



Entrepreneurial growth aspirations and the adoption of environmental actions: the role of regulatory stringency

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Abstract This study investigates how entrepreneurs' growth aspirations relate to the adoption of environmental actions and how national environmental regulations moderate this relationship. We argue that growth-oriented entrepreneurs are more likely to adopt environmentally oriented behaviors due to long-term investment logic and legitimacy-seeking considerations. Moreover, we propose that stringent environmental regulations strengthen this relationship by reinforcing both mechanisms. Using a multisource dataset and applying a multilevel analysis, we find support for our hypotheses. The findings highlight the importance of both entrepreneurial growth aspirations and regulatory environments in shaping entrepreneurs' engagement in environmental actions.

Plain English Summary Stringent environmental regulations amplify rather than constrain environmental actions among growth-aspiring entrepreneurs. Analyzing a large sample of entrepreneurs across the world, we find that those with strong scaling ambitions adopt more environmental practices, viewing them as strategic investments and legitimacy signals. This relationship intensifies under stringent regulation: clear institutional rules help entrepreneurs translate growth aspirations into concrete actions. These findings suggest that environmental practices serve not merely ethical purposes but strategic growth functions. They also imply that well-designed regulations can enhance entrepreneurial behaviors to tackle environmental challenges.

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1 Introduction

In the face of growing environmental challenges, the role of entrepreneurs in advancing sustainable development has become a central concern in academic and policy circles alike (Dean & Mack McMullen, 2007; Sanders, 2022; Audretsch et al., 2024). Entrepreneurs are increasingly viewed not only as sources

of environmental problems but also as potential agents of sustainability transitions (Halberstadt et al., 2024; Hoogendoorn et al., 2019; Veleza, 2021), consistent with the notion of entrepreneurship as a future-oriented process of creating desired change (Muñoz & Dimov, 2023).

Despite this growing interest, important gaps persist in understanding why entrepreneurs engage in environmental actions, understood as organizational practices that firms incorporate into their operations to address environmental challenges (Aragón-Correa, 1998; Tyler et al., 2024). Prior work emphasizes ethical motivations (Patzelt & Shepherd, 2011; Shepherd & Patzelt, 2011), entrepreneurial identities (York et al., 2016) or socio-demographic characteristics (Fokuhl et al., 2025). However, despite their recognized importance existing research has yet to examine whether entrepreneurial ambitions may lead to environmental behavior. Indeed, the entrepreneurs' aspirations for growth, which reflect their personal beliefs in the potential of their new firms (Hermans et al., 2015; Levie & Autio, 2013), are established determinants of actual venture growth (Baum et al., 2001; Davidsson et al., 2006) and have substantial implications for economic development (Acs et al., 2018; Decker et al., 2020). These entrepreneurial aspirations are distinct from managerial growth goals in established firms, as they reflect personal ambitions for the new venture's future. While researchers have focused on understanding what drives these aspirations (Alvarez-Vargas et al., 2025; Autio & Acs, 2010; Capelleras et al., 2019; Epure et al., 2024; Estrin et al., 2013, 2022), their implications for the adoption of environmental actions remain untheorized.

This gap also extends to contextual contingencies, specifically how national regulatory contexts shape this relationship. External pressures have been found to directly affect the likelihood that firms adopt environmental practices (Berrone et al., 2013; Jennings & Zandbergen, 1995; York & Lenox, 2014). Moreover, entrepreneurs frequently leverage environmental orientation to secure venture legitimacy and internalize stakeholder pressures through the prioritization of environmental issues (Bernal et al., 2022). However, we lack insight into how regulatory conditions moderate the translation of an entrepreneur's growth-related attitudes into environmental behaviors, particularly whether stringent regulatory contexts amplify or constrain aspiration-driven actions.

We address these gaps by examining how entrepreneurs' growth aspirations influence the adoption

of environmental actions and how this relationship is affected by the stringency of environmental regulations. Using insights from attitude-behavior (Ajzen, 1991) and goal setting (Locke & Latham, 1990) research, we argue that such aspirations influence their engagement in environmental behaviors. We theorize that growth-oriented entrepreneurs are more likely to adopt environmental actions because they view them as long-term investments and legitimacy-building mechanisms. Further, we draw on institutional economics (North, 1990; Williamsson, 2000) to suggest that the national regulatory context moderates this relationship. We argue that the stringency of environmental regulations strengthens both mechanisms, thus reinforcing the attitude-behavior link. Our rationale posits that country-level regulatory stringency makes environmental practices both strategic requirements for growth and more legitimate actions for resource acquisition.

We test our hypotheses using a multisource dataset comprising individual-level data on entrepreneurial factors from the Global Entrepreneurship Monitor (GEM) combined with country-level data on institutional conditions obtained from the World Economic Forum, the World Bank, and the Heritage Foundation for the years 2021 and 2022. We employ multilevel modeling techniques to analyze how individual-level aspirations influence the adoption of environmental practices by entrepreneurs, while accounting for the contextual effects of national-level institutional factors. The empirical strategy relies on data representativeness and the stable cross-sectional variation in institutional types, validating that entrepreneurs can take the institutional context as given (Epure et al., 2024). We also conduct a series of robustness tests and additional post-hoc analyses to further validate our results.

Our study makes two key contributions. First, we reveal that entrepreneurial growth aspirations serve as a strategic driver of environmental action adoption at the early stages of venture development. Unlike prior work emphasizing ethical motives (Patzelt & Shepherd, 2011) or external pressures (Bernal et al., 2022), we show how these aspirations operate through two complementary mechanisms: entrepreneurs view environmental practices as strategic investments and signals enhancing resource access. Second, we bridge micro-level attitudinal factors (Wiklund et al., 2003) and macro-level institutional contexts (Bylund

& McCaffrey, 2017) to show that stringent environmental regulations do not suppress but rather potentiate the relationship between entrepreneurial growth aspirations and environmental behavior. By reducing uncertainty in growth-oriented strategies and enhancing signaling value to stakeholders, stringent regulations can function as a catalyst for environmental proactivity among growth-oriented entrepreneurs.

2 Theory and hypotheses

2.1 Entrepreneurial growth aspirations and the adoption of environmental actions

Attitudes, understood as evaluative tendencies toward particular behaviors (Ajzen, 1991), have long been recognized as predictors of entrepreneurial action, particularly when external constraints are weak or ambiguous (Krueger, 2000). As such, entrepreneurial behavior is shaped by motivational attitudes that influence how individuals evaluate actions and commit to goals. Among these, the entrepreneur's growth aspirations play an important role in shaping decision-making, particularly in early-stage ventures (Cassar, 2007; Davidsson, 1991). Unlike realized growth, aspirations are forward-looking evaluations that reflect entrepreneurs' intended future achievements. By establishing objectives that direct and sustain action (Locke & Latham, 1990), they represent an attitudinal disposition that can guide behavior in the absence of immediate constraints or external pressures (Delmar & Wiklund, 2008).

In this vein, the entrepreneurship literature suggests that growth aspirations serve as internal reference points that shape the salience of particular choices and the willingness to invest in long-term outcomes (McKelvie et al., 2017; Wiklund et al., 2003). Entrepreneurs with strong growth aspirations are more likely to engage in behaviors that require proactive commitment and resource mobilization, even when these actions entail short-term costs or uncertain payoffs (Cassar, 2010; Stenholm, 2011). In this vein, entrepreneurs possess greater agency than managers in established firms to imprint their personal aspirations onto the new firm's strategic direction (Mathias et al., 2015). As such, aspirations influence not only what entrepreneurs hope to achieve, but also the strategic behaviors they are willing to

pursue to realize those outcomes. In fact, entrepreneurial growth aspirations represent the ambitions of entrepreneurs regarding business expansion (Autio & Acs, 2010; Capelleras et al., 2019; Estrin et al., 2013, 2022) and have been shown to influence their strategic behavior (Gundry & Welsch, 2001; Kolvareid, 1992; Kotha et al., 2023; Shui et al., 2025).

We extend this line of inquiry by proposing that growth aspirations increase the likelihood of adopting environmental actions. These typically include a range of proactive measures such as enhancing operational efficiency, improving waste management, developing eco-friendly products, and implementing environmental management systems (Cassells & Lewis, 2011; Tyler et al., 2024). Although such initiatives often involve trade-offs, requiring time, resources, and internal change without immediate financial returns, they can also generate long-term advantages that ultimately outweigh these initial costs. Firms that adopt a broad spectrum of environmental practices can reduce their ecological footprint while simultaneously boost their profitability (Bartolacci et al., 2020), which can lead to strengthened reputation (Blasi et al., 2021; Russo & Fouts, 1997). Thus, while the short-term trade-offs may appear constraining, the long-term potential for these gains makes these practices strategically relevant for entrepreneurs seeking to grow. Yet, to fully realize these advantages, environmental actions need to be deeply embedded in the firm's strategic framework (Eweje, 2020; Tyler et al., 2024). Because these actions are not necessarily externally mandated, their adoption tends to reflect discretionary commitment. In this context, entrepreneurial growth aspirations, understood as an attitudinal disposition expressing an entrepreneur's ambition for future firm expansion (Delmar & Wiklund, 2008; McKelvie et al., 2017), influence the likelihood that entrepreneurs will engage in such discretionary behaviors, even when outcomes are uncertain (Cassar, 2007; Wiklund et al., 2003). The founder's aspirations thus directly shape the strategic direction of new ventures, making ambitious entrepreneurs more likely to undertake environmental actions not necessarily out of environmental concern, but because these initiatives align strategically with their broader ambitions for business growth. We argue that this relationship mainly operates through two key mechanisms: investment reasoning and legitimacy-building.

First, growth-aspiring entrepreneurs are more likely to view environmental actions as long-term investments. While these practices can entail upfront costs in technology, processes, or training, they may also help anticipate potential future regulatory changes, support internal capability building, and align the firm with evolving market and stakeholder expectations (Aragón-Correa et al., 2008). Such investments also demonstrate entrepreneurs' willingness to accept short-term costs in exchange for potential long-term strategic benefits. This is particularly salient in new ventures, where early strategic choices can shape the firm's long-term trajectory. Entrepreneurs with ambitious growth goals often adopt forward-looking behaviors that enhance the firm's strategic preparation, and environmental practices can be understood within this logic of future-oriented investment (Tyler et al., 2024). Because high-growth entrepreneurs tend to adopt a long-term perspective and engage in deliberate planning (Delmar & Shane, 2003), they may be more willing to integrate environmental considerations into the firm's growth strategy (Aragón-Correa et al., 2008). This integration reflects the role of aspirations in shaping strategic choices, positioning environmental actions not merely as additional costs but as enablers of scalability. For entrepreneurs, the environmental domain thus represents both a risk, given its uncertain returns, and an opportunity to pursue long-term strategic gains. In this way, environmental actions are not symbolic or marginal initiatives, but rather embedded components of the firm's ongoing strategic investment and long-term implementation process (Tyler et al., 2024).

Second, entrepreneurs with ambitious growth goals often require substantial resources to realize their objectives. Gaining legitimacy, a critical challenge especially in the early stages of new ventures (Esty & Winston, 2009), involves conforming to normative expectations of responsible behavior, which enables entrepreneurs to secure stakeholder support and attract resources from external providers essential for intensive growth (Garud et al., 2014). Here, environmental actions serve as a strategic legitimacy-building mechanism: they are widely perceived by stakeholders as desirable and legitimate (Bansal & Clelland, 2004), particularly in societies with strong environmental values. These practices signal alignment with stakeholder expectations for responsible conduct and contribute to building a positive

reputation, which lowers information asymmetries and fosters trust among investors, customers, and partners (Bitektine & Haack, 2015; Suchman, 1995). Ambitious entrepreneurs may therefore adopt environmental actions to signal alignment with investors or customers' priorities and appeal to partners who seek purpose-driven organizations (Battilana et al., 2022). This signaling enhances the venture's credibility and positions it as responsible and consistent with broader societal trends (Delmas & Toffel, 2008; York et al., 2016). Compared to managers in established firms, entrepreneurs rely more directly on personal reputation to gain stakeholder support, making legitimacy-building through environmental engagement particularly important for new ventures. Consequently, ambitious entrepreneurs may place greater emphasis on environmental challenges in their strategic objectives to gain legitimacy for their ventures, by aligning more closely with social expectations (Ambec & Lanoie, 2008; Konadu et al., 2020a, 2020b), as a means to access the external resources necessary to achieve their strong growth aspirations.

Together, these arguments suggest that entrepreneurs who aspire to grow their ventures will be more likely to engage in environmental actions. Accordingly, we formulate the following hypothesis:

Hypothesis 1. Entrepreneurs' growth aspirations are positively related to the adoption of environmental actions.

2.2 The moderating role of the stringency of environmental regulations

Having established a theoretical link between entrepreneurial growth aspirations and the adoption of environmental actions, we now argue that this relationship is embedded within broader institutional contexts. Building on insights from institutional economics (North, 1990), we note that entrepreneurs operate within regulatory environments that shape the incentives, constraints, and expected returns associated with their strategic choices. As such, the translation of growth-oriented attitudes into environmental behaviors is therefore unlikely to occur in a vacuum but is shaped by external conditions that may amplify or constrain entrepreneurs' distinctive agency, particularly their discretion over strategic direction

during early venture stages. In fact, the institutional context of countries influences entrepreneurial behavior, including environmental actions that entrepreneurs may adopt for their ventures (Hörisch et al., 2017).

In this section we draw on new institutional economics to examine how national institutional environments establish a boundary condition for entrepreneurial decision-making. We follow North's (1990) view of institutions as fundamental "rules of the game" that shape human interactions and market structures. In particular, the economic/political branch of institutional theory argues that government structures or rule systems, such as regulation (Williamsson, 2000), constructed by actors to achieve the desired outcomes are critical drivers of human behavior (Bruton et al., 2010). Within this framework, regulation functions as a formal rule system that structures incentives and sanctions for market participants, shaping the behavioral boundaries within which entrepreneurs operate. At the same time, regulatory agencies can be understood as intermediaries in a long-term implicit contract between firms, consumers, and the state, responsible for interpreting and enforcing environmental standards (Bickenbach et al., 1999; Goldberg, 1976). From a market efficiency perspective, the existence of regulation is justified as a means of preventing market failure. As a result, regulatory intervention is viewed as a policy response to environmentally relevant market failures (Nordhaus, 2008).

Because institutions shape the incentives and constraints surrounding entrepreneurial behavior, they also influence the extent to which entrepreneurs can translate their growth aspirations into concrete environmental actions. Thus, the institutional environment provides a logical boundary condition for our proposed aspiration-behavior relationship, helping determine whether such aspirations are reinforced or weakened by contextual forces. Building on this foundation, we focus on the stringency of environmental regulations as a key institutional factor through which governments influence entrepreneurial behavior (North, 1990). Within the context of entrepreneurship, state regulatory involvement represents a particularly salient formal institution (Arshed et al., 2014; Estrin et al., 2013; Hörisch et al., 2017). Environmental regulations, as a form of government activism or "authoritative guideline" (North, 1990), reflect

the overall commitment of a government to enforce strict environmental protection and to hold businesses accountable for their impact on the environment. The stringency of these regulations therefore determines the level of pressure exerted on entrepreneurs operating in a given country (Bernal et al., 2022; Jennings & Zandbergen, 1995).

Entrepreneurs facing stringent environmental regulations incur higher costs for non-compliance, such as sanctions or loss of market access (Berrone et al., 2013). At the same time, they may benefit from incentives for compliance, including tax breaks or subsidies (Jiang et al., 2025). These institutional pressures imply that the stringency of regulations serves to internalize environmental externalities, making it more costly for firms to ignore ecological considerations and incentivizing alignment with environmental goals as a way to support their intended growth. Moreover, one of the primary roles of institutions is to reduce uncertainty in economic interactions (Bylund & McCaffrey, 2017; North, 1990). Stringent environmental regulations create a clear framework by outlining specific requirements for environmental practices. This clarity allows entrepreneurs to plan environmental investments with greater confidence in their long-term viability, as regulatory standards provide stable benchmarks. By reducing ambiguity about future compliance expectations, such regulations reduce uncertainty and support decision-making aligned with institutional constraints (Delmas & Tofel, 2008).

Therefore, the stringency of environmental regulations establishes conditions under which entrepreneurial growth aspirations may influence the adoption of environmental actions. Prior research has shown that stringent environmental regulations exert a direct positive effect on the likelihood that firms adopt environmental practices (Bernal et al., 2022; Berrone et al., 2013; Hoogendoorn et al., 2015). Taking this idea as a baseline starting point, our insight here is to theorize their moderating role, whereby regulatory stringency may condition the extent to which entrepreneurs translate their growth ambitions into concrete environmental behaviors. Specifically, we argue that regulatory stringency amplifies the relationship between entrepreneurial growth aspirations and environmental actions by intensifying the two mechanisms identified in our first hypothesis.

First, country-level regulatory stringency shifts environmental practices from discretionary initiatives to strategic requirements for growth. This enhances the long-term investment logic that underlies how ambitious entrepreneurs channel their aspirations. Regulatory clarity reduces uncertainty about future requirements (Bylund & McCaffrey, 2017), enabling growth-oriented entrepreneurs to plan environmental investments with greater confidence. In this sense, they may actively seek innovative ways to integrate required environmental practices with other operational practices or to discover new methods to meet environmental quality thresholds. These initiatives may align strategically with their broader ambitions for business growth (Cassells & Lewis, 2011). Entrepreneurs with strong growth aspirations can thus more confidently embed environmental actions into their scaling strategies (Tyler et al., 2024), as they may consider such actions as more strategically aligned with their growth trajectories. Furthermore, elevated compliance costs intensify the institutional consequences of non-compliance, with risks such as fines or market exclusion disproportionately threatening growth trajectories (Tian et al., 2023). Consequently, entrepreneurs driven by growth goals may become especially responsive to these environmental pressures in order to protect their expansion path and, thus, more likely to adopt environmental actions.

Second, stringent environments increase the legitimacy returns of environmental actions for resource acquisition, which is a priority for growth-aspiring ventures. In more demanding regulatory contexts, investors and partners increasingly view regulatory compliance as a baseline credibility test (Bitektine & Haack, 2015). So, environmental actions adopted by entrepreneurs with high-growth aspirations yield stronger signaling benefits, demonstrating regulatory foresight (Delmas & Toffel, 2008) while signaling scalability potential under institutional constraints (Hockerts & Wüstenhagen, 2010). These legitimacy signals facilitate access to resources for the growth of the new venture. At the same time, market opportunities tend to expand more rapidly in stringent regulatory environments through mechanisms like green subsidies or eco-certified supply chains (Zhu & Sarkis, 2004; Dechezleprêtre et al., 2023). Thus, growth-aspiring entrepreneurs are likely to view going above the required compliance thresholds as an opportunity to shape market demand and consolidate

their legitimacy (Schindehutte et al., 2008), as this stronger stringency signals national awareness and demand for environmental responsibility (Tyler et al., 2024). In this context, these entrepreneurs are more inclined to leverage these institutionalized markets to accelerate scaling, strengthening the alignment between the regulatory context and legitimacy-seeking behaviors.

Overall, country-level regulatory stringency strengthens the attitude-behavior link established in our first hypothesis by enhancing the investment logic for growth-oriented environmental commitments and heightening the legitimacy returns of such actions for resource acquisition. Thus, we propose the following hypothesis:

Hypothesis 2. The positive relationship between entrepreneurial growth aspirations and the adoption of environmental actions is stronger in countries with more stringent environmental regulations.

3 Methods

3.1 Data and sample description

We develop a multilevel dataset in which entrepreneurs are grouped within countries. Data at the individual-level is obtained from the Global Entrepreneurship Monitor (GEM) Adult Population Survey (APS). The GEM APS individual survey data consists of a representative sample of the adult population from each participating country. Further details about the project are available in Bosma (2013) and Reynolds et al. (2005). Furthermore, relevant examples of validation and generalizability can be found in previous studies in the field of comparative entrepreneurship, such as Autio et al. (2013), Epure et al. (2024), and Estrin et al., (2013, 2022). Specifically, in the context of entrepreneurs' engagement in environmental practices, notable examples are Hörisch et al. (2017), Chistov et al. (2023), and Bernal et al. (2022). Individuals are randomly chosen and surveyed via telephone or in-person interviews. The collected data is standardized using country-specific weighting methods, thereby allowing for generalizability and enabling comparisons across countries. Overall, this approach enables us to advance methodologically

Table 1 Sample composition

No	Country	Obs	Obs./N	Adoption of environmental actions	Entrepreneurial growth aspirations	Stringency of environmental regulations
1	Austria	156	0.01	0.53	2.13	6.17
2	Brazil	616	0.03	0.87	2.42	4.74
3	Canada	254	0.01	0.65	2.43	5.7
4	Chile	4160	0.19	0.62	2.38	5.11
5	China	150	0.01	0.77	2.46	4.45
6	Colombia	703	0.03	0.65	2.45	3.86
7	Croatia	263	0.01	0.65	2.49	4.14
8	Dominican Republican	189	0.01	0.76	2.27	3.77
9	Egypt	270	0.01	0.40	2.55	3.9
10	Finland	101	0.00	0.51	1.82	6.19
11	Germany	271	0.01	0.51	2.20	5.49
12	Greece	144	0.01	0.61	2.37	4.29
13	Guatemala	1256	0.06	0.61	2.39	3.83
14	Hungary	284	0.01	0.58	2.11	4.29
15	India	433	0.02	0.50	1.97	4.46
16	Indonesia	98	0.00	0.80	1.70	4.1
17	Iran	443	0.02	0.61	2.72	3.48
18	Ireland	145	0.01	0.62	2.49	4.93
19	Israel	136	0.01	0.36	2.47	4.79
20	Italy	56	0.00	0.59	2.29	4.56
21	Japan	139	0.01	0.54	2.34	5.57
22	Kazakhstan	37	0.00	0.46	2.81	3.64
23	Latvia	201	0.01	0.53	2.47	5.03
24	Lithuania	176	0.01	0.47	2.42	5.07
25	Mexico	344	0.02	0.64	2.44	3.91
26	Morocco	191	0.01	0.29	2.62	4.23
27	Netherlands	290	0.01	0.47	2.24	5.49
28	Norway	120	0.01	0.38	2.28	5.67
29	Panama	864	0.04	0.71	2.58	3.97
30	Poland	226	0.01	0.54	2.31	3.89
31	Qatar	607	0.03	0.51	3.34	4.9
32	Romania	209	0.01	0.55	2.40	4.49
33	Russia	130	0.01	0.35	2.81	3.72
34	Saudi Arabia	1363	0.06	0.42	2.59	4.52
35	Serbia	153	0.01	0.49	2.11	3.46
36	Slovakia	144	0.01	0.44	2.13	4.84
37	Slovenia	184	0.01	0.38	2.05	5.38
38	South Africa	278	0.01	0.43	2.38	4.11
39	South Korea	457	0.02	0.48	2.41	4.43
40	Spain	2516	0.12	0.53	1.99	4.32
41	Sweden	346	0.02	0.50	1.86	6.04
42	Switzerland	160	0.01	0.61	2.14	6.16
43	Tunisia	217	0.01	0.33	2.26	3.89
44	Turkey	29	0.00	0.45	2.55	3.68

Table 1 (continued)

No	Country	Obs	Obs./N	Adoption of environmental actions	Entrepreneurial growth aspirations	Stringency of environmental regulations
45	United Arab Emir	656	0.03	0.57	3.44	5.07
46	United Kingdom	317	0.01	0.49	2.05	5.11
47	United States	373	0.02	0.52	2.46	5.95
48	Uruguay	580	0.03	0.55	2.37	4.44

N = 21,435

robust research in entrepreneurship (Pérez-Luño et al., 2025).

Consequently, GEM data offer several benefits for testing our hypotheses regarding comparative entrepreneurial dynamics. Notably, one of the primary strengths of the survey lies in its ability to accurately represent entrepreneurial activity across a vast international sample. This enables the integration of detailed individual factors, such as ambitious growth prospects, with broader institutional aspects. In this study, we focus on early-stage entrepreneurs, defined as individuals who own and manage a business that has been in operation for less than 42 months (Capelleras et al., 2019; Epure et al., 2024; Reynolds et al., 2005). A limitation of the survey is that it only provides repeated country-year cross-sections and lacks firm-level financial data. Nonetheless, to the best of our knowledge, no comparable international dataset offers the same richness of individual-level characteristics as the GEM survey which are essential to address our research questions (Epure et al., 2024).

We complemented GEM data by integrating country-level information from the World Bank's World Development Indicators (WDI), the World Economic Forum (WEF), and the Heritage Foundation (HF). Our final dataset includes 21,435 observations across 48 countries for the years 2021 and 2022. Refer to Table 1 for sample composition details, Table 2 for definitions and data sources of variables, Table 3 for descriptive statistics, and Table 4 for correlation values.

3.2 Variables and measures

3.2.1 Dependent variable

Following our conceptual framework, the dependent variable is the adoption of environmental actions.

Consistent with prior literature, such actions are viewed as organizational practices intended to address environmental challenges associated with business operations (Aragón-Correa, 1998; Tyler et al., 2024). Our dependent variable is extracted from the GEM APS and captures whether the entrepreneur has taken any steps to minimize the environmental impact of their business over the past year. Appendix 1 reports the exact question from the questionnaire. These actions may include implementing energy-saving measures, reducing carbon emissions, introducing more efficient machinery, managing solid waste, using recyclable materials, or adopting alternative modes of transportation such as cycling, walking, carpooling, or public transport (Aguilera et al., 2021; GEM, 2025; Tyler et al., 2024; Walls et al., 2012). Specifically, the variable is coded as a binary indicator, capturing whether respondents have adopted any environmental action in their venture. Derived from the GEM project, this measure provides objective and comparable information on whether entrepreneurs actively engage in concrete efforts to reduce the environmental footprint of their business operations. Due to the considerable expenses associated with the GEM survey, the GEM dataset's core strengths lie in its standardized coding and cross-country comparability, which are crucial for international research. Thus, its use of binary scales and single-item questions further minimizes biases from cultural interpretations and translation issues, thereby ensuring more reliable comparisons across diverse national contexts (Autio et al., 2013). Dichotomous scales also help minimize issues related to translation equivalence (Hofstede et al., 2002). Related single-item measures have been used in previous studies in this area (e.g., Chistov et al., 2023).

Table 2 Variables description

Variable	Definition	Source
<i>Individual-level variables</i>		
Adoption of environmental actions	Dummy variable: 1 = respondent reports whether they have taken any steps to minimize the environmental impact of their business over the past year, 0 = otherwise	GEM
Entrepreneurial growth aspirations	This is a categorical variable that measures how many people, not counting owners, including both present and future employees, will be working for this business in five years from now: 1 = none; 2 = 1 to 5 people; 3 = 6 to 19 people; 4 = More than 20 people	GEM
Gender	Dummy: 1 = female, 0 = male	GEM
Age	Current age of participant in years	GEM
Higher education	Dummy variable: 1 = respondent holding a post-secondary education degree, 0 = otherwise	GEM
Entrepreneurial experience	This is a combination of two variables. 1) Dummy: 1 = Respondent sold, shut down, discontinued or quit a business in the past 12 months that s/he owned and managed and 2) this business continued its activities after the entrepreneur disengaged, 0 = otherwise	GEM
Investment experience	In the past three years, has the entrepreneur personally provided funds for a new business? Dummy: 1 = yes, 0 = no	GEM
Know other entrepreneur	Dummy variable: 1 = respondent personally knows someone who started a business in the past two years, 0 = otherwise	GEM
New technology or procedure	Dummy variable: 1 = respondent reports that technologies or procedures used for their products or service are either new to the world, new to people in their country, or new to people in the area where they live, 0 = otherwise	GEM
Current employment	Current number of employees (not counting the owners). Taken in log	GEM
Number of owners	Continuous variable that measures the total number of individuals, including the respondent, who both own and manage the business. Taken in log	GEM
Early stage vs. Nascent	Dummy variable: 1 (early stage) = if the individual is the owner-manager of a business of more than 3 months but less than 3 years and a half of activity, 0 (nascent) = if the individual is the owner-manager of a business in the first 3 months of activity	GEM
Established firm	Dummy variable: 1 = respondent manages and owns a business that is older than 42 months, 0 = otherwise	GEM
Perceived self-efficacy (robustness)	Dummy variable: 1 = respondent indicates having the knowledge, skills, and experience required to start a new business, 0 = otherwise	GEM
Fear of failure (robustness)	Dummy variable: 1 = respondent indicates that would not start a business for fear it may fail, 0 = otherwise	GEM
Adoption of social actions (post-hoc)	Dummy variable: 1 = respondent reports whether they have taken any steps to maximize the social impact of their business over the past year, 0 = otherwise	GEM
Social and/or environmental priorities (post-hoc)	This is a categorical variable that whether the respondent prioritizes the social and/or environmental impact of her business above profitability or growth: 1 = strongly disagree; 2 = somewhat disagree; 3 = neither agree nor disagree; 4 = somewhat agree; 5 = strongly agree	GEM
<i>Country-level variables</i>		
Stringency of environmental regulations	Indicator from the World Economic Forum—Executive Opinion Survey that ask business leaders to answer the question: “How would you assess the stringency of your country’s environmental regulations” (1 = very lax; 7 = among the world’s most stringent)	WEF
GDP per capital	GDP per capita at purchasing power parity (constant 2017 international \$)	WDI

Table 2 (continued)

Variable	Definition	Source
GDP growth	Annual percentage growth in GDP	WDI
Unemployment rate	Unemployment rate as a percentage of the total labor force	WDI
Economic liberalization	Index of economic freedom from the Heritage Foundation defined as a composite measure that equally weights both quantitative and qualitative factors: property rights, government integrity, government spending, tax burden, business freedom, labor freedom, monetary freedom, trade freedom, investment freedom, and financial freedom. The index can take values from 0 to 100	HF

GEM APS – Global Entrepreneurship Monitor Adult Population Survey (<https://www.gemconsortium.org>); WEF – World Economic Forum (<https://www.weforum.org>); WDI – World Bank's World Development Indicators (<https://data.worldbank.org/products/wdi>); HF – Heritage Foundation (<https://www.heritage.org/index/>)

Table 3 Descriptive statistics

	N	Mean	SD	Min	Max
<i>Level 1 variables</i>					
Gender	21,435	0.578	0.493	0	1
Age	21,435	37.64	11.36	18	64
Higher education	21,435	2.643	0.804	1	4
Entrepreneurial experience	21,435	0.044	0.205	0	1
Investment experience	21,435	0.175	0.380	0	1
Know other entrepreneurs	21,435	0.796	0.402	0	1
New technology or procedure	21,435	1.445	0.767	1	4
Current employment (log)	21,435	0.520	0.883	0	7.601
Number of owners (log)	21,435	0.423	0.542	0	6.907
Early stage vs. nascent	21,435	0.584	0.492	0	1
Established firm	21,435	0.028	0.166	0	1
Adoption of environmental actions	21,435	0.564	0.495	0	1
Entrepreneurial growth aspirations	21,435	2.394	0.859	1	4
<i>Level 2 variables</i>					
Stringency of environmental regulations	21,435	4.628	0.630	3.46	6.19
Economic liberalization	21,435	68.755	6.494	42.45	81.56
GDP per capita	21,435	25,949.41	21,313.51	2239.614	108,798.5
GDP growth	21,435	6.125	3.438	0.449	16.467
Unemployment rate	21,435	7.899	4.738	0.13	34.007

Data refers to the years:
2021–2022

3.2.2 Entrepreneurial growth aspirations

Our independent variable captures the entrepreneur's growth aspirations, which reflect their personal beliefs in the potential of their new firms (Levie & Autio, 2013). Specifically, we use an ordinal variable from the GEM APS that measures the total number of people the entrepreneur expects to employ in their business five years from now. This

measure is widely used in entrepreneurship research to operationalize growth aspirations (Capelleras et al., 2019; Epure et al., 2024; Estrin et al., 2013). The variable is coded as follows: it takes the value of 1 if the entrepreneur does not aspire to grow, 2 if they aim to create between 1 and 5 jobs, 3 for aspirations ranging from 6 to 19 jobs, and 4 for expectations exceeding 19 jobs. Higher values indicate stronger growth aspirations.

Table 4 Correlation matrix

No	Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
1	Adoption of environmental actions	1																	
2	Entrepreneurial growth aspirations	0.079*	1																
3	Stringency of environmental regulations	-0.013	-0.012	1															
4	Gender	-0.007	0.176*	0.039*	1														
5	Age	0.018	-0.080*	0.108*	0.017	1													
6	Higher education	-0.012	0.097*	0.148*	0.004	0.031*	1												
7	Entrepreneurial experience	0.058*	0.078*	0.020	0.020	-0.013	0.028*	1											
8	Investment experience	0.082*	0.139*	0.068*	0.058*	-0.024*	0.040*	0.133*	1										
9	Know other entrepreneurs	0.051*	0.100*	0.053*	0.024*	-0.074*	0.059*	0.044*	0.095*	1									
10	New technology or procedure	0.071*	0.200*	0.077*	0.071*	-0.025*	0.072*	0.049*	0.104*	0.048*	1								
11	Current employment	0.017	0.081*	0.000	0.018	-0.001	0.020	0.043*	0.029*	0.017	0.040*	1							
12	Number of owners	0.001	0.054*	-0.003	0.018	-0.009	0.000	0.004	0.016	0.001	0.013	0.007	1						
13	Early stage vs. nascent	-0.054*	-0.011	0.057*	-0.031*	-0.009	-0.005	-0.037*	-0.018	-0.030*	0.026*	-0.066*	0.000	1					

Table 4 (continued)

No	Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
14	Established firm	-0.006	0.052*	0.020	0.036*	0.074*	0.021	0.015	0.044*	0.017	0.028*	-0.005	0.000	0.069*	1				
15	Economic liberalization	-0.019	-0.039*	0.657*	-0.004	0.130*	0.156*	-0.007	0.061*	-0.027*	0.099*	-0.009	-0.013	0.076*	0.013	1			
16	GDP per capita	-0.058*	0.066*	0.606*	0.071*	0.106*	0.157*	0.035*	-0.017	-0.003	0.046*	0.021	0.003	0.007	0.007	0.513*	1		
17	GDP growth	0.053*	-0.005	-0.177*	-0.036*	-0.028*	0.020	0.010	0.029*	0.003	0.012	-0.017	-0.007	0.025*	-0.022*	0.099*	-0.110*	1	
18	Unemployment rate	0.003	-0.135*	-0.204*	-0.070*	0.069*	-0.002	-0.014	-0.012	-0.072*	-0.041*	0.006	-0.009	0.004	-0.028*	-0.125*	-0.316*	0.131*	1

* Represent statistical significance at $p < 0.001$

3.2.3 Stringency of environmental regulations

We assess the intensity of coercive environmental pressures within a country by examining the *stringency of its environmental regulations*. This refers to the commitment of the government, or any authorized legislative body, to environmental protection, demonstrated through the implementation of stringent environmental regulations within the country (Bernal et al., 2022). This indicator gathered from the World Economic Forum's Executive Opinion Survey provides an evaluation of the country's environmental regulations. In this survey, business leaders respond to the question: "How would you assess the stringency of your country's environmental regulations?" with options ranging from 1 (very lax) to 7 (among the world's most stringent). Country scores are aggregated using a simple average of valid responses. All individual answers carry the same weight.

3.2.4 Control variables

We include a set of individual-level control variables obtained from the GEM adult population survey dataset. Entrepreneurs' demographic characteristics have been found to influence entrepreneurial outcomes (Parker, 2009). Accordingly, we add a dummy variable for the respondent's *gender*, coded as 1 for female and 0 for male, and control for *age* (e.g., Capelleras et al., 2019; Epure et al., 2024; Estrin et al., 2022). We also include various relevant individual-level human capital factors to capture both general and specific components (Becker, 1975), consistent with recent study categorizations (e.g., Dencker et al., 2009; Epure et al., 2024; Estrin et al., 2016; Gruber et al., 2024). For general human capital, we include *higher education*, coded as 1 if the respondent holds a post-secondary degree and 0 otherwise. For specific human capital endowments, we consider *entrepreneurial experience*, which combines two indicators: (1) a dummy variable coded as 1 if the respondent has sold, shut down, discontinued, or quit a business they owned and managed within the past 12 months, and (2) whether the business continued operating after the entrepreneur disengaged. We also control for *investment experience*, coded as 1 if the participant personally funded a new business within the past three years, with 0 indicating no such experience. To disentangle the potential confounding

Table 5 Multicollinearity test on variables

Variable	VIF	Tolerance
Entrepreneurial growth aspirations	1.41	0.71
Stringency of environmental regulations	2.41	0.41
Gender	1.10	0.90
Age	1.06	0.94
Higher education	1.10	0.91
Entrepreneurial experience	1.04	0.96
Investment experience	1.07	0.93
Know other entrepreneurs	1.05	0.95
New technology or procedure	1.08	0.92
Current employment	1.81	0.55
Number of owners	1.10	0.90
Early stage vs. nascent	1.55	0.64
Established firm	1.02	0.97
Economic liberalization	2.09	0.47
GDP per capita	1.89	0.53
GDP growth	1.56	0.64
Unemployment rate	1.18	0.84

VIF values greater than 10 indicate reasons for concern due to collinearity among variables

Tolerance values less than 0.10 indicate collinearity among variables. Our variables do not suffer from collinearity. We do not include age squared as by the construction both variables are highly correlated and inflate the VIFs (Estrin et al., 2022)

effects of market experience from the process knowledge gained through social interactions (Epure et al., 2024), we include the variable *know other entrepreneur* as a dummy variable that takes the value of one if the respondent reports that she personally knows someone who started a business in the past 2 years.

For firm-related variables, we also control for several additional measures. First, we include a dummy variable, *new technology or procedure*, coded as 1 if the respondent reports that the technologies or procedures used for its product or service are either new to the world, to people in the country, or in the immediate area, and 0 indicating no novelty. Second and similar to Epure et al. (2024), we also consider the firm's stage of development (*early-stage vs nascent*), with a variable coded as 1 if the participant is the owner and manager of a business operating for more than three months but less than three and a half years (early-stage), and 0 if the business is within the first three months of activity (nascent). Third, we control by the *current employment* level (not including the owners) consistent with Autio and Acs (2010),

Capelleras et al., (2019), Epure et al., (2024), Estrin et al. (2013, 2016, 2022), among others. Fourth, we include a variable for *established firm*, coded as 1 if the respondent owns and manages a business that has been operational for more than 42 months, and 0 otherwise. Fifth, we control for the *number of owners*, defined as individuals—including the respondent—who both own and manage the business. This latter is also important, as in private firms with concentrated ownership, often held by managers themselves or the founders, ownership competence plays a key role predicting firm performance (Foss et al., 2021, 2023; Von Nitzsch et al., 2024), and ultimately the adoption of environmental actions.

Finally, it is widely accepted that a country's level of economic development and national wealth plays a key role in shaping entrepreneurial activity dynamics (Amorós et al., 2019; Epure et al., 2024; Estrin et al., 2022). Accordingly, we control for these factors by introducing in our model *GDP growth*, measured as the annual percentage increase in GDP; *GDP per capita*, expressed as a logarithm at purchasing power parity; and the *unemployment rate*, measured as a percentage of the total labor force. Additionally, we control for the role of pro-market institutional contexts by including the level of *economic liberalization*, a measure extensively used in the entrepreneurship literature (e.g., Bennett & Nikolaev, 2021; Dau & Cuervo-Cazurra, 2014; Epure et al., 2024; Fuentelsaz et al., 2021).

3.3 Empirical strategy

Given that individuals in the GEM dataset are nested within countries, we run a multilevel logistic regression model, enabling intercepts to differ across countries (e.g., Aguinis et al., 2013; Amorós et al., 2019; Autio et al., 2013; Epure et al., 2024; Estrin et al., 2013, 2022). This method is particularly insightful for datasets that may show unobserved heterogeneity across countries, time periods, and individual differences. Additionally, this specification tolerates the assumption of independence among observations, which standard multivariate techniques (e.g., OLS, logit, or probit) do not allow (Hofmann et al., 2000). In essence, relying on standard multivariate methods would suggest that individuals behave uniformly, overlooking the impact of their environment on their decision-making processes (Epure et al., 2024). Thus,

Table 6 Multilevel logistic regression predicting adoption of environmental actions

Dependent variable: Adoption of environmental actions	Model 1	Model 2	Model 3	Model 4
Entrepreneurial growth aspirations (H1)		0.157*** (0.0207)	0.158*** (0.0207)	0.157*** (0.0208)
Stringency of environmental regulations			0.264* (−0.158)	0.271* (0.157)
Entrepreneurial growth aspirations*Stringency of environmental regulations (H2)				0.0545** (0.0275)
Gender	−0.0542* (0.0293)	−0.0789*** (0.0305)	−0.0796*** (0.0305)	−0.0803*** (0.0305)
Age	−0.00922 (0.00818)	−0.00671 (0.00847)	−0.00670 (0.00847)	−0.00702 (0.00847)
Age squared	0.000181* (0.000102)	0.000155 (0.000105)	0.000155 (0.000105)	0.000159 (0.000105)
Higher education	0.00861 (0.0190)	−0.000418 (0.0199)	−0.000274 (0.0199)	0.000857 (0.0199)
Entrepreneurial experience	0.521*** (0.0728)	0.479*** (0.0761)	0.478*** (0.0761)	0.478*** (0.0761)
Investment experience	0.336*** (0.0390)	0.305*** (0.0402)	0.305*** (0.0402)	0.303*** (0.0402)
Know other entrepreneurs	0.177*** (0.0349)	0.136*** (0.0364)	0.135*** (0.0364)	0.135*** (0.0364)
New technology or procedure	0.162*** (0.0189)	0.137*** (0.0198)	0.137*** (0.0198)	0.136*** (0.0198)
Current employment	0.127*** (0.0197)	0.0697*** (0.0227)	0.0697*** (0.0227)	0.0684*** (0.0227)
Number of owners	0.00729 (0.0267)	−0.0292 (0.0281)	−0.0295 (0.0281)	−0.0307 (0.0281)
Early stage vs. nascent	−0.111*** (0.0336)	−0.182*** (0.0367)	−0.182*** (0.0367)	−0.182*** (0.0367)
Established firm	−0.123 (0.0847)	−0.147* (0.0863)	−0.148* (0.0863)	−0.148* (0.0863)
Economic liberalization	−0.0419*** (0.00986)	−0.0399*** (0.0102)	−0.0449*** (0.0106)	−0.0447*** (0.0106)
GDP per capita	2.33e-06 (3.14e-06)	2.10e-06 (3.19e-06)	−2.24e-06 (4.07e-06)	−2.26e-06 (4.05e-06)
GDP growth	0.0270*** (0.00765)	0.0255*** (0.00785)	0.0284*** (0.00802)	0.0285*** (0.00802)
Unemployment rate	−0.0417*** (0.0156)	−0.0403** (0.0158)	−0.0392** (0.0155)	−0.0383** (0.0154)
Constant	3.112*** (0.732)	2.737*** (0.752)	1.945** (0.854)	3.542*** (0.797)
Random parameter (country)	0.285 (0.068)	0.286 (0.070)	0.276 (0.067)	0.272 (0.066)
Industry fixed effects	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes
Observations	22,994	21,435	21,435	21,435

Table 6 (continued)

Dependent variable: Adoption of environmental actions	Model 1	Model 2	Model 3	Model 4
Number of groups	48	48	48	48
Wald χ^2	574.43***	557.59***	560.70***	564.11***
Log likelihood	-15,022.146	-13,984.114	-13,982.722	-13,980.762
LR test vs. logistic model	702.32***	619.69***	591.88***	589.33***

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

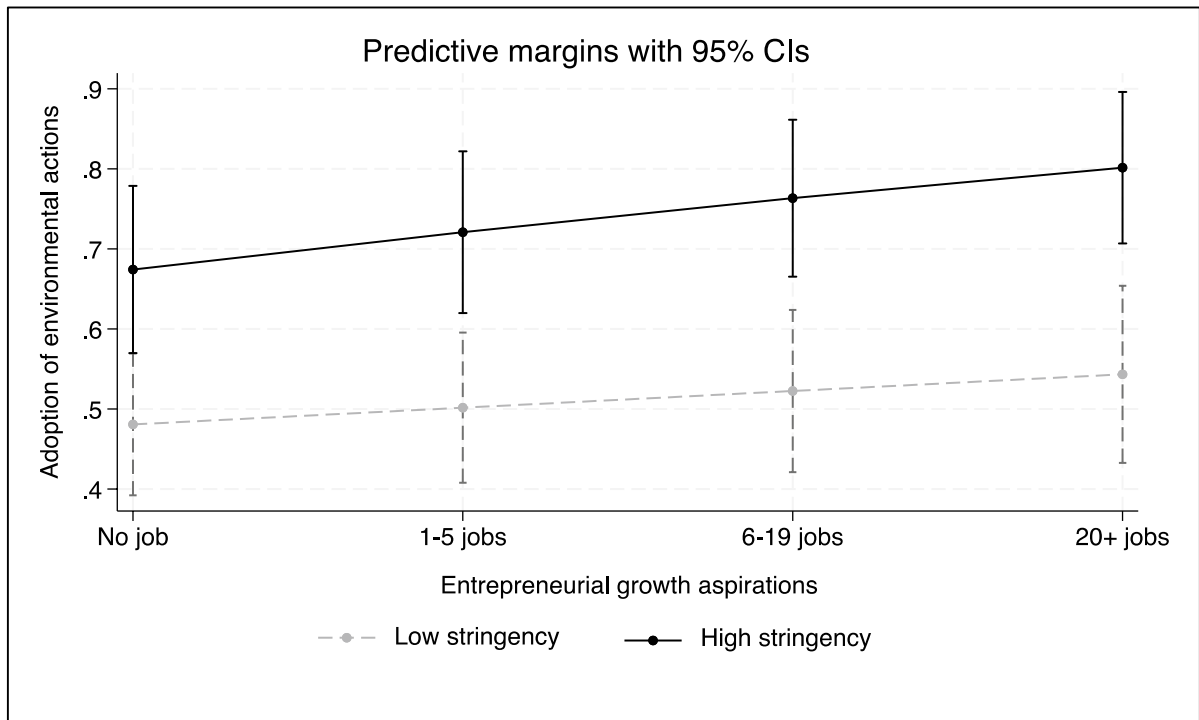


Fig. 1 Predictive margins of the effect of entrepreneurial growth aspirations on adoption of environmental actions in countries with high and low stringency of environmental regulations

we can observe how country-level factors (stringency of environmental regulations) interacting with individual-level responses (entrepreneurial growth

aspirations) influence entrepreneurial behavior (adoption of environmental actions) in a heterogeneous way. Our main specification is:

$$\begin{aligned}
 Y_{ijt} = & \beta_0 + \beta_1 \text{Gender}_{ijt} + \beta_2 \text{Age}_{ijt} + \beta_3 \text{Age2}_{ijt} + \beta_4 \text{Growth_Aspirations}_{ijt} \\
 & + \beta_5 \text{Educ}_{ijt} + \beta_6 \text{Ent_Exp}_{ijt} + \beta_7 \text{Invest_Exp}_{ijt} + \beta_8 \text{Knows_Ent}_{ijt} \\
 & + \beta_9 \text{New_Tech}_{ijt} + \beta_{10} \text{Nascent}_{ijt} + \beta_{11} \text{Established}_{ijt} + \beta_{12} \text{Stringency}_{jt} \\
 & + \beta_{13} \text{Econ_lib}_{jt} + \beta_{14} \text{GDPpc}_{jt} + \beta_{15} \text{GDPgrowth}_{jt} \\
 & + \beta_{16} \text{Unemployment}_{jt} + \nu_{it} + \psi_t + \mu_{ijt} + \varepsilon_{jt}
 \end{aligned}$$

Table 7 Robustness check: Multilevel logistic regression with additional sample specifications

Dependent variable: Adoption of environmental actions	Model 1	Model 2
Specification	Drop highest observation countries (Chile & Spain)	
Entrepreneurial growth aspirations	0.167*** (0.0246)	0.171*** (0.0246)
Stringency of environmental regulations	0.326** (0.158)	0.338** (0.157)
Entrepreneurial growth aspirations*Stringency of environmental regulations		0.0845*** (0.0296)
Constant	0.689 (0.989)	2.613*** (0.881)
Random parameter (country)	0.255 (0.062)	0.251 (0.061)
Individual-level controls	Yes	Yes
Country-level controls	Yes	Yes
Industry fixed effects	Yes	Yes
Year fixed effects	Yes	Yes
Observations	14,759	14,759
Number of groups	46	46
Wald χ^2	438.75***	445.57***
Log likelihood	−9537.7758	−9533.6713
LR test vs. logistic model	581.14***	578.38***

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

where Y_{ijt} is our measure for adoption of environmental actions of individual i within country j at year t ; $\{\text{Growth_Aspirations}_{ijt}\}$ represents the individual-level predictor; $\{\text{Gender}_{ijt} + \text{Age}_{ijt} + \text{Age2}_{ijt} + \text{Educ}_{ijt} + \text{Ent_Exp}_{ijt} + \text{Invest_Exp}_{ijt} + \text{Knows_Ent}_{ijt} + \text{New_Tech}_{ijt} + \text{Nascent}_{ijt} + \text{Established}_{ijt} + \text{Employment}_{ijt} + \text{Owners}_{ijt}\}$ are the individual-level control variables; $\{\text{Stringency}_{jt}\}$ is the country-level predictor; and $\{\text{Econ_lib}_{jt} + \text{GDPpc}_{jt} + \text{GDPgrowth}_{jt} + \text{Unemployment}_{jt}\}$ accounts for the country-level controls. The combination of $\mu_{ijt} + \varepsilon_{jt}$ designates the random part of the equation, where μ_{ijt} are the country-level residuals, and ε_{jt} are the individual-level ones. We also account both industry and year fixed effects to address for potential time-related endogenous issues resulting from failing at capturing additional industry specifications (ν_{it}) and possible time-related influences that could affect the degree of sustainability orientation (ψ_t), respectively.

With the intention to assess any potential multicollinearity bias, we present the variance inflation factors (VIF) and tolerance values for all variables included in our model. As shown in Table 5, all VIF values fall below the threshold of 10, indicating no

significant evidence of multicollinearity concerns (Hair et al., 2014). Furthermore, all tolerance values exceed 0.1, providing additional support that our variables are not affected by multicollinearity (Autio et al., 2013).

4 Results

4.1 Multilevel logistic regression results

Table 6 reports the results of our multilevel logistic regression model predicting the likelihood of adopting environmental actions. In a sequential analysis, Model 1 includes all control variables, Model 2 includes the individual-level predictor of entrepreneurial growth aspirations, Model 3 adds the country-level moderator of stringency of environmental regulations, and Model 4 includes the interaction individual- and country-level variables, while Model 2 add the interaction term. We tested our hypotheses in Model 4, the full model specification (Aguinis et al., 2013; Kingsley et al., 2017).

Table 8 Robustness check:
Heckman selection model

	Model 1 1st stage	Model 2 2nd stage
Dependent variable	Entry to entrepreneur- ship	Adoption of environmental actions
Entrepreneurial growth aspirations	0.060** (0.020)	0.0714*** (0.014)
Stringency of environmental regulations	0.040 (0.227)	0.698*** (0.155)
Entrepreneurial growth aspirations*Stringency of environmental regulations	−0.009 (0.026)	0.036** (0.017)
Perceived self-efficacy	0.175*** (0.042)	
Constant	2.413* (1.421)	2.633** (0.947)
Individual-level controls	Yes	Yes
Country-level controls	Yes	Yes
Industry fixed effects	Yes	Yes
Year fixed effects	Yes	Yes
Observations	20,118	20,118
Wald χ^2	1134.48***	
Log likelihood	−16,705.86	
LR test of indep. eqns	4.24**	

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

Model 2 shows that entrepreneurs' growth aspirations are positively associated to a higher probability to adopt environmental actions, supporting Hypothesis 1, which proposes that entrepreneurs' growth aspirations are positively related to the adoption of environmental actions. This result holds in the full Model 4 ($\beta = 0.157$; $p = 0.000$). Additionally, Model 3 reveals that the positive relationship between entrepreneurs' growth aspirations and the adoption of environmental actions is greater in countries with higher stringency of environmental regulations ($\beta = 0.0545$; $p = 0.048$). These results support Hypothesis 2, which proposes that the positive relationship between entrepreneurial growth aspirations and the adoption of environmental actions is stronger in countries with more stringent environmental regulations.

To assess effect sizes using Model 4 in Table 6, we find that a one standard deviation increase in entrepreneurs' growth aspirations (0.859) is associated with higher adoption of environmental actions by 13.48%. This baseline also represents the effect for individuals not exposed to the moderating influence of regulatory stringency. Regarding the interaction effect, in contexts with higher levels of stringency of environmental

regulations, the effect of entrepreneurs' growth aspirations on the adoption of environmental actions increases by 18.16%. Hence, this indicates a rise for ambitious entrepreneurs by 4.68 percentage points.

Figure 1 plots the predicted marginal effects of the interaction between entrepreneurs' growth aspirations and the adoption of environmental actions, illustrating that the stringency of environmental regulations influences such environmental behavior of more ambitious entrepreneurs. Specifically, when environmental regulations are more stringent, their engagement in environmental actions will be higher. In contrast, less ambitious entrepreneurs are not affected by the stringency of environmental regulations regarding the adoption of environmental actions.

4.2 Robustness checks and post-hoc analysis

We conducted several supplementary tests to address potential econometric concerns and to ensure the robustness of our results. Additionally, we report post-hoc analyses to address potential alternative explanations and to explore additional dimensions of

Table 9 Robustness check:
Test for reverse causality

	Model 1 1 st stage	Model 2 2nd stage
Dependent variable	Entrepreneurial growth aspirations	Adoption of environmental actions
Entrepreneurial growth aspirations instrumented		0.596* (.341)
Stringency of environmental regulations	−0.686*** (0.078)	1.109*** (0.271)
Instrument: Fear of failure	−0.052*** (0.042)	
Constant	4.961*** (0.533)	−2.795 (1.917)
Individual-level controls	Yes	Yes
Country-level controls	Yes	Yes
Industry fixed effects	Yes	Yes
Year fixed effects	Yes	Yes
First-stage F-statistic	29.98***	–
Observations	22,508	22,994
F	156.12***	–
R ²	0.35	–
Pseudo R ²	–	0.0535
Wald χ^2	–	1575.89***
Log pseudolikelihood	–	−14,918.237

*** $p < 0.01$, ** $p < 0.05$,
* $p < 0.1$. Standard errors
in parentheses. The
first-stage F-statistic for
instrument relevance is
reported; values above 10
indicate sufficiently strong
instruments (Staiger &
Stock, 1997; Wooldridge,
2010)

the phenomenon that were not initially hypothesized. Regarding the first robustness analysis, one of the idiosyncrasies of the GEM dataset is that often includes overrepresentation of certain countries; in our dataset, this was particularly the case for Chile and Spain. We removed these countries from our analysis to check for any distortive effects, but results remained consistent (see Table 7).

Moreover, potential endogeneity due to self-selection may be a concern, as the adoption of environmental actions is observed only among those who initially select into entrepreneurship. Unobservable individual characteristics, such as ability or motivation, that impact entry into entrepreneurship might also correlate with sustainability orientation. To address this potential bias, we applied a two-step Heckman model (Heckman, 1979). First, we estimated the probability of entry into entrepreneurship (selection equation), followed by our main model on the adoption of environmental actions (outcome equation). For the exclusion restriction, we incorporate in the selection equation a variable that is

expected to be associated with the probability of entry into entrepreneurship, yet it is largely uncorrelated with the outcome equation of sustainability orientation. We use the *perceived self-efficacy* variable from the GEM project that captures whether respondent indicates having the knowledge, skills, and experience required to start a new business (Boudreaux et al., 2019; Capelleras et al., 2019; Epure et al., 2024). Results in Table 8 Model 1 validates our choice for the exclusion restriction. Lastly, we estimate the adoption of environmental actions (outcome equation) in Table 8 Model 2, suggesting that our results are not driven by self-selection biases.

To mitigate potential issues of reverse causality, we employ an instrumental variable approach using one instrument from the GEM APS: fear of failure. This is a variable measured by the statement: “Fear of failure would prevent me from starting a new business” (1=yes) and provides “an inverse proxy of self-efficacy” (Autio & Acs, 2010, p. 242). For the instrument to be valid, they must satisfy two key conditions: relevance and exogeneity (Hill et al., 2008).

Table 10 Post-hoc I: Multilevel logistic regression predicting adoption of social actions

Dependent variable: Adoption of social actions	Model 1	Model 2	Model 3	Model 4
Entrepreneurial growth aspirations (H1)		0.260*** (0.0206)	0.261*** (0.0206)	0.260*** (0.0206)
Stringency of environmental regulations			0.145 (0.131)	0.149 (0.130)
Entrepreneurial growth aspirations*Stringency of environmental regulations (H2)				0.0436 (0.0277)
Gender	-0.0284 (0.0292)	-0.0716** (0.0305)	-0.0721** (0.0305)	-0.0727** (0.0305)
Age	-0.0115 (0.00814)	-0.0106 (0.00844)	-0.0107 (0.00844)	-0.0110 (0.00845)
Age squared	0.000181* (0.000101)	0.000175* (0.000105)	0.000175* (0.000105)	0.000179* (0.000105)
Higher education	0.0202 (0.0190)	-0.00701 (0.0198)	-0.00675 (0.0198)	-0.00590 (0.0198)
Entrepreneurial experience	0.578*** (0.0708)	0.534*** (0.0742)	0.533*** (0.0742)	0.533*** (0.0742)
Investment experience	0.336*** (0.0380)	0.281*** (0.0392)	0.281*** (0.0392)	0.280*** (0.0392)
Know other entrepreneurs	0.220*** (0.0353)	0.184*** (0.0368)	0.183*** (0.0368)	0.183*** (0.0368)
New technology or procedure	0.244*** (0.0186)	0.206*** (0.0195)	0.205*** (0.0195)	0.205*** (0.0195)
Current employment	0.213*** (0.0198)	0.117*** (0.0228)	0.117*** (0.0228)	0.116*** (0.0228)
Number of owners	0.0908*** (0.0266)	0.0385 (0.0280)	0.0383 (0.0280)	0.0374 (0.0280)
Early stage vs. nascent	9.93e-05 (0.0337)	-0.113*** (0.0368)	-0.113*** (0.0368)	-0.113*** (0.0368)
Established firm	-0.148* (0.0853)	-0.185** (0.0870)	-0.185** (0.0870)	-0.185** (0.0870)
Economic liberalization	-0.0453*** (0.00931)	-0.0442*** (0.00953)	-0.0473*** (0.01000)	-0.0471*** (0.00992)
GDP per capita	1.57e-06 (2.77e-06)	1.16e-06 (2.78e-06)	-1.25e-06 (3.49e-06)	-1.30e-06 (3.46e-06)
GDP growth	0.0335*** (0.00752)	0.0358*** (0.00769)	0.0376*** (0.00786)	0.0377*** (0.00785)
Unemployment rate	-0.0370*** (0.0129)	-0.0341*** (0.0127)	-0.0340*** (0.0127)	-0.0334*** (0.0125)
Constant	2.330*** (0.680)	1.946*** (0.694)	1.544** (0.763)	2.824*** (0.737)
Random parameter (country)	0.1825 (0.0475)	0.174 (0.0473)	0.1727 (0.0468)	0.1684 (0.0457)
Industry fixed effects	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes
Observations	22,952	21,394	21,394	21,394

Table 10 (continued)

Dependent variable: Adoption of social actions	Model 1	Model 2	Model 3	Model 4
Number of groups	48	48	48	48
Wald χ^2	778.06***	848.66***	850.47***	852.69***
Log likelihood	-15,092.322	-14,011.676	-14,011.061	-14,009.821
LR test vs. logistic model	363.52***	263.03***	251.45***	245.07***

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

First, our instrument is theoretically and empirically associated with the endogenous variable—entrepreneurial growth aspirations—as extensively discussed in prior research (Albert et al., 2023; Autio & Acs, 2010; Epure et al., 2024). Specifically, fear of failure, as stated, inversely reflects self-efficacy and is known to influence the likelihood of setting ambitious entrepreneurial goals (Albert et al., 2023; Autio & Acs, 2010; Epure et al., 2024). Second, we acknowledge that while fear of failure may shape certain forms of environmental behavior, there is limited theoretical grounding for expecting a direct influence on broader environmental actions of new firms, other than through its impact on entrepreneurial aspirations. Fear of failure is an individual socio-cognitive trait (Boudreaux et al., 2019) related to entrepreneurial decision-making, but not directly to the environmental strategies or practices of a firm. This supports the assumption that our instrument affects the dependent variable solely through the endogenous regressor, satisfying the exclusion restriction. Therefore, we treat fear of failure as a potentially useful instrument to help alleviate endogeneity concerns. While we acknowledge that the instrument may not be perfect, we use it as a conservative test: even if we were to account for any endogeneity arising from reverse causality, the main effect of entrepreneurial aspirations on environmental sustainability remains in the expected direction (albeit somewhat weaker), suggesting that our findings are unlikely to be fully driven by reverse causality.

Empirically, in the first stage, we estimated a reduced-form equation for entrepreneurs' growth aspirations (Table 9), which included all exogenous variables from the main model, along with fear of failure as an instrumental variable. Consistent with expectations, the coefficient for fear of failure is negative and highly statistically significant, supporting its relevance as an instrument. We also calculated the F-statistic for the excluded instrument, which is $F=29.98$ ($p=0.000$), well above the conventional threshold of 10, indicating that the instrument is sufficiently strong (Staiger & Stock, 1997; Wooldridge, 2010).

In the second stage, we estimated a probit model using the predicted values from the reduced-form

equation for entrepreneurs' aspirations as a replacement for the original entrepreneurial growth aspirations variable. This instrumented variable retains its expected effect and remains statistically significant. The coefficient of entrepreneurial growth aspirations remains qualitatively unchanged, which suggests that endogeneity concerns are alleviated and that our findings are unlikely to be driven by reverse causality.

Finally, we also conducted a set of post-hoc analyses to further enrich our results, address potential alternative explanations, and explore additional dimensions beyond our initial hypotheses. In Table 10 and 11, we examine whether our core predictions hold when focusing on the adoption of social actions, rather than environmental ones. The results indicate that growth aspirations increase the likelihood of taking steps to maximize the social impact of the business over the past year. Furthermore, stringency of environmental regulations does not play a significant role in predicting social actions, reinforcing the idea that our main findings are specific to the environmental domain.

To gain additional insights, we performed a post-hoc analysis using an outcome variable that captures whether the entrepreneur prioritizes the social and/or environmental impact of her business above profitability or growth. Notably, this variable captures intentions rather than concrete actions. The results indicate that growth aspirations are positively related the prioritization of social/environmental goals, and the moderating results reveal an opposite pattern compared to our main models, highlighting the conceptual distinction between expressing priorities and engaging in actual environmental-related behaviors.

5 Discussion

While previous research has demonstrated the importance of growth ambitions of entrepreneurs for firm growth and economic development (Hermans et al.,

Table 11 Post-hoc II: Multilevel ordinal logistic regression predicting social and/or environmental priorities

Dependent variable: Social and/or environmental priorities	Model 1	Model 2	Model 3	Model 4
Entrepreneurial growth aspirations		0.150*** (0.0182)	0.151*** (0.0182)	0.151*** (0.0182)
Stringency of environmental regulations			0.175 (0.160)	0.168 (0.161)
Entrepreneurial growth aspirations*Stringency of environmental regulations				-0.0636*** (0.0239)
Gender	-0.0920*** (0.0255)	-0.106*** (0.0266)	-0.107*** (0.0266)	-0.106*** (0.0266)
Age	0.0128* (0.00713)	0.0162** (0.00738)	0.0162** (0.00738)	0.0165** (0.00738)
Age squared	-3.37e-05 (8.89e-05)	-7.58e-05 (9.20e-05)	-7.58e-05 (9.20e-05)	-8.08e-05 (9.20e-05)
Higher education	-0.0545*** (0.0167)	-0.0659*** (0.0175)	-0.0658*** (0.0175)	-0.0671*** (0.0175)
Entrepreneurial experience	0.318*** (0.0608)	0.334*** (0.0643)	0.333*** (0.0643)	0.334*** (0.0643)
Investment experience	0.146*** (0.0339)	0.128*** (0.0351)	0.128*** (0.0351)	0.130*** (0.0351)
Know other entrepreneurs	0.107*** (0.0307)	0.0799** (0.0320)	0.0796** (0.0320)	0.0792** (0.0320)
New technology or procedure	0.174*** (0.0166)	0.154*** (0.0174)	0.154*** (0.0174)	0.155*** (0.0175)
Current employment	0.100*** (0.0170)	0.0415** (0.0196)	0.0416** (0.0196)	0.0434** (0.0197)
Number of owners	-0.0156 (0.0233)	-0.0560** (0.0245)	-0.0561** (0.0245)	-0.0547** (0.0245)
Early stage vs. nascent	0.175*** (0.0293)	0.128*** (0.0320)	0.127*** (0.0320)	0.127*** (0.0320)
Established firm	0.420*** (0.0783)	0.416*** (0.0799)	0.416*** (0.0799)	0.416*** (0.0799)
Economic liberalization	0.00323 (0.00852)	0.00454 (0.00876)	0.00126 (0.00924)	0.00120 (0.00926)
GDP per capita	-7.84e-06** (3.09e-06)	-8.22e-06*** (3.13e-06)	-1.10e-05*** (4.07e-06)	-1.11e-05*** (4.09e-06)
GDP growth	-0.000320 (0.00701)	1.33e-05 (0.00717)	0.00160 (0.00731)	0.00147 (0.00731)
Unemployment rate	0.0135 (0.0145)	0.0125 (0.0147)	0.0130 (0.0146)	0.0121 (0.0147)
Constant	0.308*** (0.0674)	0.306*** (0.0679)	0.302*** (0.0670)	0.306*** (0.0681)
Random parameter (country)	0.3075 (0.0673)	0.3058 (0.0679)	0.3015 (0.0669)	0.3064 (0.068)
Industry fixed effects	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes
Observations	23,464	21,876	21,876	21,876

Table 11 (continued)

Dependent variable: Social and/or environmental priorities	Model 1	Model 2	Model 3	Model 4
Number of groups	48	48	48	48
Wald χ^2	492.79***	515.50***	516.76***	523.50***
Log likelihood	-31,869.916	-29,539.524	-29,538.927	-29,535.373
LR test vs. ordinal logistic model	1526.60***	1291.65***	1102.57***	1108.99***

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

2015; Wiklund & Shepherd, 2003), it has largely overlooked how these aspirations influence their engagement with environmental practices. This study addresses this gap by providing insights into how such aspirations affect the adoption of environmentally oriented actions. Further, since individual agency is not independent of the context (McMullen et al., 2021), the study also explores the effect of the interaction between growth aspirations and regulatory stringency on the implementation of environmental practices.

Drawing on attitude-behavior models and institutional economics, we proposed that entrepreneurial growth aspirations represent a forward-looking attitudinal disposition. This disposition shapes strategic behavior, specifically the adoption of environmental practices. We further theorized that the broader institutional context, particularly the stringency of environmental regulations, plays an important moderating role by reinforcing both the investment logic and the legitimacy-building rationale underlying aspiration-driven environmental action. Our multilevel analysis of individual-level entrepreneurial data combined with country-level institutional data provides support for both hypotheses and offers several contributions to the literature.

Our first key finding shows that entrepreneurs with higher growth aspirations are more likely to adopt environmental actions. This relationship offers a novel extension to prior research on sustainability adoption, which has mainly emphasized ethical motivations (Patzelt & Shepherd, 2011; Shepherd & Patzelt, 2011) or stakeholder pressures (Bernal et al., 2022; Hörisch et al., 2017) as main drivers of pro-environmental behavior in entrepreneurial settings (Nguyen & Vu, 2024). In contrast, we show that entrepreneurs may adopt environmental practices as a means of pursuing their growth goals, reflecting a

self-directed process that stems from their greater discretion compared with managers in established firms. This suggests that sustainability-oriented behavior is not necessarily contingent upon altruistic or normative motives but can emerge from strategic considerations grounded in entrepreneurial aspirations.

Moreover, our work complements and extends the literature on entrepreneurial growth aspirations (Epure et al., 2024; Estrin et al., 2013, 2022). Prior studies have established that growth aspirations influence venture growth (Baum et al., 2001; Delmar & Wiklund, 2008) and innovative behavior (Eide et al., 2021). We add to this body of research by identifying environmental action as a key behavioral outcome associated with entrepreneurial ambition. This finding highlights that the same future-oriented cognition that drives expansion can also shape engagement in environmental practices, illustrating how growth aspirations channel entrepreneurial efforts toward sustainability.

Importantly, our findings also help clarify the role of national institutional conditions in shaping sustainable entrepreneurial behavior. While prior work has demonstrated that stringent environmental regulations increase the baseline likelihood of firms adopting environmental practices (Berrone et al., 2013; Hoogendoorn et al., 2015), we show that these regulations also enhance the conditional effect of growth aspirations on environmental actions. This moderating effect highlights the importance of institutional contexts not just as direct sources of pressure or support, but as amplifiers of entrepreneurial agency (Bylund & McCaffrey, 2017). Our findings thus contribute to institutional theory by showing how formal institutions influence the extent to which internal attitudes translate into concrete strategic behavior.

Building on these insights, our study offers some theoretical implications. First, we reframe growth aspirations as strategic, future-oriented drivers of

environmentally oriented behavior, introducing them as a distinct antecedent of environmental actions. This aligns with cognitive approaches in entrepreneurship, which emphasize how forward-looking attitudes shape strategic choices under uncertainty (Amore et al., 2021, 2022; McMullen & Shepherd, 2006). By identifying the mechanisms of long-term investment logic and legitimacy-seeking behavior, we provide a more nuanced account of how entrepreneurial attitudes can shape environmental efforts. Therefore, our findings suggest that growth aspirations, a factor rooted in future-oriented cognition, can serve as a driver of environmentally oriented behavior alongside external constraints and personal values. This complements existing models (Hörisch et al., 2017) by highlighting a strategic logic where environmental actions can be aligned with entrepreneurial ambition. In emphasizing this link, our study advances a more entrepreneurship-specific understanding of sustainability (Schwegler & Petty, 2025), one that views entrepreneurs as proactive agents leveraging environmental engagement as part of venture-building under uncertainty. In this way, we contribute to a more agentic view of the entrepreneur, whose behaviors are molded not only by structural pressures or moral convictions but also by forward-looking ambitions that seek to navigate and leverage institutional contexts.

Second, our work nuances existing institutional perspectives by emphasizing the role of regulatory stringency in shaping the translation of attitudes into behavior. While prior research has highlighted how institutions constrain or enable specific actions (Estrin et al., 2013), we show that they also function as moderators that influence how internal dispositions manifest behaviorally. This highlights the importance of incorporating cross-level interactions into models of entrepreneurial behavior and supports calls for more theorizing about the interface between micro-level agency and macro-level institutions (Epure et al., 2024). Moreover, our model clarifies why growth aspirations do not always translate into action. While institutional economics posits regulations as exogenous constraints (Urbano et al., 2019), we show that they may activate entrepreneurial agency. In lax regulatory environments, entrepreneurs face ambiguous returns on environmental investments, weakening the attitude-behavior link (Kautonen et al., 2015). Stringency of regulations mitigates this by clarifying the institutional rules of the game, validating both

investment and signaling mechanisms. Thus, our study enriches institutional theory by demonstrating that formal institutions can become behavioral catalysts when interpreted through entrepreneurs' growth-oriented cognition.

Our findings also have implications for policy and practice. First, they suggest that fostering growth-oriented entrepreneurship may serve as an indirect pathway for advancing environmental sustainability. Policymakers aiming to promote sustainability transitions should recognize that not all environmentally proactive firms are driven by green values. By supporting programs that cultivate ambition and long-term planning among entrepreneurs, governments and other organizations can unlock a potential source of environmental commitment.

Second, the moderating effect of regulatory stringency indicates that institutional design matters for harnessing entrepreneurial agency. In particular, clear, stringent, and enforceable environmental regulations do not necessarily crowd out entrepreneurial initiative but may instead strengthen the alignment between entrepreneurial ambitions and environmental actions. Regulatory frameworks that reduce uncertainty and signal long-term commitments to environmental goals are especially effective in encouraging proactive behavior among entrepreneurs with strong growth aspirations. Hence, well-designed regulation, designed not only to penalize but also to incentivize and clarify, is key to leveraging the strategic potential of ambitious entrepreneurship for sustainability transitions.

Third, for practitioners and support organizations, the findings point to the value of integrating environmental considerations into the core strategies of new ventures. Entrepreneurs with strong growth aspirations may be more likely to respond to guidance that frames environmental practices as strategic assets, rather than moral imperatives. Therefore, incubators, accelerators, and advisory programs should explicitly prepare entrepreneurs to recognize environmental actions as strategic levers for growth rather than mere compliance requirements. This can be achieved by presenting environmental practices in terms of their role in securing investment, gaining market legitimacy, and aligning with future growth trajectories. By incorporating this rationale into entrepreneurial training and mentorship, these programs can effectively channel the entrepreneur's growth aspirations

toward sustainable scaling, transforming ambitious intent into concrete environmental actions. This can help foster a more widespread and enduring adoption of environmental practices among ambitious entrepreneurs.

5.1 Limitations and future research

This study has some limitations that open avenues for future research. First, our data are pooled cross-sectional, which limits the ability to draw causal inferences over time. Although the GEM data provides a valuable and comprehensive source of information on entrepreneurial activities across countries, its cross-sectional nature restricts our ability to establish causality for the observed effects. To address this limitation, we conducted several robustness checks, which support the consistency and validity of our findings. Nevertheless, to fully address other limitations of the GEM data such as the subjective nature of the data collection methods (Bergmann et al., 2014), and to enhance future research, case studies or ad hoc surveys could be used to complement these data, offering deeper insights.

Second, our dependent variable is measured using a single item. Although this item directly captures the behavior of interest (i.e., entrepreneurs' engagement in environmental actions), using a binary variable and a single-item measure helps minimize biases arising from cultural interpretations and translation differences, thereby ensuring more reliable cross-national comparisons (Autio et al., 2013). Nonetheless, while dichotomous scales reduce issues related to translation equivalence (Hofstede et al., 2002), employing a multi-item measure could have yielded additional insights. The data did not provide access to such a measure. However, we complemented our main model with post-hoc analysis that took into consideration related indicators regarding the adoption of social actions and the prioritization of sustainable measures. Future research should incorporate more granular measures of environmental engagement, which would further enrich the study of sustainability and entrepreneurship.

Third, although our study draws on a large, international dataset collected over a two-year period, it does not capture fine-grained temporal changes

in environmental goals or regulatory frameworks. Future research could address this limitation by using longitudinal data to track how entrepreneurial aspirations and behaviors evolve in response to policy shifts. For instance, it would be valuable to examine how changes in environmental regulations influence the translation of growth aspirations into concrete environmental actions over time.

Fourth, our analysis operates at the individual level within national institutional contexts, but regional variations may matter as well. Future studies could examine subnational contexts or adopt country-comparative designs to further disentangle how contextual conditions shape the relationship between entrepreneurial growth aspirations and environmental actions.

Finally, while our focus on environmental regulatory stringency is both theoretically grounded and empirically justified, other institutional factors, particularly informal institutions, may also influence the relationship between entrepreneurial growth aspirations and environmental engagement. For instance, societal environmental norms or broader cultural values may shape entrepreneurs' decisions alongside formal regulatory pressures. Although our models include several country-level variables as controls, future research could examine a broader set of institutional influences to deepen our understanding of how varying contextual conditions affect entrepreneurs' adoption of environmental practices.

6 Conclusion

This study demonstrates that the entrepreneur's growth aspirations constitute a key driver of environmental engagement in new ventures. In doing so, it extends existing theorizing by identifying a forward-looking, growth-based antecedent of environmental behavior. Our exploration of the moderating role of national regulatory stringency further highlights the interplay between entrepreneurial aspirations and institutional context. The study enriches institutional economics by showing that stringent environmental regulations amplify the relationship between entrepreneurial growth aspirations and environmental actions. Thus, this research bridges micro-level

entrepreneurial aspirations and macro-level institutions to advance explanations for why new ventures adopt environmental practices.

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Data Availability The data that support the findings of this study are available from the corresponding author upon reasonable request.

Appendix 1

Dependent variable question from the GEM surveys 21 & 22

- Have you taken any steps to minimize the environmental impact of your business over the past year? [READ IF NECESSARY]: This could include energy-saving measures, measures to reduce carbon emissions or introducing more efficient machinery, take care of the solid waste generated, use of recyclable material, use of alternative means of transportation, such as cycling, walking, collective rides, public transportation, etc. Additional note: Newly added item for years 21 and 22—Note that you may add additional example steps of minimizing the environmental impact. This may be necessary in countries that require simpler examples such as separate the garbage. Please do not use

examples if they are required by law, which separating garbage is in some countries.

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