Entrepreneurial Growth Aspirations at Re-Entry After Failure

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Abstract

Purpose: Utilising the Theory of Planned Behaviour as the conceptual framework, the authors argue that entrepreneurial financial failure enhances entrepreneurial growth aspirations for the subsequent start-up projects. Furthermore, this effect is particularly strong for individuals rich in human capital, both general and specific; for them, financial failure of an entrepreneurial business is likely to be subsequently transformed into higher entrepreneurial growth aspirations.

Design/methodology/approach: The authors employ multilevel estimation techniques applied to Global Entrepreneurship Monitor data consisting of annual subsamples, each with at least 2,000 observations drawn from the working age population of 95 countries, for the period 2007-2019.

Findings: The results confirm that the experience of financial failure, both individual and societal, leads to higher growth aspirations for subsequent ventures, while exit for opportunity reasons has even stronger positive effect on growth aspirations. Furthermore, higher education and entrepreneurial experience enhance the positive impact of financial failure on the growth aspirations of subsequent start-ups.

Originality/value: The authors demonstrate that the Theory of Planned Behaviour, which centres on intentions, can be successfully utilised to understand why entrepreneurial failure may be transformed into high growth aspirations for subsequent projects, and why this effect may be enhanced by the human capital of the entrepreneur. Furthermore, the authors apply multilevel methods to a large international dataset from Global Entrepreneurship Monitor and produce novel empirical evidence supporting their theoretical predictions.

Keywords
entrepreneurship; failure; human capital; high aspiration entrepreneurship; Global Entrepreneurship Monitor; Theory of Planned Behaviour

1. Introduction

Entrepreneurship is receiving increasing attention in recent years because of its contribution to employment and economic growth (Minitti, 2008; Urbano *et al.*, 2019), with ambitious projects aimed at creating large impactful companies drawing particular attention (Autio *et al.*, 2013; Estrin *et al.*, 2013; Capelleras *et al.*, 2019). In consequence, policy makers and society at large are keen to stimulate the creation of ambitious new ventures that are expected to positively influence overall economic activity and generate employment and innovation (Elert *et al.*, 2019). Within the entrepreneurship research field, high growth aspirations are seen as being relevant to both economics and to strategic entrepreneurship (Schröder *et al.*, 2021; Autio and Acs, 2010).

However, given that most new ventures leave the market within a few years after being formed (Reynolds, 2018), another branch of entrepreneurship research focuses on exit (Beynon et al., 2021), debating the effects of these discontinued projects. Some previous studies (e.g., Strotmann, 2007; for review, see Ucbasaran *et al.*, 2013) have treated exit and failure as synonymous, yet closer inspection reveals that not all entrepreneurial exit is failure (Levie *et al.*, 2011; DeTienne and Wennberg, 2016; Jenkins and McKelvie, 2016) and the economic consequences of exit differ depending on what motivated it. Nevertheless, even a case where entrepreneurial exit results from poor financial performance (typically labelled as 'failure'[1]) may have positive consequences because entrepreneurs learn from previous experience, which may lead to their future business venturing being more sound (Parker, 2013; Corner *et al.*, 2017; Espinoza-Benavides and Díaz, 2019). As observed by Jenkins and McKelvie (2016), 'failure of the firm does not imply failure for the entrepreneur' (*Ibid.*: p.177). The authors agree with this intuition, and extend this line of research by linking it to the growth ambitions literature and asking about the growth aspirations of new projects undertaken after entrepreneurial failure.

The authors posit that a re-entry[2] following an entrepreneurial failure amplifies growth aspirations, leading to new projects with potential for tangible increase in value added. In such cases, the claim that failure is equivalent to waste is not supported. Utilising the concepts

[1] Here, failure is defined by objective criteria: cessation of engagement resulting from lack of financial viability (Corner *et al.*, 2017).

[2] Espinoza-Benavides and Díaz (2019) distinguish between 're-entrepreneurs' who have experienced a previous exit, and new entrepreneurs.

adopted from the Theory of Planned Behaviour (Ajzen 1988; 1991), the authors argue that exit resulting from financial failure, like exit prompted by opportunity motives, implies learning. This in turn enhances the perceived locus of behavioural control, and therefore shapes growth intentions[3] for the subsequent start-up projects. Parker (2013), Corner *et al.* (2017), and Espinoza-Benavides and Díaz (2019) document that resilience is likely to be the individual's response to failure. The authors intend to extend this perspective, arguing that learning not only leads to subsequent entrepreneurial effort but also translates into intentions for higher growth.

The emphasis on learning leads the authors to consider the role of human capital in conditioning the impact of failure on subsequent growth intentions. Entrepreneurs with more knowledge and competence will be both better able and more inclined to learn from a previous experience of failure, which in turn will enhance their perceived scope of behavioural control, affecting subsequent growth intentions positively.

The authors translate these propositions into hypotheses. They test these by applying the multilevel methods to the Global Entrepreneurship Monitor dataset for the period 2007-2019. They thus verify the extent to which their suppositions are consistent with data.

To recap briefly, the contribution of this research is to demonstrate that the Theory of Planned Behaviour, which places intentions at its centre, can be successfully utilised to understand why entrepreneurial failure may be transformed into high growth aspirations for subsequent projects, and why this effect may be enhanced by the human capital of the entrepreneur. Moreover, the authors argue that the entrepreneurial failure experience embedded in the social environment will, alongside the individual experience of failure, enhance subsequent growth aspirations. They utilise the theory to argue that this social effect may be even stronger than the individual effect. Furthermore, the authors apply multilevel methods to a large international dataset from Global Entrepreneurship Monitor and produce novel empirical evidence supporting their theoretical predictions. Multilevel analysis explicitly considers the hierarchical structure of data that combine individual, country, and year information. Accounting for the non-independence of the different observations leads

[3] The authors will use three related terms throughout the paper. 'Intentions' is the concept borrowed from the Theory of Planned Behaviour. 'Aspirations' will relate to the operationalisation of this concept based on the Global Entrepreneurship Monitor data. 'Ambitions' will represent the broadest terminology, used when the authors would like to hint at wider phenomena, abstracting from a specific theory.

to more precise, non-biased estimations, avoiding both the ecological fallacy (drawing conclusions about individuals based on macro level data) and compositional fallacy (drawing conclusions at macro level from individual data), as explained by Pettigrew (2006).

2. Theory and hypotheses

2.1. Learning from exit even if it was due to failure

Many new ventures close, yet there are different motives for leaving the market (Ucbasaran *et al.*, 2013; Fuentelsaz *et al.*, 2021). Exit and failure have often been treated as interchangeable but while exit may result from low profitability, it may alternatively occur because the entrepreneur has seized a good opportunity to sell the venture, or has found good employment or a better entrepreneurial project, or there may be personal reasons for leaving the business, such as moving away (Wennberg *et al.*, 2010). Thus, project failure is a narrower sub-category of exit, constituting projects that do not generate sufficient cash flow to cover costs in a sustained way (DeTienne and Wennberg, 2016). Arguably, resources are wasted on those projects, as entrepreneurial time and effort is used to produce output, the value of which does not match the opportunity cost of their time; such failed projects therefore apparently destroy value instead of creating it.

Yet, this perspective may be too narrow. As emphasised by Parker (2018: p.502), 'entrepreneurs can be "made", not just "born"'. Regardless of its outcome, the process of starting a new venture implies active, experiential learning-by-doing, with entrepreneurial skills being built and enhanced during the venture-creation process (Minniti and Bygrave, 2001). Moreover, entrepreneurial failure may offer an especially valuable opportunity for skill-enhancement: 'experience from closing down a business due to reasons of poor performance is a highly valuable source of learning' (Politis and Gabrielsson, 2009: p.364). This is because discontinuities and 'critical events' like business failure induce stronger learning processes, and the entrepreneurs' search for opportunities becomes more effective (*Ibid.*). Consistent with this, entrepreneurs who start up new ventures after an exit caused by failure obtain learning benefits from their earlier experience, as has been documented empirically by Parker (2013) and Corner *et al.* (2017). Moreover, despite the earlier failure, their expectation of future success may be correct because their skills have improved.

2.2. Theory of Planned Behaviour and growth aspirations after failure at re-entry

The authors posit that this learning effect of failure not only increases the possibility of launching new start-ups, but also increases the scale of entrepreneurial ambition compared with owner-managers of start-ups who have not experienced exit. As argued by Yamakawa, Peng, and Dess (2013), entrepreneurs' attribution of the cause of exit plays a role in how well they learn from it. For example, it may be observed that exit for personal reasons will prompt entrepreneurs to give less attention to analysing their experience of the discontinued venture (Politis and Gabrielsson, 2009). In contrast, entrepreneurs who exited due to financial failure will be more motivated to analyse what happened. This may be explained by a more general psychological phenomenon, which is the drive to restore the functional consistency between attitudes and cognition (Ajzen, 1988), which becomes broken by the experience of failure. Exit for financial failure causes an inconsistency between positive entrepreneurial attitudes and the negative outcome. Responding to this, and focusing their attention on the causes of failure, the entrepreneurs will learn more about the venture creation process. This enhanced entrepreneurial knowledge will, in turn, lead to better identification of entrepreneurial opportunities (Minniti and Bygrave, 2001), which are associated with higher growth aspirations at the time the next venture is created.

The Theory of Planned Behaviour (Ajzen, 1991; Locke, 1991) may help the authors describe with more precision the relationships postulated here. The theory aims to offer a framework for analysing human action, with intentions playing the role of pivot point. When combined with perceptions of behavioural control, intentions lead to behaviour. What the empirical entrepreneurship literature measures as growth 'aspirations' (Estrin et al., 2013; Capelleras et al., 2019) correspond to the theory construct of 'intentions' when they are described utilising the language of the Theory of Planned Behaviour. In turn, intentions are determined by (i) subjective norms (perceived normative prescriptions), (ii) attitudes towards specific behaviour, and (iii) perceived behavioural control, namely the agent's perceptions of how much control they have over the outcomes of their behaviour (Ajzen, 1988; Wiklund and Shepherd, 2003).

The authors turn first to the channel linking the perceived behavioural control with intentions. After the failure, the experience gained of what worked and what did not work allows entrepreneurs to update their existing knowledge of how to effectively manage, and

improve their performance in subsequent ventures (Shepherd, 2003; Minniti and Bygrave, 2001). Consistent with the Theory of Planned Behaviour, enhanced competence may also increase the perceived behavioural control over the outcomes of the subsequent start-up, thereby enhancing growth intentions. This relates to all entrepreneurs who have experienced exit and who aim to re-enter. However, as argued above, the attribution of exit to financial failure may actually result in a more intensive learning process. This is because failure leads to the situation of functional inconsistency between the initial attitudes and the cognitive experience of the unexpected outcome (Ajzen, 1988). There are two possible responses here. Entrepreneurs may, upon analyzing their failure experience, attribute that outcome to the characteristics of their persistent set of abilities (as in Jovanovic, 1982) with a negative effect on propensity to re-entry. Or, and in contrast, they may identify the elements of their strategies that did not work (Minniti and Bygrave, 2001). Generating new insights on their entrepreneurial strategy is likely to increase their perception of behavioural control (self-efficacy). Thus, entrepreneurs who have failed can improve their knowledge, capabilities, and experience related to the identification and exploitation of opportunities (Atsan, 2016; Choi and Shepherd, 2004). If the entrepreneurs, after failure, are better able to identify opportunities and know how to exploit them, they will have a stronger perception of behavioural control; that is, a stronger belief that they can build a successful business. This, in turn, will enhance their growth intentions (Arora and Nandkumar 2011): more extensive learning, triggered by the experience of failure, will lead to higher growth intentions in those who decide to re-start.

The authors postulate that the second channel whereby experiencing failure enhances growth intentions is through the effect of failure on attitudes. However, here the literature predicts two effects that are opposite to each other. The literature identifies psychological costs of failure that may include a wide spectrum of emotions, including pain, anger, shame and/or guilt, and increased fear of the unknown (Ucbasaran et al., 2013). Shepherd (2003) labels this maelstrom of emotions as entrepreneurial grief. This negative emotional experience may affect the entrepreneurial attitudes. Specifically, it may cause the entrepreneurial attitude to become more conservative, such that for their next venture the entrepreneurs may adopt lower growth strategies in order to alleviate fear of failure (Ucbasaran et al., 2013).

Indeed, some entrepreneurs may not recover from post-failure grief, which may negatively affect their attitudes to their subsequent ventures' growth. However, Cope (2011) describes the response to failure as sequential, going through three stages. The first 'aftermath' stage is characterized by the experience of grief. This stage is typically followed first by 'recovery' and then by 're-emergence'. In these later periods, entrepreneurial resilience may be built, with positive impact on both entrepreneurial intentions and entrepreneurial ambitions for growth. The latter attitudes may materialise during a re-emergence in the form of a subsequent venture.

Finally, consistent with the Theory of Planned Behaviour, attitudes and perceived behavioural control are interrelated (Ajzen, 1988); they may coevolve after failure, with the process of emotional healing and learning from failure leading to and becoming the recovery stage.

This is consistent with empirical evidence. The experience that derives from managing a failed company has been found to increase entrepreneurs' self management, cognitive, and practical skills (Walsh and Cunningham, 2017), changing their attitude to setbacks and their ability to cope with them (Politis & Gabrielsson, 2009; Stokes and Blackburn, 2002). Furthermore, people who have failed might seek out increased risk because prior failure can generate a feeling of being positively challenged (Sitkin, 1992). As risk is closely associated with the attempted size of the new venture, this leads to the expectation that entrepreneurs who have previously failed will be ambitious when engaging in new start-ups. Other studies suggest that learning from failure enhances innovation and adaptation competences (Cannon and Edmondson, 2001). In turn, more innovative entrepreneurs, who are better at identifying and creating opportunities, will generate new products, technologies, and access to a more heterogeneous customer base, and are likely to have higher growth intentions (Estrin, Korosteleva, and Mickiewicz, 2022). Consistent with this, the authors posit the following:

H1a. *All else being equal, past failure (exit for financial reasons) will be associated with higher subsequent growth aspirations of the entrepreneur compared to those with no past entrepreneurial failure experience.*

Furthermore, the authors argue that the benefits from failure include positive externalities. An important stream of research builds on the concept of entrepreneurial capital (Audretsch and Keilbach, 2004; 2005), which corresponds to knowledge embedded in those who pursue or have previously pursued entrepreneurial projects in the social neighbourhood. Entrepreneurial capital generates positive spill-over effects because potential entrepreneurs learn from those around them. Gaining the relevant knowledge may enhance their perception of behavioural control. This is consistent with the Theory of Planned Behaviour, which posits that this perception may be enhanced by observing others (Ajzen, 1988). Again, this may affect their growth intentions positively. The authors therefore argue that if numerous entrepreneurs in the social neighbourhood exit, even when exit is equivalent to failure, they produce valuable knowledge that can be socially transmitted, and which consequently becomes the entrepreneurial capital. Through social and personal networks, this knowledge becomes available to potential entrepreneurs, motivating them to set ambitious goals. Not only will this increase the likelihood that potential entrepreneurs will engage in new venture creation, it also strengthens their intentions related to the attempted size of new projects.

In addition, the failure events of others are easily observable, and can signify that some entrepreneurial opportunities may not be worth following. Therefore the set of feasible, effective start-up opportunities is streamlined, representing useful knowledge for future entrepreneurs who can benefit from better targeting and diminished uncertainty, and can therefore aspire to higher growth. Thus, even without personal acquaintance with the owner-managers of a failed business, new entrepreneurs can derive useful, effectiveness-enhancing knowledge from observing other ventures that have failed. This, in turn, leads to enhanced perception of behavioural control, affecting growth intentions positively. Hence, the authors posit the following:

H1b. *All else being equal, higher rate of past failure in the social environment (exit for financial reasons) will be associated with higher growth aspirations of the entrepreneur.*

Next, the authors observe that the extent of learning may vary for different entrepreneurs. More specifically, they consider how entrepreneurs' growth aspirations after failure are likely

to be moderated by their human capital and, in particular, by their education and entrepreneurial experience outside of the failure event.

Those with higher education are likely to be more motivated to learn from failure, as they will have stronger 'need for cognition … a strong need to understand and make reasonable the world they experience' (Ajzen, 1988: 70). As a result, they will process information gained from failure with more attention and therefore will gain more from updating their knowledge, enabling them to calibrate the set of opportunities for the subsequent venture. Thus, education will be a conditioning factor in that it enables the entrepreneur to recover from failure better.

Education also facilitates converting the knowledge gained from failure into information that is suitable to a new start-up. Formal education not only allows individuals to obtain more information about markets, leading to better identification of growth opportunities and the ability to handle them better (Kolvereid, 1992), it also, and importantly, assists in accumulating and integrating additional knowledge and skills (Davidsson and Honing, 2003; Shane 2000). The authors argue that it is the latter aspect that will help individuals to transform the experience of failure into knowledge useful for subsequent projects, enhancing the growth intentions. The argument is that education increases openness, flexibility, and independent thinking (Kohn and Schooler, 1983; Estrin *et al.*, 2016); this implies that individuals are able to integrate new knowledge and combine it with pre-existing knowledge, making the new knowledge even more useful. As entrepreneurs try to find an explanation for the failure (Yamakawa et al., 2013) in a learning process that is neither automatic nor instantaneous (Yamakawa and Cardon, 2015), entrepreneurial learning from failure (Mantere et al., 2013) may have different outcomes (Walsh and Cunningham, 2017). To the extent that highly educated entrepreneurs are better able to identify the causes of their failure and have the flexibility to learn from them, these individuals will be likely to enhance their entrepreneurial knowledge and as a result their growth intentions for subsequent entrepreneurship (Capelleras et al., 2018).

Furthermore, prior literature shows that general human capital is a source of self-confidence, discipline, and motivation (Cooper et al. 1994). Likewise, Rae and Carswell (2001) argue that that human capital is associated with self-belief and greater confidence in one´s ability to pursue entrepreneurial action (Krueger et al., 2000; De Clercq and Arenius,

2006). Thus, human capital and, more specifically, a higher level of education may affect perceptions of behavioural control, with education also amplifying the effect of learning from failure for subsequent growth intentions. Perceptions of a high level of behavioural control, which are granted by human capital (Bird, 1988; Boyd and Vozikis, 1994), amplify the positive effects of learning from failure and lead to more ambitious growth intentions.

To summarize, the authors propose three reasons for a high level of education being associated positively with growth intentions after failure: it motivates entrepreneurs to derive more knowledge from failure, it facilitates them to effectively use failure to calibrate the set of opportunities for the subsequent venture, and it increases their confidence in their ability to apply that knowledge and scale up the entrepreneurial ambition. Therefore:

H2a. *Higher education will enhance the positive impact of past failure (exit for financial reasons) on the high growth aspirations of a subsequent start-up.*

While education, especially higher education, represents general human capital, entrepreneurial experience and skills represent the human capital and tacit knowledge that is specifically useful for entrepreneurial projects (Estrin *et al.*, 2016). Utilisation of this tacit knowledge leads to the phenomenon of 'serial entrepreneurship', which has been analysed in considerable detail by Parker (2013). His insights and empirical findings suggest that both success and failure experience lead to valuable knowledge, a view that is consistent with the arguments proposed here. Moreover, Hajizadeh and Zali (2016) show that entrepreneurial experience provides entrepreneurs who fail with a conscious behavioural tendency to look for new business opportunities while remaining aware of the environmental factors that lead to failure and success. This leads us to expect that learning from a failure experience is likely to result in higher ambitions when it is complemented by the entrepreneur's cognitive ability to process information regarding new business opportunities, an ability that is associated with experience of serial entrepreneurship.

It is important that serial entrepreneurship includes the experience of success alongside the experience of failure; tasting success is likely to sustain the perception of behavioural control and positive attitudes towards start-up activities. These are factors that affect behavioural intentions according to Theory of Planned Behaviour (Ajzen 1988; 1991). Here, the parallel impact of positive entrepreneurial outcomes may counterbalance any negative

impact of failure on subsequent entrepreneurial ambitions. Parker (2013) finds that with each new project, the outcome of entrepreneurial attempt becomes more predictable, reducing risks of new ventures; this strengthens perceptions of behavioural control and encourages entrepreneurs to scale up their ambition. Parker's (2013) results show that subsequent ventures converge to some entrepreneur-specific level of performance that is not equivalent to the performance outcome of the latest project (i.e., it does not imply that failure breads failure). The subsequent venture's performance will have a random component, but the weight of this component diminishes with each new venture. Now, consider an entrepreneur with a sustained entrepreneurial track record who has experienced recent failure. They are more likely to consider the current failure not in isolation but as part of their longer entrepreneurial experience. They will be more confident to engage in a new high ambition project, while at the same time trying to rapidly utilise the knowledge recently gained from failure. Thus, recent failure when combined with serial entrepreneurship will enhance growth intentions, suggesting the following hypothesis:

H2b. *Entrepreneurial experience (serial entrepreneurship) will enhance the positive impact of past failure (exit for financial reasons) on the high growth aspiration of a subsequent start-up.*

3. Data and methods

3.1. Overall design

In order to test the hypotheses, the authors compiled data from four sources: Global Entrepreneurship Monitor (GEM), Center for Systemic Peace's Polity IV project, World Bank (WB), and Heritage Foundation/Wall Street Journal. The authors utilize GEM data from 95 countries for the period 2007-2019, with a total of 104,036 individual observations in the final models of entrepreneurial growth aspirations. The GEM data has been used in the past to analyse exit (see Beynon et al., 2021 for a recent example).

The estimation proceeds in two steps. While the authors are interested in the growth aspirations of owners-managers of (nascent) start-ups, the decision to engage in the start-up cannot be treated as a random event; in other words, there is a potential selection problem.

The authors control for this by first estimating the probability of individuals to engage in start-ups, employing the design proposed by Wooldridge (1995) to tackle the selection issue. This is an extension of Heckman's (1979) model. The advantage of the solution proposed by Wooldridge (1995) is that it not only corrects for selection bias (cf. Heckman, 1979), it also accounts for the unobserved heterogeneity. Accordingly, in the first step of the estimation, the authors run year-by-year probit models where the dependent variable is involvement in start-up (see definition below), a binary indicator. From each of these models the authors calculate the inverse Mills ratio. The obtained set of the Mills ratios are added to the second step model, where the dependent variable is a measure of entrepreneurial growth aspirations (definition below). This way, the authors control for selection bias as well as for country and year effects. The set of independent variables in the first and in the second stage is the same, the only exception being the measure of effective constraints on the executive branch of the government from the Polity IV project (interpreted as the rule of law; see: Acemoglu and Johnson, 2005; Mickiewicz *et al.*, 2021), which is included in the first stage (start-up) equation but not in the second stage equation (following the literature:). This is because the authors verified it to be highly insignificant if included. To clarify, while the rule of law variable has, consistent with the literature, a significant effect on the decision to engage in a start-up, the authors do not find that it directly affects growth aspirations in the sample. Omitting this variable from the second stage helps to meet the exclusion criterion that the authors need for the selection model to work.

3.2. Dependent variables

The first-stage dependent variable (in the selection models) comes from the GEM annual working age population surveys conducted by country teams, which have at least 2,000 observations per country. Entrepreneurial entry is proxied by a GEM measure of start-up engagement (a dummy variable), representing a nascent entrepreneur engaged in business start-up activities who did not yet produce income for more than three months (Reynolds *et al.*, 2005).

Next, the dependent variable in the main equation(s) captures entrepreneurial growth aspirations. The GEM survey asks how many employees the owner-manager expects to employ in five years' time. To this figure the authors add the size of entrepreneurial team,

accounting for all the entrepreneurs. This is an improvement on the simplification used by Estrin et al. (2013), who get the overall level of employment by adding only one entrepreneur. In the next step, a logarithm is taken to improve the distribution of the intended employment variable, as this reduces its range by shrinking the values for large outliers.[4]

3.3. Key independent variables

The key explanatory variable relates to *recent failure*. This variable is again based on the GEM database and is defined by the percentage of the adult population that has closed a business and left the market for financial reasons and/or negative economic performance results during the last twelve months. The focus on short time span is consistent with Parker's (2013) findings that the knowledge gained from earlier business engagement depreciates rapidly over time.

The approach of defining failure by cessation of entrepreneurial activities caused by bad financial results or the impossibility of gaining access to finance is the same as used by Yakamawa et al. (2015), Justo *et al.* (2015), and Fuentelsaz *et al.* (2021) for different research questions; see also conceptual discussions by Jenkins and McKelvie (2016), DeTienne and Wennberg (2016), and Corner *et al.* (2017). The authors use this measure to test Hypothesis 1a, and Hypotheses 2a-2b; in the latter case, the variable will enter interactive effects (described below). For Hypothesis 1b, the authors use the prevalence rate of recent failure, calculated as the mean at country-year level. Importantly, in all the specifications, the authors also control for recent exit from business for any reasons other than financial or poor performance (*discontinued: other reasons*) to reduce omitted variable bias. Although the core models simply pack all non-financial failure reasons for exit into one category, the robustness tests incorporate a split of these exit motives.

[4] It could be argued that growth aspirations are *subjective* self-reported proxies and, thus, do not properly measure the quality of new ventures. Nevertheless, consistent with the Theory of Planned Behaviour that postulates that *intentions* affect behaviour (Aizen, 1998; 1991), the literature argues that this *potential* job creation is a good predictor of subsequent *actual* job creation (Autio and Acs 2010; Decker *et al.*, 2020; Fuentelsaz *et al.*, 2021; Stam and Van Stel, 2011), and therefore can lead to the high-growth firms that are important to the public policy agenda (Fischer and Reuber, 2003).

For Hypotheses 2a-2b *recent failure* is interacted with one of two variables. For Hypothesis 2a, the authors use an indicator variable for entrepreneurs who have completed some form of higher education. Completed, as opposed to inchoate, tertiary education is emphasised by the current literature as critical to the impact of education (Todd, 2019). For Hypothesis 2b, the authors use an indicator variable for respondents who, as well as starting up a venture, are owner-managers of mature firms (older than 42 months, as defined by the GEM survey), which proxies parallel entrepreneurship experience outside of failure.

3.4. Control variables

The authors control for per capita GDP (purchasing power parity) to account for a country's level of development; this, as previous studies suggest, is associated with entrepreneurial activity (Estrin *et al.*, 2019). The authors verify that using a natural logarithm of GDP or adding a square term makes no difference to the key results. They then include GDP growth to control for economic dynamism. The models also control for the size of government spending over GDP, which previous studies find to be negatively related to entrepreneurial activity (Aidis *et al.*, 2012). Here, the formula utilised by Heritage Foundation/Wall Street Journal is reversed to express it in its original form[5]. The authors next include the Business Freedom index; this combines World Bank 'Doing Business' indicators related to ease of registering the firm and to licensing requirements into one scalar. Existing research has showed mixed results for this measure (Djankov *et al.*, 2002; Van Stel *et al.*, 2007; Mickiewicz *et al.*, 2021). To control for availability of finance, the authors also introduce the Financial Freedom index. These three variables are retrieved from the Heritage Foundation/Wall Street Journal set of institutional indicators.

Turning to the individual level variables, previous literature shows that gender is a relevant factor for growth aspirations and suggests that being female has a negative impact (Estrin et al., 2013; Capelleras et al., 2019). The authors thus include an indicator variable that has a value of one if the respondent declared being *female*. They also control for *age* of the entrepreneur and *age squared*, expecting a hump-shaped relationship (as found by Azoulay

[5] See https://www.heritage.org/index/pdf/2019/book/methodology.pdf, retrieved on 8th of February, 2022.

et al., 2020) for growth of new ventures. Household income level is included as a categorised variable, while recent experience with *financing new businesses* and *knowing other entrepreneurs* are indicator variables. Finally, there is a variable representing the respondent's assessment of *how entrepreneurs are presented in media*.

The authors lag by one year all country-level explanatory variables external to the GEM survey. Furthermore, all individual variables are also entered in the form of country-year averages, following the logic of the Mundlak-type model (Mundlak, 1978; Bell *et al.*, 2019). Among these averages, the rate of failure plays a special role, being a key variable used to evaluate Hypothesis 1b rather than a control variable.

The models are estimated with random intercepts based on countries, as in Mickiewicz et al. (2021). Definitions and sources of all variables are presented in Table 1.

{Table 1}

Table 2 provides descriptive statistics. The mean value of the dependent variable, the logarithm of employment expected in five years' time, is 1.77, corresponding to the employment size of 6. For preliminary measures of association, the authors calculate Pearson correlation coefficients for continuous-continuous pairs of variables, Pearson χ^2 for categorical-categorical pairs, and biserial correlations for categorical-continuous pairs. These are presented, with corresponding significance levels, in Tables A1-A3 in the Appendix. Biserial correlations in Table A3 demonstrate that both recent failure and exit for other reasons are positively and significantly correlated with subsequent entrepreneurial growth aspirations, with the correlation being stronger for the latter than for the former. Table A3 shows that the categorical variables with the highest biserial correlation coefficients with entrepreneurial growth aspirations are: incomplete secondary education (negative), being located in the highest third of the income distribution (positive), recent experience of financing other start-ups (positive), and female indicator variable (negative). Table A1 shows that the continuous variables with the highest Pearson's correlation coefficients with growth aspirations are: share of those with higher education (positive), share of established business owner-managers (negative, indicating some competition effects), and business freedom (positive, as the indicator captures start-up friendly regulations).

Among the correlations between explanatory variables, high positive correlations between business freedom and financial freedom indicators stand out. This may work against the significance of both variables. However, the authors follow recent recommendations in the literature and prioritise lower omitted variable bias over multicollinearity concerns, which are seen as less of an issue that has traditionally been claimed (Lindner *et al.*, 2020), especially in large samples (Goldberger, 1991). This implies keeping both variables in the estimated models.

{Tables 2 and 3}

4. Results

For all the models presented, the dependent variable is the logarithm of employment (including owner-managers) expected in five years' time. All the models are estimated using a panel random effects estimator based on maximum likelihood, as recommended by the literature (Rabe-Hesketh and Skrondal, 2012). Following good practice, the authors run a sequence of models with variables added stepwise, the first being the null model which has only random intercepts (see Hox *et al.*, 2018). The next three models are presented in Table A4 in the Appendix. The first of these has only the two exit categories as explanatory variables. The next adds the Mills ratios and year dummies, and the third adds individual control variables. The full model, to which country-year level variables are added, is Model 1 in Table 3 in the main text.

Based on the models presented in Table A4 (and Model 1 in Table 3), the authors verify that the coefficients of key variables remain stable when the models are gradually extended. The likelihood ratio test of random intercepts indicates that for the null model (not reported), and all remaining models, random intercepts should be included and the OLS estimator would not be sufficient. The corresponding χ^2 values of the tests remain highly significant for all models, being below the 0.001 probability threshold; see the bottom of Tables A4 and 3. The interclass correlation predictably goes down once specifications become longer, and their explanatory power increases (0.137 for the null model, going down to 0.106 for the Table 3 models).

{Table 3}

The main results are shown in Table 3. Model 1 has no interactive effects included. The authors use it to test Hypotheses 1a and 1b. Models 2 and 3 contain interactive effects related to Hypotheses 2a and 2b respectively. In each case the authors alleviate omission bias by including interactions not only with failure (exit due to low performance or lack of financing) but also with the indicator variable representing all other types of exit.

In Model 1, the coefficient for previous year failure is highly significant and positive ($\beta=0.064$, $p<0.001$), consistent with Hypothesis 1a. One may also observe that exit for non-financial reasons has larger positive effect on subsequent growth aspiration, as measured by the size of the corresponding coefficient ($\beta=0.105$, $p<0.001$). This is consistent with raw results in the correlation table, but the key point is that both types of exit are significantly associated with subsequent growth aspirations.

Interestingly, when it comes to mean country-year effects, the order of relative strength is reversed: the effect of a large number of those that exited due to failure is stronger than the effect of a large number of those that exited due to other reasons. Thus, an environment where more entrepreneurs have closed the businesses for financial reasons is even more conductive to an individual's growth aspirations than one where more entrepreneurs have closed their businesses for other reasons. Both effects remain highly significant at $p<0.001$, consistent with Hypothesis 1b. The authors also note that there is no contradiction between their results and the findings of earlier literature that a high failure rate is associated with less subsequent entry (Espinoza-Benavides and Díaz, 2019) because the authors focus on the level of growth aspirations and not on the overall rate of entry.

Turning to the interactive effects, these indicate significant support for Hypothesis 2a. Higher education seems to make the positive effect of recent failure on growth aspirations stronger. The interaction term is only borderline significant ($\beta=0.058$, $p<0.10$), but the postestimation joint significance test of the two terms and their interaction comes out as highly significant ($\chi^2=375.82$, $p<0.001$). This result on the education–growth aspirations association may be contrasted with the ambiguous results found for the association between education and the likelihood of re-entry; Stam et al. (2008) report a positive link, Amaral et al. (2011) a negative link, and Guerrero and Peña-Legazkue (2019) an insignificant one.

With respect to entrepreneurial experience (Model 3), its interactive effect with recent failure is significant ($\beta=0.099$, $p<0.05$), and likewise the postestimation joint significance

test of the two terms and the interaction comes out as significant (χ^2=375.82, p<0.001). Thus, there is support for Hypothesis 2b.

The authors further inspect the logic of the interactions by plotting them for the corresponding variables. Figure 1 (based on Model 2) illustrates a considerable gap in growth aspirations between those with high and low levels of education (red versus blue lines). Moreover, growth aspirations are always higher for those who have experienced recent exit, regardless of whether this was for financial reasons or other reasons (location of points corresponding to 1 compared to those corresponding to 0). Furthermore, the slopes of the red lines are higher than those of the blue lines. This implies that education amplifies the positive effect of recent experience of exit on subsequent growth aspirations.

The interactive effects of exit with being a serial entrepreneur may be similarly interpreted. Figure 2 shows positive effects of exit, regardless of the reason (including failure), on growth aspirations. Moreover, these positive effects are amplified for serial entrepreneurs, as documented by the positions of the red lines compared to the blue.

{Figures 1-2}

The coefficients of most of the individual-level control variables came out significant, apart from individual perceptions of positive media presentations of entrepreneurial success. Thus, in addition to the straight positive effects of the two types of exit, the authors find a negative impact of being female, which is consistent with recent results in the literature (Wang *et al.*, 2019). A U-shaped impact of entrepreneurial age on growth intentions is consistent with its association with re-entry as identified by Baù et al. (2017). There is positive impact of medium and high income (compared to low income), and positive impact of being a business angel in the last two years. All these results are consistent with the raw correlations reported in Tables A1-A3. With respect to the mean effects of these variables at the country-year level, the results are more mixed. Mean age and share of females both exert negative effects on individual growth aspirations. Interestingly, share of those with higher education, share of owner-managers in the population, and, contrary to authorial expectation, share of those who know other entrepreneurs, also come with a significant negative sign. The last finding is especially noteworthy because it indicates no support for the entrepreneurial

capital hypothesis (Audretsch and Keilbach, 2004; 2005) in relation to high growth expectations. It seems that other entrepreneurs exert competition effects rather than positive spill-over entrepreneurial capital effects. In sharp contrast, the two variables representing the density of exit (for financial reasons and for other reasons) come with strong positive effects because here, there is social learning but no direct competition effect.

The share of those who were business angels in the last two years comes with a positive sign, indicating the role of access to informal finance. This contrasts with the insignificant sign for the financial freedom indicator; together, these findings imply that informal finance is more important than formal finance to the growth aspirations of entrepreneurs. Also, while *individual* perceptions of positive media stories about entrepreneurial success came out as insignificant, their *social prevalence rate* is significant with the expected positive sign. This result is in line with findings by Kuckertz *et al.* (2020) who highlight the critical role played by a wider social understanding of entrepreneurship. Finally, prior economic growth and business freedom both have strong positive effects.

4.1. Another take: four categories of exit

In the estimations so far, the authors have compressed all motives for exit (save for financial failure) into a single category. An alternative take is to split the exit motives further. Hence, the authors propose to separate out two distinctive categories of exit motives. The first, labelled 'Opportunity reasons', combines three answers from the GEM menu: 'An opportunity to sell the business', 'Another job or business opportunity', and 'Exit planned in advance'. The second category, labelled 'Personal reasons', combines the following survey answers: 'Retirement', 'Personal reasons', and 'An incident'. This leaves a residual category of 'Other reasons', which now represents only 10.3% of those who responded to the question about exit reasons. The survey allows respondents to accompany their response to this question with open-ended answers, a considerable number of which list government regulations and bureaucracy. For that reason, the authors of the GEM survey included another category from 2015: 'Government, tax policy bureaucracy'. However, as this had not been introduced for the earlier sample years, the authors have to combine it with 'Other reasons', which is now labelled "Other reasons, including government".

The corresponding estimations, based on four categories of exit motive, are presented in Table 4. The coefficients and significance levels of the failure category are not affected; they remain similar to Table 3 and they will therefore not be discussed in detail again. However, the split of exit motives reveals some interesting patterns. In Model 1, without interactions, the opportunity motive of exit is clearly associated with the highest subsequent growth aspirations for new projects. This is consistent with Giotopoulos et al. (2017) who emphasise that the identification of new opportunities plays a critical role in ambitious forms of entrepreneurship, building on the classic concept of entrepreneurial alertness (Kirzner, 1973). Thus, exit due to the identification of opportunities is likely to result in new entry characterised by high growth aspirations.

At the other end of the spectrum, the personal reasons category is the only one that exhibits no significant difference from the baseline 'no exit experience' category with respect to the subsequent growth aspirations. Turning to the interactions with human capital in Models 2 and 3, it is again the opportunity motive of exit where human capital plays the strongest role, amplifying the growth aspirations positively.

{Table 4}

5. Discussion

5.1. Contribution. Extending Schumpeter?

There is now wide a literature on failure (Levie *et al.*, 2011; DeTienne and Wennberg, 2016; Jenkins and McKelvie, 2016). While it considers re-entry, it does not link with the separate stream of literature on entrepreneurial ambition (Tominc and Rebernik, 2007; Hessels et al., 2008; Autio and Acs, 2010; Estrin et al., 2013; Capelleras et al., 2019). Utilising the lenses of the Theory of Planned Behaviour (Aizen, 1988; 1991), the authors bridge these two streams of the literature, producing novel insights. The authors argue that the new knowledge derived from failure leads to higher entrepreneurial growth aspirations (Hypothesis 1a), and that this effect is amplified by the human capital of the entrepreneur (Hypotheses 2a-2b), extending the literature on entrepreneurial learning and ambition (Capelleras *et al*., 2019).

Moreover, the authors argue that there is a social effect of failure (Hypothesis 1b), which is even stronger than the individual effect. Observing what worked and what did not work in

the practices of others implies lessons for one's own projects, enhancing perceptions of behavioural control and leading to higher growth intentions. This matters because while low growth intention projects may be important for social reasons (i.e., they offer a direct way out of poverty for the individuals involved), high growth projects feed into economic development, promote stronger knowledge spillover effects, result in more exporting, and produce positive external competition effects (Hessels and van Stel, 2011). More generally, the authors explore a new set of arguments that call for a more positive assessment of entrepreneurial failure. While its immediate consequences are obviously negative, a longer time perspective qualifies that conclusion.

By linking failure to subsequent ambitious entrepreneurship, the authors extend and modify the Schumpeterian perspective on creative destruction (2012[1942]), whereby businesses are destroyed to make space for new ones in the process of development. In the seminal passage he writes:

> "This process of Creative Destruction is the essential fact about capitalism. It is what capitalism consists in and what every capitalist concern has got to live in." (*Ibid.*: p.95).

Yet this is a venture-centred, tangible-assets centred, and competition-centred perspective. In contrast, the authors adopt an individual-centred perspective that focuses on human capital, learning, and the effects on subsequent ambition, in which the process is not merely one of destruction. The authors emphasise that a business failure resulting from competition implies that human capital is *accumulated* not *destroyed* and it feeds into ambitious new projects. In short, construction lies beneath destruction.

5.2. Policy implications

Policy makers are showing considerable interest in new business creation, and especially in the creation of ventures with strong growth potential (Capelleras *et al*., 2019). Government money is allocated to support entrepreneurship even while the discussion about the best policy tools for achieving this is far from being resolved (Elert *et al.*, 2019). The key message the authors offer here is consistent with the argument presented by Levie *at al.* (2011): the negative impact of early-stage business discontinuity tends to be exaggerated. In fact, failure may be an important channel for enhancing subsequent entrepreneurship and making it more ambitious because beneath destruction there is a process of learning (Corner *et al.*, 2017). If

this is the case, then a new practical and important question is how might failed entrepreneurs be enabled to quickly start again so that the specific human capital they acquired from the failure is not wasted, especially given how quickly it erodes (Parker, 2013; see also Guerrero and Peña-Legazkue, 2019). Some of this may call for drawing again upon business psychology (Ucbasaran *et al.*, 2013), and in particular upon the Theory of Planned Behaviour, which emphasises the role of the perceived behavioural control (Ajzen, 1988). There are entrepreneurs who experience a more disruptive trajectory of recovery after failure (Corner *et al.*, 2017) and it is this group that may need attention. Increasing their perceived behavioural control (self-efficacy) is likely to result in subsequent entrepreneurial intentions characterised by ambition.

Another point worth considering by policy makers (and society as a whole) is the impact exerted by culturally conditioned attitudes about entrepreneurial failure (Kuckertz *et al*., 2020). There is already an important stream of research that emphasises that cultural values and the stigma attached to failure may inhibit the processes of re-entry (Simmons *et al*., 2014; Damaraju, Barney and Dess, 2021; Lee *et al*., 2021). Results of that line of research would imply rethinking education and public discourse, a task which should be shared by government (at all levels), civic organisations, and media (Kuckertz *et al*., 2020). While the authors think this is very important, as supported by this study's significant positive results for the prevalence rate of perceptions of positive media portraits of entrepreneurs, the topic is beyond the scope of this paper. However, the line of argument presented suggests a direction to follow: the focus of attention should be on lessons that can be learned from failure (Espinoza-Benavides and Díaz, 2019) in order to improve future growth-oriented entrepreneurial projects.

Complementing that perspective, the authors stress that access to resources is critical. If, as the findings suggest, education facilitates further learning from entrepreneurial experience, turning it into successful new projects, then policy makers and other agents of society should think about how they might tempt failed student-entrepreneurs and others with higher education into re-entering entrepreneurship. They should also come up with ways to preserve entrepreneurial skills gained from a failure so that they do not erode. Specific programmes addressing innovative and high-growth aspiration ventures (usually led by entrepreneurs with higher levels of education) could include learning from failure.

Second, finance is critical. The results on control variables document that the availability of informal investment and business angels has strong effects on entrepreneurial growth aspirations, and policymakers should promote regulations that make that type of finance attractive (Elert *et al.*, 2019).

5.3. Practical implications

The authors' results have implications for not just previously failed entrepreneurs but also for individuals who have not engaged in entrepreneurship before. It is important to point out that one of the most significant disincentives for potential entrepreneurs is the fear of failure (Arenius and Minniti, 2005). It is true that failure often arises from negative financial, emotional, or social outcomes (Ucbasaran et al., 2013), which may discourage potential entrepreneurs from setting up their own businesses. However, following Cope (2011), the authors argue that the negative emotional outcomes are likely to be concentrated in the aftermath of failure, but over time these will be more than compensated for by learning processes. Thus, the consequences of failure should not be overestimated. Entrepreneurship should be considered as a long-term decision that, even in the case of failure, results in invaluable learning that can be fruitful in the future (Yamakawa and Cardon, 2015), feeding into entrepreneurial ambition. In particular, insofar as entrepreneurs are open to the experience of learning from failure (Politis and Gabrielson, 2009), the knowledge acquired can, under certain conditions, facilitate future successful entrepreneurial ventures (Lattacher and Wdowiak, 2020), and these are expected to reach higher levels of growth: intentions lead to behaviour, consistent with the Theory of Planned Behaviour (Ajzen, 1988; 1991).

Furthermore, the authors show that higher growth intentions after failure are particularly evident in the subgroup of individuals with higher levels of education or entrepreneurial experience. Since individuals with higher human capital usually have higher intrinsic motivation, which facilitates the performance, growth, and success of future new ventures (Capelleras et al., 2019; Yamakawa et al., 2013), they should not be afraid to start up again after failure.

6. Conclusion

The perspective the authors adopt suggests a positive and optimistic view of entrepreneurial failure. While Schumpeter's (2012[1942]) perspective implies destruction that clears space for creation, the authors emphasise that beneath business destruction there may be learning, both individual and social, which aids construction. The construction process underneath the failure of entrepreneurial businesses is more difficult to detect because it is less tangible. It is embedded not only in the enhanced skills of the entrepreneurs who failed in financial terms, but also in the knowledge others acquire from observing that failure. Thus, knowledge can be acquired by the entrepreneurs who failed and by those around them. This is why these effects may appear in full only when the individual and societal levels are examined in conjunction, suggesting that a multilevel approach is important.

Generally, Schumpeterian creative destruction may be too romantic in its vision of the business world as a place of warfare from which some emerge victorious. Once the focus of attention shifts from businesses to people as business agents, the pattern of learning and therefore the construction of human capital emerges from beneath what appears to be only a process of destruction. Entrepreneurial failure need not turn people away from entrepreneurship. Quite the contrary, it may amplify their subsequent entrepreneurial ambitions.

6.1. Limitations and future research lines

This work has some limitations, the key one relating to the GEM measure of failure that the authors utilise in the empirical counterpart. The corresponding GEM questions relate only to recent cases of business failure. This is justifiable in that knowledge, especially experiential tacit practical knowledge, erodes with time, making recent experience the experience that matters, as indeed has been demonstrated by Parker (2013). Nevertheless, it is possible that those beneficial effects are stretched over a longer period of time. Here, the authors are constrained by data.

Another data limitation concerns the fact that while GEM offers rich, detailed individual-level information, it is not a true panel, and the sample of individuals is different every year.

The possibility of having longitudinal information at the individual level for a sufficient number of countries would complement and enrich the results.

In terms of future research, the authors can envisage cycles of low and high failure. This is because, as argued, high failure rates lead to the accumulation of new business knowledge, both in the individual and via the social channel. Given this study's findings about the link between failure and growth aspirations, this is likely to trigger a period of more ambitious start-ups. But more ambitious projects are also riskier and more likely to fail in the next phase of the cycle. There may be a second effect: business accumulated from failure may also improve the quality of subsequent new projects. This may cause the failure rate in the subsequent period to again fall, resulting in projects with a longer life span. This then implies that fewer agents are involved in new venture creation in the next phase. With lower entry, there will be less learning about the entrepreneurial process, and therefore more projects will result in failure when the new cohort of potential entrepreneurs comes to the market.

To summarise, the authors can argue for a potential cycle of failure and more learning, which leads to more new ventures and less failure, which leads to higher opportunity cost of entry and less learning, which leads to more failure. The authors concede that this is highly hypothetical and, if anything, the mechanism the authors speculate upon here will overlay many others. The authors nevertheless posit that work on entrepreneurship and business cycles (Koellinger and Thurik, 2012) which can be traced back to Schumpeter (2008[1934]; 2012[1942]) could be extended towards a more explicit account of the positive effects of failure on growth aspirations and on the nature of subsequent projects. This may be a promising direction for further empirical investigation and theorising.

A further potential research line will be to utilise the distinction between the necessity and opportunity types of entry included in the GEM dataset. Guerrero and Peña-Legazkue (2019) apply these to re-entry but not to growth intentions. It is likely that all the relationships postulated in this study would come out stronger for the opportunity type of entry compared to the necessity type. This is open to be explored in further work.

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Table 1. Description of the variables used in the study

Variable	Definition	Source
Entrepreneurial growth aspirations	Logarithm of employment expected in 5 years	GEM
Recent failure	1= discontinued a business in last 12 months, because it was unprofitable or not getting finance, 0= otherwise	GEM
Recent exit (other reasons)	1= discontinued a business in last 12 months for other reasons, 0= otherwise	GEM
Age	The exact age of the respondent at time of interview (>14 and <65)	GEM
Female	0=male, 1= female	GEM
Education: some-secondary	1= respondent has some-secondary education, 0= otherwise	GEM
Education: secondary	1= respondent has completed secondary education, 0= otherwise	GEM
Education: tertiary	1= respondent has completed tertiary education, 0= otherwise	GEM
Income: Middle 33%tile	1= head of household income located in the middle 1/3 of income distribution, 0= otherwise	GEM
Income: Upper 33%tile	1= head of household income located in the highest 1/3 of income distribution, 0= otherwise	GEM
Knowing other entrepreneurs	1= personally knows entrepreneurs in past two years, 0= otherwise	GEM
Manages & owns business older than 42 months	1= manage & owns business older than 42 months, 0= otherwise	GEM
See stories in the public media about entrepreneurship	1= see stories in the public media about entrepreneurial success, 0= otherwise	GEM
Financed new businesses	1= business angel financed new businesses in past three years, 0= otherwise	GEM
GDP per capita, lagged	GDP per capita, constant $k	World Bank
GDP growth rate lagged	Annual percentage growth rate of GDP	World Bank
Government spending/GDP, lagged	Level of government expenditures as a percentage of GDP; recalculated, reversing the transformation used to report government size score by the Economic Freedom indicators. Government spending/GDP = ((100-government_size)/.03) ^.5	Heritage Foundation
Business Freedom index, lagged	Indicator of the efficiency of government regulation of businesses. The quantitative score is derived from an array of measurements on the difficulty of starting, operating, and closing a business	Heritage Foundation

Financial Freedom index, lagged	Indicator of the independence from government control and interference in the financial sector.	Heritage Foundation
Executive constraints, lagged	Efficient constraints on the arbitrary power of the executive branch of the government; proxy for rule of law	Polity IV

Table 2: Descriptive statistics

Variable	Obs	Mean	Std. dev.	Min	Max
ln of growth aspirations	139,202	1.77	1.20	0	13.82
Age	2,060,254	39.90	13.12	15	64
Female	2,060,122	0.51	0.50	0	1
Primary education or less	2,019,496	0.09	0.28	0	1
Some secondary	2,019,496	0.19	0.39	0	1
Secondary	2,019,496	0.34	0.48	0	1
Tertiary	2,019,496	0.38	0.49	0	1
Income: Lowest 33tile	1,665,533	0.30	0.46	0	1
Income: Middle 33tile	1,665,533	0.34	0.47	0	1
Income: Upper 33tile	1,665,533	0.36	0.48	0	1
Knows other entrepreneurs	1,924,272	0.40	0.49	0	1
Owns & manages established business	2,060,254	0.08	0.27	0	1
Recent failure	2,038,141	0.02	0.13	0	1
Recent exit (other reasons)	2,038,141	0.02	0.14	0	1
Business angel	2,050,269	0.05	0.22	0	1
Media stories on entrepreneurship	1,688,033	0.59	0.49	0	1
Business freedom	2,031,081	73.88	13.20	35.3	100
Financial freedom	2,029,681	62.18	17.22	10	90
GDP p.c.	2,052,230	2992.34	11469.73	0.82	88948.08
GDP growth	2,052,230	2.68	3.28	-14.24	25.16
Gov. spending / GDP	2,031,081	36.42	10.25	11.69	57.74
Mean age	2,060,254	41.28	4.11	29.44	49.93
Mean female	2,060,254	0.51	0.04	0.27	0.62
Mean some secondary education	2,060,254	0.19	0.09	0.00	0.62
Mean secondary education	2,060,254	0.34	0.10	0.04	0.64
Mean tertiary education	2,060,254	0.38	0.16	0.02	0.75
Mean established bus. own. & man.	2,060,254	0.08	0.04	0.02	0.36
Mean failure	2,060,254	0.02	0.02	0.00	0.17
Mean exit other reasons	2,060,254	0.02	0.02	0.00	0.11
Mean bus. Angel	2,060,254	0.05	0.03	0.00	0.24
Mean knows other entrepreneurs	2,060,254	0.39	0.10	0.18	0.85
Mean media entrepreneurship coverage	2,054,075	0.59	0.12	0.31	0.95
Mean med. income	2,060,254	0.33	0.04	0.14	0.65
Mean high income	2,060,254	0.35	0.05	0.07	0.58

Table 3. Estimation results. Dependent variable: entrepreneurial growth aspirations

	(1)	(2)	(3)
Discontinued: unprofitable, no fin. (failure)	0.064***	0.042*	0.049**
	(0.016)	(0.020)	(0.017)
Discontinued: other reasons	0.105***	0.071***	0.088***
	(0.014)	(0.019)	(0.015)
Age	-0.021***	-0.021***	-0.021***
	(0.002)	(0.002)	(0.002)
Age # Age	0.000***	0.000***	0.000***
	(0.000)	(0.000)	(0.000)
Female	-0.267***	-0.266***	-0.267***
	(0.007)	(0.007)	(0.007)
Some secondary	0.064***	0.063***	0.064***
	(0.016)	(0.016)	(0.016)
Secondary	0.136***	0.136***	0.136***
	(0.014)	(0.014)	(0.014)
Tertiary	0.284***	0.276***	0.283***
	(0.015)	(0.015)	(0.015)
Tertiary # Discontinued: unprofit., no fin.		0.058+	
		(0.032)	
Tertiary # Discontinued: other reasons		0.075**	
		(0.028)	
Manages & owns business older than 42 m.	0.157***	0.157***	0.143***
	(0.010)	(0.010)	(0.011)
M&O Bus # Discontinued: unprofit. no fin			0.099*
			(0.043)
M&O Bus # Discontinued: other reasons			0.113**
			(0.039)
Know someone who started a business	0.081***	0.081***	0.081***
	(0.008)	(0.008)	(0.008)
Income: middle 33%tile	0.073***	0.072***	0.073***
	(0.010)	(0.010)	(0.010)
Income: upper 33%tile	0.258***	0.258***	0.258***
	(0.009)	(0.009)	(0.009)
Financed new business(es) in past 3 years	0.264***	0.264***	0.264***
	(0.010)	(0.010)	(0.010)
See stories in public media about entrepr.	0.002	0.002	0.002
	(0.007)	(0.007)	(0.007)
Business freedom (lagged)	0.003***	0.003***	0.003***
	(0.001)	(0.001)	(0.001)
Financial freedom (lagged)	-0.000	-0.000	-0.000
	(0.001)	(0.001)	(0.001)
GDP per capita constant USDk (lagged)	-0.000*	-0.000*	-0.000*
	(0.000)	(0.000)	(0.000)

GDP growth rate (lagged)	0.007***	0.007***	0.007***
	(0.002)	(0.002)	(0.002)
Government expenditure / GDP (lagged)	-0.001	-0.001	-0.001
	(0.001)	(0.001)	(0.001)
Mean age	-0.012***	-0.012***	-0.012***
	(0.003)	(0.003)	(0.003)
Share of females	-1.672***	-1.671***	-1.670***
	(0.166)	(0.166)	(0.166)
Share of those with some secondary educ.	-0.115	-0.115	-0.115
	(0.080)	(0.080)	(0.080)
Share of those with secondary education	-0.102	-0.102	-0.103
	(0.071)	(0.071)	(0.071)
Share of those with higher education	-0.301***	-0.299***	-0.300***
	(0.077)	(0.077)	(0.077)
Share of established business owners	-2.179***	-2.184***	-2.172***
	(0.161)	(0.161)	(0.161)
Share of those discontinued bus. due to fin.	2.733***	2.762***	2.703***
	(0.617)	(0.617)	(0.617)
Share of those discontinued bus. other reas.	1.805***	1.812***	1.805***
	(0.508)	(0.508)	(0.508)
Share of those who financed bus	1.200***	1.195***	1.199***
	(0.215)	(0.215)	(0.215)
Share of those who know other entrepren.	-0.821***	-0.823***	-0.822***
	(0.067)	(0.067)	(0.067)
Share of those who see stories on entrepr.	0.210***	0.210***	0.209***
	(0.058)	(0.058)	(0.058)
Share of those with med range income	-0.101*	-0.102*	-0.102*
	(0.046)	(0.046)	(0.046)
Share of those with high range income	-0.155***	-0.154**	-0.154**
	(0.047)	(0.047)	(0.047)
Constant	3.745***	3.747***	3.748***
	(0.182)	(0.182)	(0.182)
Observations	102683	102683	102683
χ^2 for LR test for random intercepts	5562.233***	5566.522***	5559.762***
Intraclass correlation	0.106	0.106	0.106

Notes:
Panel random effects, maximum likelihood estimator. Standard errors in parentheses. Annual dummies and Mills ratios included but not reported. *** p<0.001, ** p<0.01, * p<0.05, + p<0.10

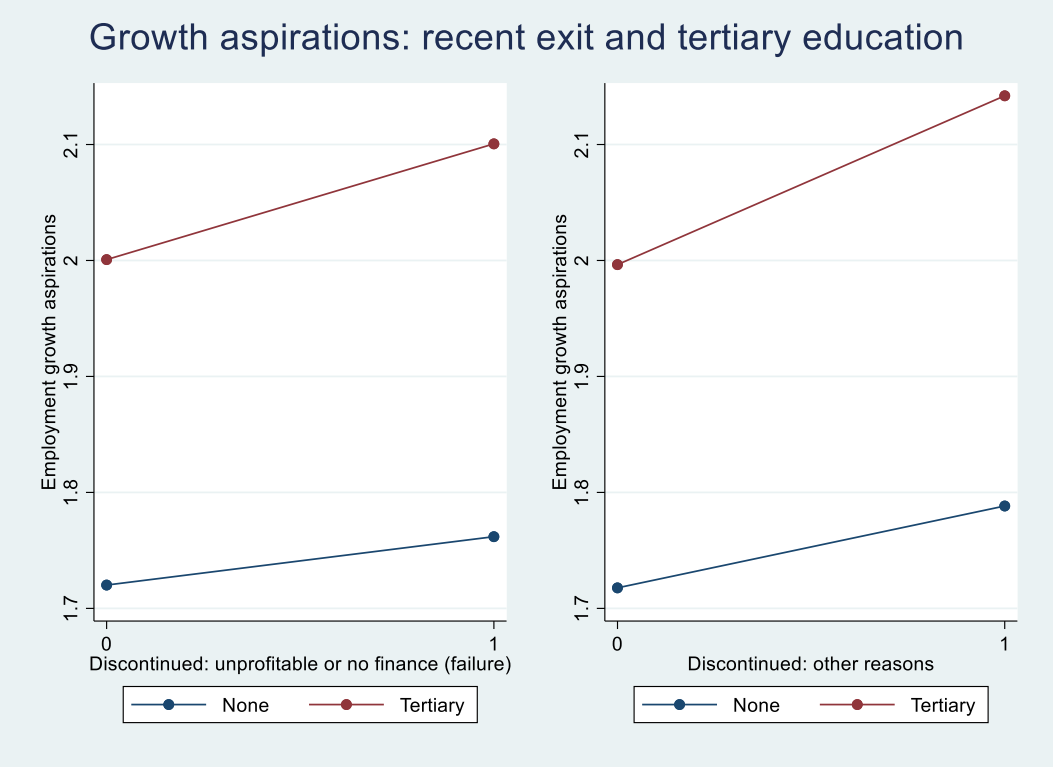
Table 4. Estimation results. Dependent variable: entrepreneurial growth aspirations

	(1)	(2)	(3)
Discontinued: unprofitable or no finance (failure)=1	0.064***	0.042*	0.050**
	(0.016)	(0.020)	(0.017)
Discontinued: opportunity reasons=1	0.186***	0.125***	0.145***
	(0.022)	(0.031)	(0.024)
Discontinued: personal reasons=1	0.026	0.010	0.037
	(0.021)	(0.028)	(0.023)
Other reasons incl. government	0.132***	0.139***	0.108***
	(0.031)	(0.041)	(0.033)
Age	-0.021***	-0.021***	-0.021***
	(0.002)	(0.002)	(0.002)
Age # Age	0.000***	0.000***	0.000***
	(0.000)	(0.000)	(0.000)
Female	-0.266***	-0.266***	-0.266***
	(0.007)	(0.007)	(0.007)
Some secondary	0.064***	0.064***	0.064***
	(0.016)	(0.016)	(0.016)
Secondary	0.136***	0.136***	0.136***
	(0.014)	(0.014)	(0.014)
Tertiary	0.284***	0.277***	0.284***
	(0.015)	(0.015)	(0.015)
Middle 33%tile	0.072***	0.072***	0.073***
	(0.010)	(0.010)	(0.010)
Upper 33%tile	0.257***	0.257***	0.257***
	(0.009)	(0.009)	(0.009)
Know someone who started a business in the past 2 y	0.082***	0.082***	0.082***
	(0.008)	(0.008)	(0.008)
Manages & owns business older than 42 months	0.155***	0.155***	0.142***
	(0.010)	(0.010)	(0.011)
Financed new business(es) in past 3 years	0.265***	0.264***	0.264***
	(0.010)	(0.010)	(0.010)
See stories in public media about entr. success	0.003	0.003	0.002
	(0.007)	(0.007)	(0.007)
Business freedom (lagged)	0.003**	0.003**	0.003**
	(0.001)	(0.001)	(0.001)
Financial freedom (lagged)	-0.001	-0.001	-0.001
	(0.001)	(0.001)	(0.001)
GDP per capita constant USDk (lagged)	-0.000*	-0.000*	-0.000*
	(0.000)	(0.000)	(0.000)
GDP growth rate (lagged)	0.007***	0.007***	0.007***
	(0.002)	(0.002)	(0.002)
Government expenditure / GDP (lagged)	-0.002	-0.002	-0.002
	(0.001)	(0.001)	(0.001)
Mean age	-0.013***	-0.013***	-0.013***
	(0.003)	(0.003)	(0.003)
Share of females	-1.745***	-1.745***	-1.739***
	(0.172)	(0.172)	(0.172)
Share of those with some sndry ed.	-0.110	-0.110	-0.111
	(0.083)	(0.083)	(0.083)
Share of those with secondary ed.	-0.116	-0.116	-0.119
	(0.074)	(0.074)	(0.074)
Share of those with higher ed.	-0.302***	-0.300***	-0.303***

	(0.078)	(0.078)	(0.078)
Share of established business owners	-2.130***	-2.133***	-2.120***
	(0.169)	(0.169)	(0.169)
Share of those discontinued due to opportunity to sell	-3.203**	-3.058**	-3.264**
	(1.138)	(1.140)	(1.138)
Share of those discontinued due to no profits	-0.609	-0.586	-0.687
	(0.918)	(0.918)	(0.918)
Share of those discontinued due to problems getting fin.	5.027***	5.077***	4.980***
	(0.991)	(0.991)	(0.991)
Share of those discontinued due to another opportunity	8.563***	8.548***	8.605***
	(2.144)	(2.144)	(2.144)
Share of those discontinued due to planned exit	1.056	0.877	0.885
	(4.176)	(4.176)	(4.176)
Share of those discontinued due to retirement	11.407***	11.358***	11.368***
	(2.000)	(2.000)	(2.000)
Share of those discontinued due to personal reasons	0.661	0.676	0.668
	(0.935)	(0.935)	(0.935)
Share of those discontinued due to an incident	5.759*	5.714*	5.993*
	(2.466)	(2.465)	(2.466)
Share of those discontinued due to other reasons	0.430	0.433	0.424
	(0.883)	(0.883)	(0.882)
Share of those who financed bus	1.368***	1.367***	1.368***
	(0.223)	(0.223)	(0.223)
Share of those who know other entrepreneurs	-0.815***	-0.817***	-0.814***
	(0.069)	(0.069)	(0.069)
Share of those who see pos. media stories on entrepreneurship	0.152*	0.151*	0.150*
	(0.059)	(0.059)	(0.059)
Share of those with med range head of household income	-0.070	-0.070	-0.069
	(0.047)	(0.047)	(0.047)
Share of those with high range head of household income	-0.137**	-0.138**	-0.136**
	(0.047)	(0.047)	(0.047)
Tertiary # Discontinued: unprofitable or no finance (failure)=1		0.059+	
		(0.032)	
Tertiary # Discontinued: opportunity reasons=1		0.121**	
		(0.043)	
Tertiary # Discontinued: personal reasons=1		0.038	
		(0.043)	
Tertiary # Other reasons incl. government		-0.017	
		(0.061)	
Owns & manages old business # Discontinued: failure			0.098*
			(0.043)
Owns & manages old business # Discontinued: opportunity reasons			0.227***
			(0.056)
Owns & manages old business # Discontinued: personal reasons=1			-0.081
			(0.062)
Owns & manages old business # Other reasons incl. government			0.200*
			(0.094)
Constant	3.909***	3.912***	3.912***
	(0.187)	(0.187)	(0.187)
Observations	102683	102683	102683
Chi2 for LR test for random intercepts	5329.143	5332.271	5328.319
Intraclass correlation	0.111	0.111	0.111

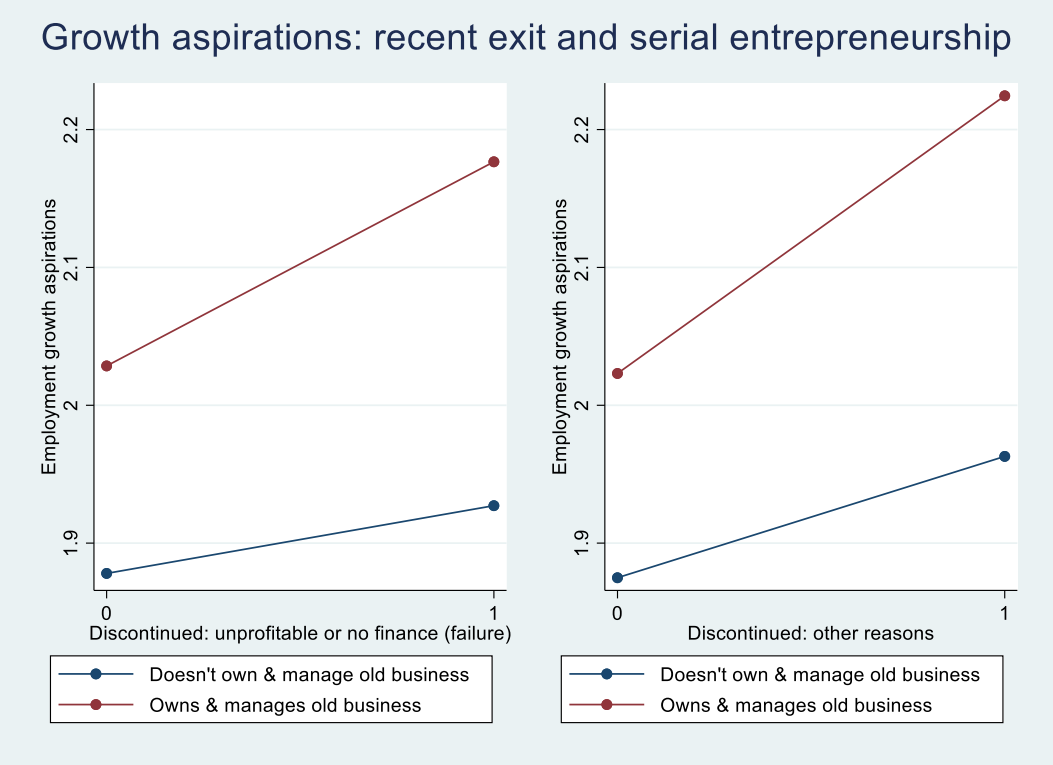
Notes: Please see Table 3.

Figure 1



Note: based on Model 2 in Table 3.

Figure 2



Note: based on Model 3 in Table 3.

Table A1. Pearson correlations between the pairs of continuous variables

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
(1) Log of growth aspirations	1.000																		
(2) Age	-0.015 (0.000)	1.000																	
(3) Business freedom (lagged)	0.098 (0.000)	0.174 (0.000)	1.000																
(4) Financial freedom (lagged)	-0.002 (0.472)	0.167 (0.000)	0.623 (0.000)	1.000															
(5) GDP per capita constant USDk (lag)	0.042 (0.000)	-0.069 (0.000)	-0.125 (0.000)	-0.345 (0.000)	1.000														
(6) GDP growth rate (lagged)	0.020 (0.000)	-0.090 (0.000)	-0.333 (0.000)	-0.292 (0.000)	0.091 (0.000)	1.000													
(7) Gov. exp. / GDP (lagged)	0.010 (0.000)	0.161 (0.000)	0.471 (0.000)	0.437 (0.000)	-0.292 (0.000)	-0.385 (0.000)	1.000												
(8) Mean age	0.040 (0.000)	0.309 (0.000)	0.564 (0.000)	0.543 (0.000)	-0.225 (0.000)	-0.293 (0.000)	0.521 (0.000)	1.000											
(9) Share of females	-0.085 (0.000)	0.112 (0.000)	0.113 (0.000)	0.216 (0.000)	-0.124 (0.000)	-0.031 (0.000)	0.079 (0.000)	0.365 (0.000)	1.000										
(10) Share of those with some 2ry ed.	-0.080 (0.000)	-0.055 (0.000)	-0.164 (0.000)	-0.022 (0.000)	-0.103 (0.000)	0.072 (0.000)	-0.029 (0.000)	-0.177 (0.000)	0.005 (0.000)	1.000									
(11) Share of those with 2ry ed.	-0.002 (0.415)	0.043 (0.000)	-0.061 (0.000)	0.030 (0.000)	0.037 (0.000)	-0.074 (0.000)	0.101 (0.000)	0.139 (0.000)	0.180 (0.000)	-0.310 (0.000)	1.000								
(12) Share of those with higher ed.	0.157 (0.000)	0.097 (0.000)	0.453 (0.000)	0.234 (0.000)	-0.002 (0.004)	-0.080 (0.000)	0.215 (0.000)	0.318 (0.000)	-0.106 (0.000)	-0.454 (0.000)	-0.423 (0.000)	1.000							
(13) Share of establ. business owners	-0.150 (0.000)	-0.063 (0.000)	-0.290 (0.000)	-0.133 (0.000)	0.166 (0.000)	0.092 (0.000)	-0.248 (0.000)	-0.206 (0.000)	0.008 (0.000)	0.009 (0.000)	-0.052 (0.000)	-0.231 (0.000)	1.000						
(14) Share of discon. due to finance	-0.062 (0.000)	-0.155 (0.000)	-0.424 (0.000)	-0.348 (0.000)	0.116 (0.000)	0.203 (0.000)	-0.392 (0.000)	-0.502 (0.000)	-0.082 (0.000)	0.154 (0.000)	-0.133 (0.000)	-0.301 (0.000)	0.381 (0.000)	1.000					
(15) Share of discon. due to other	-0.012 (0.000)	-0.109 (0.000)	-0.315 (0.000)	-0.236 (0.000)	0.046 (0.000)	0.244 (0.000)	-0.362 (0.000)	-0.352 (0.000)	-0.137 (0.000)	-0.043 (0.000)	-0.132 (0.000)	-0.107 (0.000)	0.305 (0.000)	0.782 (0.000)	1.000				
(16) Share of those who financed bus.	0.031 (0.000)	-0.079 (0.000)	-0.269 (0.000)	-0.196 (0.000)	0.109 (0.000)	0.192 (0.000)	-0.395 (0.000)	-0.261 (0.000)	-0.193 (0.000)	-0.080 (0.000)	-0.089 (0.000)	-0.037 (0.000)	0.288 (0.000)	0.606 (0.000)	0.744 (0.000)	1.000			
(17) Share of those know other entr.	-0.048 (0.000)	-0.146 (0.000)	-0.447 (0.000)	-0.357 (0.000)	0.146 (0.000)	0.310 (0.000)	-0.389 (0.000)	-0.474 (0.000)	-0.211 (0.000)	0.094 (0.000)	-0.072 (0.000)	-0.187 (0.000)	0.271 (0.000)	0.445 (0.000)	0.481 (0.000)	0.524 (0.000)	1.000		
(18) Share who see pos. stories on entr.	0.032 (0.000)	-0.068 (0.000)	-0.169 (0.000)	-0.258 (0.000)	0.087 (0.000)	0.321 (0.000)	-0.407 (0.000)	-0.224 (0.000)	-0.101 (0.000)	-0.154 (0.000)	0.018 (0.000)	-0.052 (0.000)	0.241 (0.000)	0.311 (0.000)	0.452 (0.000)	0.279 (0.000)	0.364 (0.000)	1.000	
(19) Share with med. range of income	-0.021 (0.000)	-0.004 (0.000)	0.037 (0.000)	-0.022 (0.000)	0.049 (0.000)	0.034 (0.000)	-0.027 (0.000)	-0.012 (0.000)	0.156 (0.000)	-0.035 (0.000)	-0.062 (0.000)	0.041 (0.000)	0.060 (0.000)	0.012 (0.000)	0.009 (0.000)	0.013 (0.000)	0.068 (0.000)	0.018 (0.000)	1.00
(20) Share with high range of income	0.034 (0.000)	0.003 (0.000)	0.034 (0.000)	0.015 (0.000)	0.018 (0.000)	-0.179 (0.000)	-0.033 (0.000)	0.008 (0.000)	-0.147 (0.000)	-0.026 (0.000)	-0.015 (0.000)	-0.023 (0.000)	-0.035 (0.000)	-0.008 (0.000)	-0.043 (0.000)	0.024 (0.000)	-0.030 (0.000)	-0.052 (0.000)	-.339 (.00)

Note: Significance level in parentheses below the Pearson's correlation coefficients.

Table A2. Person's χ^2 for pairs of categorical variables (dummies)

		1	2	3	4	5	6	7	8	9	10	11
1	Recent exit : finan. failure											
2	Recent exit: other reasons	818.2780										
3	Female	548.510	674.5910									
4	Education: some second.	1,128.910	356.0030	2,229.650								
5	Education: secondary	156.5960	23.0880	99.1860	50,792.320							
6	Education: tertiary	33.5450	192.6380	436.7030	113,932.640	257,752.470						
7	Income: middle 33%	0.3310.565	57.7840	63.5550	249.5630	0.4750.491	2,087.760					
8	Income: high 33%	28.7570	213.9990	11,176.810	22,262.330	26,679.520	3,063.120	486,110.710				
9	Knowing other entrepr.	6,679.890	9,225.060	14,957.180	3,381.880	4,267.030	135.2820	107.5440	18,083.440			
10	Manages and owns establ. bus	907.5090	606.6520	13,647.230	3,687.030	0.790.374	741.260	290.3430	8,279.040	16,600.770		
11	Business angel	10,325.830	18,769.410	6,552.200	274.2610	1,563.940	569.9420	643.3370	9,563.870	43,498.540	7,430.680	
12	Media stories entrepreneurship	264.6140	876.5780	1.1640.281	1,664.040	38.2750	0.0040.947	3.920.048	26.9080	6,589.090	931.4630	847.8660

Note: significance level below the Pearson's χ^2 values.

Table A3. Person's biserial correlations for pairs of continuous and categorical (dummy) variables

	Failure	Other exit	Female	Ed:some2nd	Ed:2nd	Ed:3ry	Inc:middle	Inc: high	Know ent.	Establ bus	Bus angel	Media
Log of growth aspirations	0.01	0.035	-0.156	-0.111	-0.083	-0.034	-0.059	0.144	0.065	0.053	0.124	-0.008
	0	0	0	0	0	0	0	0	0	0	0	0.005
Age	-0.02	-0.005	0.029	0.11	0.05	-0.086	-0.024	-0.042	-0.128	0.083	-0.01	0.002
	0	0	0	0	0	0	0	0	0	0	0	0.021
Business freedom (lagged)	-0.059	-0.038	0.01	-0.175	-0.052	-0.016	0.008	0.009	-0.111	-0.05	-0.047	-0.047
	0	0	0	0	0	0	0	0	0	0	0	0
Financial freedom (lagged)	-0.048	-0.028	0.02	-0.144	-0.008	0.009	-0.002	0.003	-0.086	-0.023	-0.034	-0.072
	0	0	0	0	0	0	0.023	0	0	0	0	0
GDP per capita (lagged)	0.016	0.006	-0.011	0.026	-0.032	0.01	0.009	0.002	0.037	0.029	0.019	0.025
	0	0	0	0	0	0	0	0.003	0	0	0	0
GDP growth rate (lagged)	0.029	0.03	-0.003	0.053	0.022	-0.021	0.007	-0.037	0.076	0.016	0.033	0.09
	0	0	0	0	0	0	0	0	0	0	0	0
Government expendit. / GDP (lag)	-0.055	-0.044	0.007	-0.164	-0.009	0.029	-0.004	-0.006	-0.099	-0.043	-0.069	-0.113
	0	0	0	0	0	0	0	0	0	0	0	0
Mean age	-0.07	-0.042	0.033	-0.182	-0.055	0.041	-0.001	0.002	-0.119	-0.036	-0.045	-0.065
	0	0	0	0	0	0	0.119	0.003	0	0	0	0
Share of females	-0.011	-0.017	0.092	-0.018	0.001	0.053	0.032	-0.035	-0.048	0.001	-0.033	-0.025
	0	0	0	0	0.282	0	0	0	0	0.037	0	0
Share of those with some sndry ed.	0.022	-0.006	0	0.001	0.31	-0.088	-0.007	-0.008	0.023	0.002	-0.014	-0.048
	0	0	0.47	0.224	0	0	0	0	0	0.015	0	0
Share of those with secondary ed.	-0.019	-0.016	0.016	-0.082	-0.096	0.284	-0.015	0.004	-0.018	-0.009	-0.015	0.008
	0	0	0	0	0	0	0	0	0	0	0	0
Share of those with higher ed.	-0.042	-0.013	-0.01	-0.218	-0.142	-0.119	0.011	-0.009	-0.048	-0.04	-0.007	-0.014
	0	0	0	0	0	0	0	0	0	0	0	0
Share of establ. business owners	0.054	0.037	0.001	0.161	0.004	-0.016	0.012	-0.011	0.07	0.174	0.05	0.068
	0	0	0.271	0	0	0	0	0	0	0	0	0
Share of discontinued due to finance	0.139	0.094	-0.008	0.179	0.048	-0.039	0.001	-0.002	0.113	0.066	0.105	0.085
	0	0	0	0	0	0	0.122	0.005	0	0	0	0
Share of discontinued due to other	0.108	0.12	-0.013	0.145	-0.013	-0.039	0	-0.009	0.123	0.053	0.129	0.125
	0	0	0	0	0	0	0.925	0	0	0	0	0
Share of those who financed bus	0.084	0.089	-0.018	0.096	-0.024	-0.027	0.003	0.006	0.134	0.05	0.174	0.075
	0	0	0	0	0	0	0	0	0	0	0	0
Share of those who know other entr	0.062	0.058	-0.019	0.107	0.03	-0.023	0.014	-0.007	0.255	0.047	0.091	0.098
	0	0	0	0	0	0	0	0	0	0	0	0
Share who see pos. stories on entr.	0.04	0.052	-0.009	0.09	-0.048	0.005	-0.001	-0.009	0.09	0.04	0.047	0.274
	0	0	0	0	0	0	0.394	0	0	0	0	0
Share with med range of income	0.001	0	0.014	0.023	-0.013	-0.017	0.205	-0.082	0.02	0.01	0.002	0.003
	0.249	0.627	0	0	0	0	0	0	0	0	0.001	0
Share with high range of income	-0.001	-0.005	-0.014	0.03	-0.007	-0.005	-0.072	0.235	-0.01	-0.006	0.004	-0.014
	0.046	0	0	0	0	0	0	0	0	0	0	0

Note: Significance level below the Pearson's biserial correlation coefficients

Table A4. Estimation results. Dependent variable: entrepreneurial growth aspirations

	(1)	(2)	(3)
Discontinued: unprofitable or no finance (failure)	0.091***	0.086***	0.077***
	(0.014)	(0.014)	(0.016)
Discontinued: other reasons	0.176***	0.172***	0.117***
	(0.012)	(0.012)	(0.014)
Age # Age			-0.000***
			(0.000)
Female			-0.274***
			(0.007)
None			0.000
			(.)
Some secondary			0.061***
			(0.015)
Secondary			0.139***
			(0.014)
Tertiary			0.281***
			(0.014)
Lowest 33%tile			0.000
			(.)
Middle 33%tile			0.064***
			(0.009)
Upper 33%tile			0.256***
			(0.009)
Know someone who started a business in the past 2 y			0.076***
			(0.008)
Manages & owns business older than 42 months			0.144***
			(0.010)
Financed new business(es) in past 3 years			0.275***
			(0.010)
See stories in public media about entr. success			0.007
			(0.007)
Constant	1.882***	1.974***	1.748***
	(0.042)	(0.045)	(0.045)
IMR ratios and annual dummies	No	Yes	Yes
Observations	134739	134739	104540
Chi2 for LR test for random intercepts	15379.654	14469.614	9413.089
Intraclass correlation	0.137	0.133	0.105

Notes:
Panel random effects, maximum likelihood estimator
Standard errors in parentheses
*** p<0.001, ** p<0.01, * p<0.05, + p<0.10
Annual dummies and Mills ratios included in Models 2 and 3, but not reported.