruber, 2010). Our theorizing helps to explain when agents are more likely to switch to a new path (i.e., new industry setting) by highlighting (a) the systematic influence of an individual's level of necessity, (b) an individual's prior experience in the form of industry-specific experience, and (c) the attractiveness of an existing path vis-à-vis alternative paths in shaping agents' decision-making.

5.2 | Public policy implications

From a policy perspective, the results of our study have key implications for governmental agencies seeking to help the unemployed transition successfully to entrepreneurship.⁹ Our results reveal the important effects that necessity entrepreneurs' unemployment duration has on their industry choice, thereby highlighting important heterogeneity among necessity entrepreneurs. Both aspects suggest

⁹In this vein, some companies have established programs to help former employees to become entrepreneurs during periods of restructuring (e.g., 10 % of former employees of the Finnish cell-phone manufacturer Nokia became entrepreneurs and were supported by the corporation's “bridge program” (Kang, Rannikko, & Tornikoski, 2017)).

that a “one size fits all” approach—as is evident in many government programs—may be inferior to more customized policy approaches that could include specific training programs for the longer-term unemployed before they embark on their entrepreneurial journey.

5.3 | Limitations and directions for future research

Several potential limitations should be considered when interpreting our findings. First, our attractiveness of the opportunity landscape analysis can be viewed as conservative, since we assess it at the level of *one-digit* industry codes. As such, founders deciding to abandon their home industries will enter very different industry domains (e.g., they may move from “manufacturing” to “accommodation and food service activities,” or from “human health and social work activities” to “commerce”), thereby providing solid support for the push- and pull- arguments offered in our study. The promising results suggest that future research could extend our study by examining effects of moving between sub-industries within the same one-digit level industry.

Second, our results are somewhat limited in terms of the types of entrepreneurial activities that we observe, as ventures may in settings that span multiple industries, or in industries that are in a more fluid, emerging stage, are not present in our sample. Yet, the start-ups we examined span a wide range of industries, suggesting that our findings generalize to a wide range of opportunities.

Third, we studied necessity entrepreneurship in Greece during difficult economic times and, thus, in a context facilitating a thorough investigation of this phenomenon because of its high unemployment rates. Because our study addresses a geographical area that is infrequently encountered in empirical entrepreneurship and management research, a potential concern is that the generalizability of our findings may be somewhat limited. However, the considerable range in our measures of unemployment duration, founder industry experience, and attractiveness of the opportunity landscape suggest that generalizability concerns may be minimized.

Fourth, the respondents in our sample entered into entrepreneurship with the aid of government support. Although such support can be used to incentivize behavior in certain economic sectors (e.g., tourism), and therefore influence the industry-choice decision, this was not the case for our sample.

6 | CONCLUSION

Necessity entrepreneurship is not only an important phenomenon but also an intriguing study area that, as the current study has shown, can help us advance understanding of a number of key research areas. We therefore encourage other researchers to follow our path and adopt a more nuanced approach to the phenomenon and investigate how necessity will shape founders' strategic choices, behaviors and actions. From a broader perspective, this would represent a promising undertaking that will not only help scholars to advance research on necessity entrepreneurship but also to develop a more complete understanding of both the origins of firms and the origins of strategic decisions, as well as the reasons for observed firm heterogeneity.

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REFERENCES

- Abell, D. F. (1980). *Defining the business: The starting point of strategic planning*. Englewood Cliffs, NJ: Prentice Hall.
- Acs, Z. (2006). How is entrepreneurship good for economic growth? *Innovations, 1*, 97–107.
- Adams, P., Fontana, R., & Malerba, F. (2015). User-industry spinouts: Downstream industry knowledge as a source of new firm entry and survival. *Organization Science, 27*, 18–35.
- Agarwal, R., Echambadi, R., Franco, A. M., & Sarkar, M. B. (2004). Knowledge transfer through inheritance: Spin-out generation, development, and survival. *Academy of Management Journal, 47*, 501–522.
- Arulampalam, W., Gregg, P., & Gregory, M. (2001). Introduction: unemployment scarring. *The Economic Journal, 111*, F577–F584.
- Autio, E., Dahlander, L., & Frederiksen, L. (2013). Information exposure, opportunity evaluation, and entrepreneurial action: An investigation of an online user community. *Academy of Management Journal, 56*, 1348–1371.
- Barrick, M. R., & Mount, M. K. (1991). The big five personality dimensions and job performance: A meta-analysis. *Personnel Psychology, 44*, 1–26.
- Bates, T. (1995). Self-employment entry across industry groups. *Journal of Business Venturing, 10*, 143–156.
- Beard, D., & Dess, G. (1981). Corporate-level strategy, business-level strategy, and firm performance. *Academy of Management Journal, 24*, 663–688.
- Becker, G. (1964). *Human Capital*. New York, NY: GS Becker.
- Beckman, C. M., & Burton, M. D. (2008). Founding the future: Path dependence in the evolution of top management teams from founding to IPO. *Organization Science, 19*, 3–24.
- Block, J. H., & Wagner, M. (2010). Necessity and opportunity entrepreneurs in Germany: Characteristics and earnings differentials. *Schmalenbach Business Review, 62*(2), 154–174.
- BLS (2016). *Labor force statistics from the current population survey*. Washington, DC: U.S. Bureau of Labor Statistics. Retrieved from <http://www.bls.gov/cps/duration.htm>
- Boeker, W. (1989). Strategic change: The effects of founding and history. *Academy of Management Journal, 32*(3), 489–515.
- Borkenau, P., & Ostendorf, F. (1993). *NEO-fünf-Faktoren Inventar (NEO-FFI)*. Göttingen, Germany: Hogrefe.
- Boyce, C. J., Wood, A. M., Daly, M., & Sedikides, C. (2015). Personality change following unemployment. *Journal of Applied Psychology, 100*(4), 991–1011.
- Brewer, J., & Gibson, S. W. (2014). *Necessity entrepreneurs: Microenterprise education and economic development*. Northampton, MA: Edward Elgar Publishing.
- Brief, A. P., Konovsky, M. A., Goodwin, R., & Link, K. (1995). Inferring the meaning of work from the effects of unemployment. *Journal of Applied Social Psychology, 25*(8), 693–711.
- Bromiley, P. (1981). Task environments and budgetary decision making. *Academy of Management Review, 6*(2), 277–288.
- Brüderl, J., & Schüssler, R. (1990). Organizational mortality: The liabilities of newness and adolescence. *Administrative Science Quarterly, 35*(3), 530–547.
- Caliendo, M., & Kritikos, A. S. (2010). Start-ups by the unemployed: Characteristics, survival and direct employment effects. *Small Business Economics, 35*(1), 71–92.
- Campbell, B. A., Ganco, M., Franco, A. M., & Agarwal, R. (2012). Who leaves, where to, and why worry? Employee mobility, entrepreneurship and effects on source firm performance. *Strategic Management Journal, 33*(1), 65–87.
- Campbell, B. A., Kryscynski, D., & Olson, D. M. (2017). Bridging strategic human capital and employee entrepreneurship research: A labor market frictions approach. *Strategic Entrepreneurship Journal, 11*(3), 344–356.
- Castrogiovanni, G. J. (1996). Pre-startup planning and the survival of new small businesses: Theoretical linkages. *Journal of Management, 22*(6), 801–822.

- Chatterji, A. K. (2009). Spawned with a silver spoon? Entrepreneurial performance and innovation in the medical device industry. *Strategic Management Journal*, 30(2), 185–206.
- Cooper, A. C., Gimeno-Gascon, F. J., & Woo, C. Y. (1994). Initial human and financial capital as predictors of new venture performance. *Journal of Business Venturing*, 9(5), 371–395.
- Delmar, F., & Shane, S. (2004). Legitimizing first: Organizing activities and the survival of new ventures. *Journal of Business Venturing*, 19(3), 385–410.
- Dencker, J. C., Bacq, S., Gruber, M., & Haas, M. (in press). Reconceptualizing necessity entrepreneurship: Understanding variation in entrepreneurial processes under conditions of basic needs. *Academy of Management Review*. <https://doi.org/10.5465/amr.2017.0471>
- Dencker, J. C., & Gruber, M. (2015). The effects of opportunities and founder experience on new firm performance. *Strategic Management Journal*, 36(7), 1035–1052.
- Dencker, J. C., Gruber, M., & Shah, S. K. (2009). Pre-entry knowledge, learning, and the survival of new firms. *Organization Science*, 20(3), 516–537.
- Dess, G. G., & Beard, D. W. (1984). Dimensions of organizational task environments. *Administrative Science Quarterly*, 29(1), 52–73.
- Dimov, D. (2010). Nascent entrepreneurs and venture emergence: Opportunity confidence, human capital, and early planning. *Journal of Management Studies*, 47(6), 1123–1153.
- Eichhorst, W., Neder, F., Tobsch, V., & Wozny, F. (2015). A European perspective on long-term unemployment (IZA Discussion Paper Series DP No. 9321, 1–27).
- Eisenberg, P., & Lazarsfeld, P. F. (1938). The psychological effects of unemployment. *Psychological Bulletin*, 35(6), 358–390.
- Eriksson, S., & Rooth, D.-O. (2014). Do employers use unemployment as a sorting criterion when hiring? Evidence from a field experiment. *American Economic Review*, 104(3), 1014–1039.
- Europa (2016). *Long-term unemployment: Council recommendation*. Brussels: European Union. Retrieved from europa.eu/rapid/press-release_MEMO-16-302_en.pdf
- Eurostat (2015). *Unemployment statistics*. Luxembourg: European Union. Retrieved from <http://ec.europa.eu/eurostat>.
- Fallick, B. C. (1993). The industrial mobility of displaced workers. *Journal of Labor Economics*, 11(2), 302–323.
- Fern, M. J., Cardinal, L. B., & O'Neill, H. M. (2012). The genesis of strategy in new ventures: Escaping the constraints of founder and team knowledge. *Strategic Management Journal*, 33(4), 427–447.
- Fiet, J. O. (2007). A prescriptive analysis of search and discovery. *Journal of Management Studies*, 44(4), 592–611.
- Folta, T. B., Delmar, F., & Wennberg, K. (2010). Hybrid entrepreneurship. *Management Science*, 56(2), 253–269.
- Frese, M., & Mohr, G. (1987). Prolonged unemployment and depression in older workers: A longitudinal study of intervening variables. *Social Science & Medicine*, 25(2), 173–178.
- Fryer, D. (1997). International perspectives on youth unemployment and mental health: Some central issues. *Journal of Adolescence*, 20(3), 333–342.
- Gambardella, A., Ganco, M., & Honoré, F. (2014). Using what you know: Patented knowledge in incumbent firms and employee entrepreneurship. *Organization Science*, 26(2), 456–474.
- Ganco, M. (2013). Cutting the Gordian knot: The effect of knowledge complexity on employee mobility and entrepreneurship. *Strategic Management Journal*, 34(6), 666–686.
- Garud, R., & Karnøe, P. (2001). Path creation as a process of mindful deviation. In R. Garud & P. Karnøe (Eds.), *Path dependence and creation*. Mahwah, NJ: Erlbaum.
- Gimeno, J., Folta, T. B., Cooper, A. C., & Woo, C. Y. (1997). Survival of the fittest? Entrepreneurial human capital and the persistence of underperforming firms. *Administrative Science Quarterly*, 42, 750–783.
- Global Entrepreneurship Monitor (GEM). (2017). *Global report* (p. 2017). London, England: Global Entrepreneurship Research Association.
- Granovetter, M. (1985). Economic action and social structure: The problem of embeddedness. *American Journal of Sociology*, 91(3), 481–510.
- Gruber, M. (2010). Exploring the origins of organizational paths: Empirical evidence from newly founded firms. *Journal of Management*, 36(5), 1143–1167.
- Gruber, M., MacMillan, I. C., & Thompson, J. D. (2008). Look before you leap: Market opportunity identification in emerging technology firms. *Management Science*, 54(9), 1652–1665.

- Gruber, M., MacMillan, I. C., & Thompson, J. D. (2013). Escaping the prior knowledge corridor: What shapes the number and variety of market opportunities identified before market entry of technology start-ups? *Organization Science*, 24(1), 280–300.
- Gruber, M., & Tal, S. (2017). *Where to play: 3 steps for discovering your most valuable market opportunities*. London, England: FT/Pearson.
- Handel, M. J. (2003). Skills mismatch in the labor market. *Annual Review of Sociology*, 29, 135–165.
- Hannan, M. T., Burton, M. D., & Baron, J. N. (1996). Inertia and change in the early years: Employment relations in young, high technology firms. *Industrial and Corporate Change*, 5(2), 503–536.
- Haynie, J. M., Shepherd, D. A., & McMullen, J. S. (2009). An opportunity for me? The role of resources in opportunity evaluation decisions. *Journal of Management Studies*, 46(3), 337–361.
- Heckman, J. J., & Borjas, G. J. (1980). Does unemployment cause future unemployment? Definitions, questions and answers from a continuous time model of heterogeneity and state dependence. *Economica*, 47(187), 247–283.
- Helfat, C. E., & Lieberman, M. B. (2002). The birth of capabilities: Market entry and the importance of pre-history. *Industrial and Corporate Change*, 11(4), 725–760.
- Helfat, C. E., & Raubitschek, R. S. (2000). Product sequencing: Co-evolution of knowledge, capabilities and products. *Strategic Management Journal*, 21, 961–979.
- Hofer, C. W., & Schendel, D. (1978). *Strategy formulation: Analytical concepts*. St. Paul, MN: West Publishing Company.
- ILO (2012). *World of work report 2012: Better jobs for a better economy*. Geneva, Switzerland: International Institute for Labour Studies.
- Jahoda, M. (1982). *Employment and unemployment: A socio-psychological analysis*. Cambridge, UK: Cambridge University Press.
- Kang, B., Rannikko, H., & Tornikoski, E. T. (2017). How a laid-off employee becomes an entrepreneur: The case of Nokia's bridge program. Hitotsubashi University Working Paper #17-15, Japan.
- Karren, R., & Sherman, K. (2012). Layoffs and unemployment discrimination: A new stigma. *Journal of Managerial Psychology*, 27(8), 848–863.
- Kiker, B. F., & Roberts, R. B. (1984). The durability of human capital: Some new evidence. *Economic Inquiry*, 22, 269–281.
- Klepper, S., & Sleeper, S. (2005). Entry by spinoffs. *Management Science*, 51(8), 1291–1306.
- Kotha, S., & Nair, A. (1995). Strategy and environment as determinants of performance: Evidence from the Japanese machine tool industry. *Strategic Management Journal*, 16(7), 497–518.
- Krueger, A. B., & Mueller, A. I. (2012). Time use, emotional well-being, and unemployment: Evidence from longitudinal data. *American Economic Review*, 102(3), 594–599.
- Lazear, E. P. (1976). Age, experience, and wage growth. *American Economic Review*, 66, 548–558.
- Lévesque, M., & Minniti, M. (2006). The effect of aging on entrepreneurial behavior. *Journal of Business Venturing*, 21(2), 177–194.
- Link, B. G., & Phelan, J. C. (2001). Conceptualizing stigma. *Annual Review of Sociology*, 27(1), 363–385.
- Lumpkin, G. T., & Dess, G. G. (2001). Linking two dimensions of entrepreneurial orientation to firm performance: The moderating role of environment and industry life cycle. *Journal of Business Venturing*, 16(5), 429–451.
- Mayer, K. J., Somaya, D., & Williamson, I. O. (2012). Firm-specific, industry-specific, and occupational human capital and the sourcing of knowledge work. *Organization Science*, 23(5), 1311–1329.
- McDougall, P. P., Covin, J. G., Robinson, R. B., Jr., & Herron, L. (1994). The effects of industry growth and strategic breadth on new venture performance and strategy content. *Strategic Management Journal*, 15(7), 537–554.
- McGahan, A. M., & Porter, M. E. (1997). How much does industry matter, really? *Strategic Management Journal*, 18(S1), 15–30.
- McMullen, J. S., & Shepherd, D. A. (2006). Entrepreneurial action and the role of uncertainty in the theory of the entrepreneur. *Academy of Management Review*, 31(1), 132–152.
- Mitchell, M. (2012). *Interpreting and visualizing regression models using Stata*. College Station, TX: Stata Press.
- Moscarini, G. (2001). Excess worker reallocation. *The Review of Economic Studies*, 68(3), 593–612.
- Neal, D. (1995). Industry-specific human capital: Evidence from displaced workers. *Journal of Labor Economics*, 13(4), 653–677.

- Neffke, F., & Henning, M. (2013). Skill relatedness and firm diversification. *Strategic Management Journal*, 34(3), 297–316.
- Palich, L. E., Cardinal, L. B., & Miller, C. C. (2000). Curvilinearity in the diversification–performance linkage: An examination of over three decades of research. *Strategic Management Journal*, 21(2), 155–174.
- Paul, K. I., & Moser, K. (2009). Unemployment impairs mental health: Meta-analyses. *Journal of Vocational Behavior*, 74(3), 264–282.
- Penrose, E. (1959). *The theory of the growth of the firm*. Oxford, England: Oxford University Press.
- Porter, M. E. (1985). *Competitive advantage: Creating and sustaining superior performance*. New York, NY: Free Press.
- Schjoedt, L., & Shaver, K. G. (2007). Deciding on an entrepreneurial career: A test of the pull and push hypotheses using the panel study of entrepreneurial dynamics data. *Entrepreneurship Theory and Practice*, 31(5), 733–752.
- Shane, S. (2000). Prior knowledge and the discovery of entrepreneurial opportunities. *Organization Science*, 11(4), 448–469.
- Shane, S. A. (2004). *Finding fertile ground: Identifying extraordinary opportunities for new business*. New York, NY: Wharton Business School Publishing.
- Shepherd, D. A., McMullen, J. S., & Jennings, P. D. (2007). The formation of opportunity beliefs: Overcoming ignorance and reducing doubt. *Strategic Entrepreneurship Journal*, 1(1–2), 75–95.
- Shepherd, D. A., Williams, T. A., & Patzelt, H. (2015). Thinking about entrepreneurial decision making: Review and research agenda. *Journal of Management*, 41(1), 11–46.
- Sohl, T., Vroom, G., & Fitza, M. (in press). How much does business model matter for firm performance? A variance decomposition analysis. *Academy of Management Discoveries*. <https://doi.org/10.5465/amd.2017.0136>
- Starbuck, W. H. (1976). Organizations and their environments. In M. D. Dunnette (Ed.), *Handbook of industrial and organizational psychology* (pp. 1069–1123). Chicago, IL: Rand McNally.
- Stinchcombe, A. L. (1965). Social structure and organizations. In J. G. March (Ed.), *Handbook of organizations*. Chicago, IL: Rand McNally.
- Storey, D. J. (1991). The birth of new firms—Does unemployment matter? A review of the evidence. *Small Business Economics*, 3(3), 167–178.
- Tykocinski, O. E., & Ortmann, A. (2011). The lingering effects of our past experiences: The sunk-cost fallacy and the inaction-inertia effect. *Social and Personality Psychology Compass*, 5(9), 653–664.
- Vishwanath, T. (1989). Job search, stigma effect, and escape rate from unemployment. *Journal of Labor Economics*, 7(4), 487–502.
- Vivarelli, M. (2013). Is entrepreneurship necessarily good? Microeconomic evidence from developed and developing countries. *Industrial and Corporate Change*, 22(6), 1453–1495.
- Wu, B. (2013). Opportunity costs, industry dynamics, and corporate diversification: Evidence from the cardiovascular medical device industry, 1976–2004. *Strategic Management Journal*, 34(11), 1265–1287.

SUPPORTING INFORMATION

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