




Do institutional dimensions matter at different stages of the entrepreneurial process? A multi-country study

Claudia Alvarez · Tatiana Lopez · David Urbano 

Accepted: 14 March 2024
© The Author(s) 2024

Abstract Entrepreneurs should navigate through different stages from the conception of an idea until the business is operational. According to these stages, we expected that the context has a different impact on an individual's decisions. This paper analyses the role of institutional dimensions (regulative, normative, and cultural-cognitive) in the entrepreneurial process (potential, nascent, and new entrepreneurship), using data from the Global Entrepreneurship Monitor and Heritage Foundation, with a sample of 99 countries for the period 2001–2017. Through panel data,

the main findings show that (a) regulations regarding new business creation have a stronger influence on new entrepreneurship, (b) social norms have more influence on potential entrepreneurs and individual perceptions regarding their self-capacity and experience to start a new business, and (c) the cultural-cognitive dimension has a stronger influence on nascent entrepreneurship. Policymakers could consider these results to promote and generate target group policies that effectively encourage entrepreneurial activity, which is also distinguished by the level of development among countries.

C. Alvarez
School of Applied Sciences and Engineering, Universidad EAFIT, Carrera 49 N° 7 Sur-50, Medellín, Colombia
e-mail: calvar44@eafit.edu.co

T. Lopez
School of Tourism and Hotel Management, Universitat Autònoma de Barcelona, 08193 - UAB Bellaterra Campus (Cerdanyola del Vallès), Barcelona, Spain
e-mail: tatiana.lopez@uab.cat

T. Lopez
School of Management, Universidad EAFIT, Carrera 49 N° 7 Sur-50, Medellín, Colombia

T. Lopez · D. Urbano (✉)
Department of Business and Centre for Entrepreneurship and Social Innovation Research (CREIS), Universitat Autònoma de Barcelona, 08193 - UAB Bellaterra Campus (Cerdanyola del Vallès), Barcelona, Spain
e-mail: david.urbano@uab.cat

Plain English Summary This paper examines how regulations, social norms, and cultural beliefs affect entrepreneurs at three different stages. We analyse how the institutional environment influences people's decisions when it comes to entrepreneurship across countries. By understanding the influence of regulations, social norms, and cultural-cognitive dimensions on the entrepreneurial process, policymakers can design targeted policies to promote entrepreneurship effectively. It is crucial to consider the specific needs and circumstances of different countries, as levels of development can influence entrepreneurial activity. We found that government regulations relating to starting new businesses have a significant impact on more advanced stages of entrepreneurship than potential or nascent entrepreneurship. Social norms play a crucial role in influencing potential entrepreneurs.

People's perceptions of their own abilities and experiences in starting a business are strongly influenced by social expectations and norms. The cultural-cognitive dimension, which includes shared beliefs and values, has a greater impact across all stages.

Keywords Institutional dimensions · Entrepreneurial process · Regulatory dimension · Normative dimension · Cultural-cognitive dimension · Multi-country study

JEL Classification B52 · L26 · M13 · O17 · O40

1 Introduction

Imagine a person thinking about starting a business; the contextual factors that influence the generation of an idea are different from those after making the first sale. Similarly, those factors will differ after the first three months of sales because the experience will change the necessities and the relationship between the entrepreneurs and their environment. The same happens in other situations, and the institutional context influences many individual decisions, such as what people aspire to be in the future, their social, political and economic activities. Following Scott (1995), “institutions comprise regulative, normative and cultural-cognitive elements that, together with associated activities and resources, provide stability and meaning to social life” (p.56). The entrepreneurship phenomenon is no stranger to this reality, and institutions—both those that support entrepreneurship and those that do not—influence decisions such as whether to create a new firm or to become an employee (Busenitz et al., 2000; Chowdhury et al., 2019; Sine et al., 2022; Urbano & Alvarez, 2014). The creation of new businesses involves different stages, from the idea to the new company and the subsequent generation of profits. The institutional context influences all the processes; however, the strength and the elements that affect it vary from stage to stage (Bergmann & Stephan, 2013; Lee et al., 2022; Mickiewicz et al., 2017).

Previous research has found that institutional conditions can explain variations in the rates of entrepreneurship between countries (Amorós et al., 2019; Stenholm et al., 2013; Williams et al., 2017), regions and cities (Audretsch et al., 2019). Despite

the previous understanding, there are still limitations in the research conducted to date. For example, the extant literature has overlooked various stages of entrepreneurial entry and growth, dynamics of entrepreneurial behaviour and decision making, often focusing on one specific aspect of institutions such as taxes, culture and corruption (Belitski & Grigore, 2022; Belitski et al., 2016) or a stage in entrepreneurial life cycle (Braunerhjelm et al., 2021), rather than a complex and more inclusive approach to institutional context for entrepreneurship (Urbano et al., 2019).

Some of the aspects to be addressed are the interactions between institutions (Smallbone & Welter, 2012), and their influence on entrepreneurship in emerging and developed economies (Valdez & Richardson, 2013) while contemplating different stages of the entrepreneurial process (Dileo & García-Pereiro, 2019), especially the first stages of entrepreneurial activity (Audretsch et al., 2022a, 2022b). In this sense, one of the main shortcomings identified in the research so far is that when the influence of institutions on entrepreneurial activity is analysed, authors do not distinguish between the different stages of entrepreneurship. Although this approach has been essential in demonstrating that institutions effectively influence entrepreneurship, it is a simplified vision; entrepreneurship is a dynamic process with multiple stages (Bergmann & Stephan, 2013; Dileo & García-Pereiro, 2019; Klonek et al., 2015). Therefore, the institutional variables influencing entrepreneurship may be different in each stage (Lee et al., 2022). By considering the entrepreneurial process and the need to find the determinants of each stage, this research seeks to contribute to the development of studies that answer relevant questions for policymakers and do not go unused (Wiklund et al., 2019). Consequently, this study analyses the role of institutional dimensions (regulative, normative, and cultural-cognitive) on the entrepreneurship process while considering the different stages of entrepreneurial activity.

This study has several theoretical contributions and policy implications. First, there is an explanation of the different mechanisms through which institutional dimensions influence entrepreneurship across the stages of the entrepreneurial process. This explanation addresses calls for broader perspectives regarding institutional dimensions and influences that are more specific depending on the entrepreneurial stage and across countries. Second, we contribute to

the understanding of how institutional dimensions are interrelated between them, providing empirical evidence of their interactions and its effects in different stages of the new venture creation. Third, from a policy formulation perspective, we inform policymakers of the need to develop targeted programmes for each entrepreneurship stage. The findings inform policymakers what characteristics of institutions are required for transitioning from one to another stage of entrepreneurship.

This paper is organized as follows. After this introduction, the theoretical foundations of the study and the hypotheses regarding the institutional dimensions at three different stages of the entrepreneurial process are presented. In the next section, the methodology applied in the empirical analysis is explained. Then, the main findings of the research are discussed. Finally, the conclusions, limitations and future research are presented.

2 Theoretical Framework

2.1 Entrepreneurship and institutional dimensions

As we mentioned, institutional theory provides valuable insights into the structures and mechanisms that shape human interactions and behaviours within societies. According to Williamson (2000), institutions can be understood at four levels of analysis: social embeddedness, institutional environment, governance, and resource allocation. In the entrepreneurship field researchers have employed two main approaches to analyse the influence of institutions on entrepreneurial activity which mainly represent the levels of social embeddedness and institutional environment. The first approach classifies institutions into formal and informal institutions. According to North (1990) formal institutions are those devised by people and duly prescribed, such as laws, contracts, or regulations. For their part, informal institutions are implicit agreements and codes of conduct; these are values and meanings shared in society that are not necessarily written but help maintain a particular order in the community. Considerable empirical evidence supports this approach (Chowdhury et al., 2019; Urbano et al., 2019; Welter & Smallbone, 2011).

The second approach uses regulative, normative, and cultural-cognitive dimensions (Scott, 1995) as a

theoretical framework to explain entrepreneurship. This approach is still considered innovative within entrepreneurship research. Kostova (1997) was a pioneer in adapting institutional dimensions in the organizational and business fields with the concept of country institutional profile, which Busenitz et al. (2000) later applied and introduced specifically to the entrepreneurship field. Previous empirical studies have also validated this approach, and empirical evidence supports the influence of regulative, normative, and cultural-cognitive dimensions on entrepreneurial activity (Chowdhury et al., 2019; Manolova et al., 2008; Maurer et al., 2022; Spencer & Gómez, 2004). The *regulative dimension* refers to the mechanisms that influence future behaviour by establishing rules, manipulating sanctions, and offering rewards or punishments (Scott, 1995). As Williamson (2000), this level of institutions can change more easily over time. However, it is more difficult for a regulatory institution to be implemented if its institutional counterparts fail to legitimise it. The *normative dimension* includes a society's goals for behaviour therein and its expectations for the correct way to achieve them. Since it refers to aspects that are found in people's values and culture, this is a pillar that is more difficult to change in the long term (Scott, 1995; Williamson, 2000). The *cultural-cognitive dimension* includes the process of creating meaning and social reality from shared conceptions. This dimension represents the social construction of actors and interests based on cognitive frames that condition how individuals interpret and respond to the world around them (Scott, 1995). According to Williamson (2000), in this process the mechanisms of the mind are configured and deserves a place in the discussion. Specific studies such as Stenholm et al. (2013) have analysed how differences in institutional dimensions influence both the rate and the type of entrepreneurial activity in a country. Valdez and Richardson (2013) explored the institutional determinants of macro-level entrepreneurship. Urbano and Alvarez (2014) examined the influence of institutional dimensions on the probability of becoming an entrepreneur. Further, Bosma et al. (2018) found that regulative and cultural-cognitive dimensions are the most important predictors of productive entrepreneurship.

Despite the evidence that institutional dimensions influence entrepreneurial activity, it is necessary to bear in mind that the decision to create a new

company is not static. On the contrary, entrepreneurship is a dynamic process, and an individual must go through various stages before becoming an entrepreneur (van der Zwan et al., 2010, 2012). This phenomenon starts with the concept of intention to create a business. Entrepreneurship does not end with firm creation or formalisation and should be considered an ongoing process rather than an isolated, one-time event (Bergmann & Stephan, 2013; Galanakis & Giourka, 2017).

Different authors have developed the concept of the entrepreneurial process. Seminal studies, such as Shane and Venkataraman (2000), defined the general stages as *discovery*, *evaluation*, and *exploitation of opportunities*. Concretely, Reynolds et al. (2004) considered a detailed framework of the entrepreneurial process that comprised four main stages. In the first stage (conception), all individuals in the population are involved, and some might decide to start a business through a conceived idea (conception). Subsequently, the entrepreneur starts with activities to create a new firm (gestation); in this stage, the entrepreneur can achieve a variety of things: create an infant firm, be “still trying” to start-up, put the effort “on hold” whilst expecting to continue the process later, or abandon the start-up entirely. The next stage is the generation of benefits for more than three months (birth). In the last stage, the new venture’s survival is at risk (infancy); in this period, the firm could experience growth, persistence and stable survival, or the termination of its activities. For their part, van der Zwan et al. (2010) presented a five-stage model that describes the entrepreneurial decision as a process. The first stage includes people who never thought about starting a business; the second stage includes those who are thinking about it; the third stage includes people who are taking steps to start a business; and the fourth stage comprises those individuals operating a young business or one that was started in the last three years and still active. Finally, the fifth stage encompasses people who started a business more than three years ago that is still active. This last stage is also called an “old” business. Along a similar vein, Galanakis and Giourka (2017) considered four steps in the overall entrepreneurial process. The first step is entrepreneurship intentions, and the second involves transforming those intentions into a venture idea. The third step in the path refers to the creation of the idea, followed by the fourth step,

which is venture growth. Since this model does not consider those who have never considered starting a new firm, it differs from the van der Zwan et al. (2010) model. These studies really look into entrepreneurial dynamism at the very early stages—latent and nascent entrepreneurship, but do not examine entrepreneurial growth, sale of the company or merger and acquisition which also are later stages in the process. Overall, the studies that consider entrepreneurship as a process have three critical stages, which are our focus in this study. First, when the entrepreneur has the intention to create a new business (pre-stage or potential), then the individual passes from intention to action through certain initial activities (early stage or nascent) and, finally, when the entrepreneur has managed to establish a new firm in the short term and is looking for growth (entry-stage or new entrepreneurship).

Although the literature views entrepreneurship as a process, the evaluations of entrepreneurship determinants are carried out in specific stages without delving into the differentiated effects. Similarly, concerning the institutional determinants, there is an essential lack of studies that distinguish the effects of institutional dimensions on the different stages of entrepreneurship. Thus, it is vital to investigate which institutions influence the different stages of venture creation. In this research, we build on previous theoretical advances and consider the most important stages of the entrepreneurial process identified in the literature—from intention to new entrepreneurship—and analyse them in the light of the institutional dimensions. The first stage refers to individuals who expect to start a business in the future (potential entrepreneurship); the second considers individuals who engage in activities to open their new firm (nascent entrepreneurship); and the third stage considers individuals who have already managed to launch their new business (new entrepreneurship).

2.2 Influence of institutional dimensions on the entrepreneurial process

2.2.1 Potential entrepreneurship and institutional dimensions

As mentioned before, the first stage of the entrepreneurial process is potential entrepreneurship, and includes the individuals who have the intention to

start a business. In this stage, the normative dimension may reveal entrepreneurial opportunities. The normative dimension is represented by common views about entrepreneurs and the legitimacy granted to this profession (Busenitz et al., 2000). The normative institutional context can stimulate an individual's curiosity for entrepreneurship, particularly if the wider society supports entrepreneurship. Krueger et al. (2000) stated that the intention to start a business is influenced by the expectations and beliefs of a reference group (social culture). If society accepts entrepreneurship, its effect on entrepreneurs' intentions is positive.

Current empirical evidence shows positive results regarding the role played by the normative dimension in entrepreneurship. For example, the social recognition of entrepreneurial accomplishment is associated with a higher country's rate of entrepreneurial activity (Urbano & Alvarez, 2014). Similarly, Galanakis and Giourka (2017) showed that in the stages of ideation and intention (potential entrepreneurship), the wider socioeconomic context affects the individual, mainly because this context provides opportunities or needs that entrepreneurs could convert into valuable products or services through business activities. If the subjective norms consider creating new companies desirable in society, then this is reinforced. Mickiewicz et al. (2017) assert that a more entrepreneurial environment fosters role models and network opportunities (measures of the normative dimension), thereby enhancing the earliest stages of entrepreneurship. They found that in environments with a higher number of entrepreneurs, the likelihood of potential entrepreneurship in comparison to nascent and new entrepreneurs increases.

Conversely, previous studies have ascertained that the regulative dimension has no significant influence on the first stages of the creation of a new firm (Valdez & Richardson, 2013; Zulfiqar et al., 2021). Kim et al. (2006) reported that financial capital resources (related to the regulative dimension) do not influence first stages of entrepreneurship (measure as entrepreneurial entry). These authors show how government regulations do not influence opportunity recognition behaviour (Zulfiqar et al., 2021) and new business creation (Valdez & Richardson, 2013). In contrast, they found a positive influence of the normative and cultural-cognitive dimensions on entrepreneurial activity.

The extant cultural and social environment affects the intentions that result in the choice of an entrepreneurial career (Shapero & Sokol, 1982). When individuals make decisions concerning their employment, they consider both objective and subjective economic aspects. Objective factors, such as salary, have been found to shape individuals' career intentions. Studies suggest that people with the potential to earn higher wages in traditional employment may be less likely to consider entrepreneurship a viable career option (Fritsch et al., 2021). Furthermore, the decision-making process is influenced by subjective factors, such as societal perceptions (Guerrero & Marozau, 2023), when entrepreneurs are viewed positively in society, it creates a favourable environment that promotes and celebrates entrepreneurship. Also, other factors such as risk perception (Caliendo & Kritikos, 2010; Runst & Thomä, 2022) and quality of life considerations (Kautonen et al., 2017) are important in this stage.

Specifically, subjective factors, related to the normative dimension, such as the perception of the local entrepreneurial environment, such as entrepreneurial networks (Audretsch et al., 2022a, 2022b) can influence an individual's decision to start a new firm, particularly in the first stages of the start-up process (Mueller, 2006). As businesses navigate the initial phase of entry, the influence of cultural and social contexts becomes evident, impacting individual firm characteristics, such as absorptive capacity, and influencing collaborative efforts with external partners (Audretsch et al., 2023). However, Audretsch et al. (2023) emphasis is placed on resource-related factors, technology, and contextual roles, while the diverse institutional dimensions that contribute to shaping initial stages is not developed. Moreover, Uhlaner and Thurik (2007) demonstrated that normative dimension (e.g. cultural values) predict potential entrepreneurship in contrast to nascent entrepreneurship or new businesses. Manolova et al. (2008) propose that the supportive normative dimension may help individuals in emerging economies overcome legal systems that lag behind in their response to entrepreneurial necessities.

At the time of choosing a career, the social norms favouring entrepreneurship are the most important forces and are reflected through professional and family connections. Since entrepreneurs are immersed in their local business environment, an individual is more likely to see this option as a desirable career

choice if entrepreneurship is a career that provides status in society (Mueller, 2006). Recent research suggests the importance of networks and high status in shaping entrepreneurship during its early stages (Audretsch et al., 2022a, 2022b), even when productive and unproductive entrepreneurship is analyzed (Audretsch et al., 2021). Thus, the normative dimension shape the perceptions of the social groups from which entrepreneurs arise. Therefore, we suggest the following hypothesis:

Hypothesis 1 The normative institutional dimension has a strong influence in the potential entrepreneurship stage.

2.2.2 Nascent entrepreneurship and institutional dimensions

In the nascent entrepreneurship stage, an individual moves from conception to action and initiates activities to launch the new firm. In this stage, the individual's social perception role is crucial to entrepreneurial activity (Chen et al., 2023). Consequently, the cultural-cognitive dimension becomes more important in the analysis. As we mentioned, this dimension reflects the common structures and concepts shared in society to individual interpretation (Scott, 1995). Specifically, in the field of entrepreneurship, this dimension helps define the individual characteristics that favour entrepreneurial activity, such as having the knowledge and skills necessary to create a new business (Busenitz et al., 2000).

To determine the course of action, the cultural-cognitive processes are indispensable since the individual gather, transform, and interpret information from the environment (Baron, 2004). Consequently, it is necessary to consider the role of the entrepreneur as they interpret environmental information in determining whether to create a company (Busenitz & Lau, 1996). The cultural-cognitive viewpoint may be useful in probing and clarifying these previously unexplained phenomena within the entrepreneurship research domain (Mitchell et al., 2002). Studies confirm that an entrepreneur's positive subjective meanings (cognitions) arise to face the difficulties of the environment, such as the de-legitimisation of entrepreneurship in the social environment or regulation obstacles (Johansson et al., 2021; Lang et al., 2014).

Similar results have been found for innovative entrepreneurship (Demirdag & Eraydin, 2022).

Previous research has found that individuals are more confident in pursuing entrepreneurial activities when the cultural-cognitive dimension is supportive (Chen et al., 2023; Junaid et al., 2020; Manolova et al., 2008). Additionally, the cultural environment in which an entrepreneur is immersed significantly influences their response to the possibility of failure (Henriquez-Daza et al., 2023). And this aspect is not only individual, a society may be more prone to uncertainty too (Hofstede, 1983). Uncertainty avoidance refers to the extent to which a society feels threatened by ambiguous situations, to a major uncertainty avoidance level the connotation is more willingness to take risks in life (Hofstede, 1983, p. 61). In consequence, in cultures with high uncertainty avoidance, there is generally a strong fear of failure. This is because individuals in these cultures tend to prefer stability, predictability, and structure.

Empirical evidence shows that individual aspects related to the cultural-cognitive dimension (measure as years of education, years of work experience, previous start-up experience, entrepreneurship-specific skills and knowledge) increase the probability of entering nascent entrepreneurship (Davidsson & Honig, 2003; Mickiewicz et al., 2017); and the probability is higher for nascent than potential entrepreneurs (Mickiewicz et al., 2017). Parker and Belghitar (2006) reported similar results regarding the education variable. Moreover, these authors found that nascent entrepreneurs with post-high school studies are less likely to leave their start-up compared to entrepreneurs with less education. Besides, Brinckmann and Kim (2015) found that advanced academic education increases the likelihood that nascent entrepreneurs develop activities related to business planning and create more formal business plans. Education can enhance skills, and help identify and develop opportunities to better promote entrepreneurship (Chen et al., 2023).

As we discovered in the empirical evidence, entrepreneurs' previous experience and knowledge facilitate the process of creating a new venture; therefore, their perceptions about their abilities are more optimistic. In this regard, Arenius and Minniti (2005) showed that nascent entrepreneurship is highly correlated with perceptual variables such as one's skills, the existence of opportunities, and the fear of failure.

All these variables have been considered proxies for cultural-cognitive dimension to analyse the determinants of entrepreneurship (Junaid et al., 2019; Urbano & Alvarez, 2014). Kollmann et al. (2017) revealed that the fear of failure is an essential factor in understanding an individual's decision to continue or cease the entrepreneurial process. From their perspective, the fear of failure is not a "fixed trait"; instead, they adopt an integrative approach, using a social cognitive perspective and the fear of failure. In this case, the fear of failure considers the reactions that the individual has to the environment, which gives this concept an explanatory power beyond the traditional perspective (Kollmann et al., 2017). Societal perceptions of their entrepreneurial abilities are thus crucial for nascent entrepreneurs (Arenius & Minniti, 2005). For example, empirical evidence shows that entrepreneurs who perceive they can carry out the required tasks are more likely to engage in business planning activities; further, these activities decrease their perceptions of environmental uncertainty and increase their perceived self-efficacy (Brinckmann & Kim, 2015; McCann & Vroom, 2015). In this context, we posit the following hypothesis:

Hypothesis 2 The cultural-cognitive institutional dimension has a strong influence in the nascent entrepreneurship stage.

2.2.3 *New entrepreneurship and institutional dimensions*

For a new entrepreneur, that is already selling and paying taxes and salaries for more than three months, formalisation is integral to maintaining the firm's legitimacy and decreasing the probability of failure (Williams et al., 2017). In entrepreneurship research, the regulative dimension is represented in the policies formulated by countries to encourage entrepreneurial activity (Busenitz et al., 2000). When entrepreneurs start a business, they must decide to stay in the market and formalise their new firm. However, at this stage, the costs and procedures involved in the formalisation thereof become a barrier for entrepreneurs and, subsequently, some decide to enter the informal economy (Webb et al., 2009). Thus, an inadequate legal infrastructure, which includes, among others, barriers to market entry and financing, gaps in the implementation of the law, and subsequent corruption, restrict

entrepreneurship development (Smallbone & Welter, 2012; Welter & Smallbone, 2011), particularly for new entrepreneurs. The regulatory environment may exert a positive influence on growth because of the incentives supplied to new businesses (Agostino et al., 2020). Schüler (2022) suggests that in South Korea regulative dimension plays a bigger role for entrepreneurship than cultural-cognitive or normative institutions. Similarly, Audretsch et al., (2022a, 2022b) found that normative dimension, measure as the entrepreneurial network, does not influence entrepreneurs already running their businesses. Some explanation would be that the positive influence of the normative dimension on new entrepreneurs might be somewhat offset by competition. Those who are in the potential or nascent stages face no competition from existing business owners until they actually become owner-managers (Mickiewicz et al., 2017).

One approach through which formal institutions can support or hinder the transition from the nascent to the operational stage of entrepreneurship involves access to financial capital (Bergmann & Stephan, 2013; Maurer et al., 2022; Parker & Belghitar, 2006). Alvarez et al. (2014) found that one of the proxies of formal institutions influencing entrepreneurial activity is access to financial resources. Nevertheless, issues related to finance are less relevant for nascent entrepreneurs (Kim et al., 2006; Mueller, 2006). Galanakis and Giourka (2017) identified a supportive financial system that helps new ventures in avoiding "Death Valley," are important in the active and growing venture stage. Similarly, Stenholm et al. (2013) showed that access to capital influences high-impact new firms and their success. Hence, although financial access holds relatively less prominence in the early stages of entrepreneurship, its importance becomes more apparent during the exploitation and new stages. Therefore, the support from the regulative dimension, encompassing policies and rules that facilitate resource access, stands as a crucial factor influencing new entrepreneurs' decisions to continue or cease operations for a firm.

Nyström (2008) found that greater access to credit, a better legal structure, a small government sector, and security of property rights positively influence entrepreneurship. Moreover, Stenholm et al. (2013) described the negative influence of administrative barriers, procedures, and government processes related to founding or closing a firm on new

firm formation. However, the aforementioned factors related to financing, formalisation, property rights, and the ease of doing business are more related to running a new firm and less related to conceiving an idea or operating a new venture in the initial months of its creation (Galanakis & Giourka, 2017; Klonek et al., 2015). Deerfield and Elert (2022) show how favourable regulative dimension facilitates entrepreneurship such as the ridesharing legislation.

And the example from this study applies for new entrepreneurship stage. In the stage of new firm formalisation, an entrepreneur must thus pay more attention to regulations. Hence, we propose the following hypothesis:

Hypothesis 3 The regulative institutional dimension has a strong influence in the new entrepreneurship stage.

2.2.4 Interactions between institutional dimensions and the entrepreneurial process

According to Scott (1995), rules, norms, and meanings arise in interaction. In this study, we have highlighted the importance of those interactions and their influence on entrepreneurial activity. Although the literature on the subject is scarce, we found support in previous studies that consider some of the proxies of the institutional dimensions and their influence on entrepreneurship.

Bello et al. (2018) illustrated that social context, or the individual's relationship with peers or family that encourages entrepreneurship (in our theoretical framework, the normative dimension), mediates the relationship between creativity and individual perceptions and the first stages of entrepreneurship. Specifically, role models (positive examples of close friends or family members who are entrepreneurs) prompt an individual to consider starting a new firm. Empirical evidence shows the significant effect of role models on the first stages of the entrepreneurial process in a specific rural context (Lafuente et al., 2007). These analyses showed that entrepreneurial cognition (cultural-cognitive dimension in this study) is not entirely independent; that is, they are influenced by social context, values, culture, and individual or personal differences (Busenitz & Lau, 1996). In this regard, Valdez and Richardson (2013) show that normative institutions shape the cognitive dimension of

individuals, leading to the assumption that cognition can be shared in a society. This result follows research that observed the influence of normative institutions on entrepreneurship, albeit always in conjunction with cultural-cognitive dimension (Steinz et al., 2016). Then, we suggest:

Hypothesis 4a The influence of the normative institutional dimension on potential entrepreneurship is stronger when the cultural-cognitive institutional dimension is higher.

Thus, we anticipate that in the potential and nascent stages, personal characteristics influence entrepreneurship without losing sight of the effect of the normative and regulative dimensions. For instance, Kollmann et al. (2017) showed that the fear of failure, a proxy of the cultural-cognitive dimension (Urbano & Alvarez, 2014), is interrelated with other social aspects, including the perception of support for entrepreneurship in society (normative dimension) and other formal dimensions, such as access to financial resources. Additionally, Webb et al. (2009) argued that in the informal economy, support for an entrepreneur by a group's collective identity, related to the normative institutional dimension, strengthens the relationship between the first stages of the entrepreneurial process and opportunity exploitation. Similarly, Davidsson and Honig (2003) revealed that having parents or close friends who participate in entrepreneurial activities and receiving encouragement from close networks increases the probability of an individual becoming a nascent entrepreneur. Such role models are a relevant stimulus for nascent entrepreneurs. However, once individuals have reached their decision, the social entrepreneurial environment becomes less important (Mueller, 2006). Hence, we propose:

Hypothesis 4b The influence of the cultural-cognitive institutional dimension on nascent entrepreneurship is stronger when the normative institutional dimension is higher.

For instance, Manolova et al. (2008) highlight how the normative and cultural cognitive dimensions contribute to overcoming unfavourable regulatory environments in an emerging economy such as Latvia. The authors show that in contexts where

starting new businesses is socially accepted and individuals consider they have the necessary knowledge and expertise (proxies on cultural-cognitive dimension), there appears to be a pressing demand for legislative measures to keep pace. In the same vein, Li et al. (2020) found that higher levels of female nascent entrepreneurs were related to the interaction of a specific combination of cultural-cognitive dimension, regulative dimension and economic development. In less developed countries with regulations that do not favour maternity rights, the nascent entrepreneurial activity is higher. Moreover, the authors affirm that the cultural-cognitive dimension (measured as skills, knowledge opportunity perception and role models) is a necessary condition for a high female early-stage entrepreneurial activity across the 63 countries. Considering previous literature, in the following hypothesis we state that the regulatory environment moderates the effects of the assessment on the self-skills and knowledge to start a business.

Hypothesis 4c The influence of the cultural-cognitive institutional dimension on nascent entrepreneurship is stronger when the regulative institutional dimension is more supportive.

As previously explained, regarding *new entrepreneurs*, the regulative dimension is the most important at this stage. However, as we presented, focusing only on formal institutional constraints ignores the role played by the cultural-cognitive and normative dimensions at this stage (North, 1990; Scott, 1995; Williamson, 2000). Namely, despite the formal difficulties of starting a new business, people continue to launch new businesses because their decisions also depend on other cognitive factors that reflect the values of the individuals themselves, their perception of the environment, the allocation of resources, and their priorities in life (Davidsson & Honig, 2003). Johansson et al. (2021) claimed that “the cognitive logic dominates the funding decision-making process through a set of overshadowing forces that restrict the influence of the normative and regulative logics on funding decisions.” For instance, Agostino et al. (2020) argue that in times of crisis, regulatory quality is less critical to entrepreneurship, or regulation can be quickly adjusted to support entrepreneurial activity and help entrepreneurs to stay in the market and not

exit (Belitski et al., 2022). Instead, human capital, education, and the propensity to innovate (related to the cultural-cognitive dimension) play a more significant role in determining new business creation in those scenarios. Maurer et al. (2022) propose that “individuals who contribute to venture capital funds become more willing to do so as cognitive and normative legitimacy increases”. Their results support the notion that the interaction among three institutional dimensions plays an active role in developing investment and entrepreneurial activity.

Davidsson and Honig (2003) examined the determinants of entrepreneurship in the exploitation stage, indicating the existence of new entrepreneurship. They found no relationship between this stage and variables related to the individual’s social environment (normative dimension) measured as parent entrepreneurs, encouragement by friends or family, contact with an assistance agency, and being a start-up team member. Furthermore, Lafuente et al. (2007) found that self-confidence in entrepreneurial skills significantly influences the last stages of entrepreneurial activity. Other individual factors, related to the cultural-cognitive dimension found by Galanakis and Giourka (2017) to be related to professional education and personal abilities, such as hard work, persistence, open-mindedness, confidence, and ambition, are important to entrepreneurial success and the maintenance of a new firm in the market.

Researchers have highlighted the importance of government support programmes that help nascent entrepreneurs move from nascent entrepreneurship to establishment (Parker & Belghitar, 2006). However, as Verheul et al. (2002) stated the policy intervention and regulations in mature stages that support entrepreneurship should include improvements in environmental conditions and education supporting cultural-cognitive dimension and individual characteristics such as entrepreneurial skills. Considering the previous literature, we propose the following hypotheses:

Hypothesis 4d The influence of the regulative institutional dimension on new entrepreneurship is stronger when the cultural-cognitive institutional dimension is higher.

Figure 1 summarizes the relationships among the institutional dimensions and the entrepreneurial process proposed in this study.

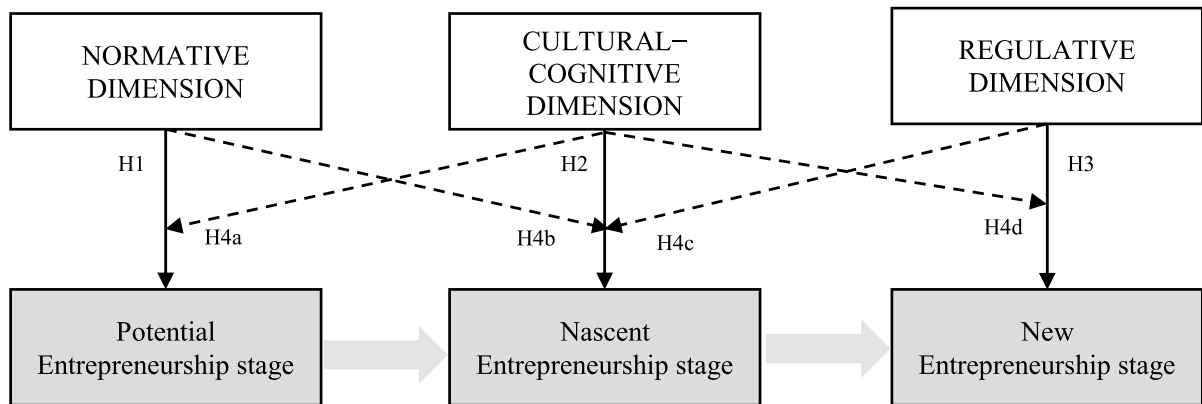


Fig. 1 Institutional dimensions and entrepreneurial process

3 Methodology

3.1 Data and sample

The research uses data from different sources for the empirical analysis. The information concerning the entrepreneurial process, and normative and cultural-cognitive dimensions was obtained from the Adult Population Survey (APS) developed by Global Entrepreneurship Monitor (GEM) aggregated in the country level. Data regarding the regulative dimension was achieved from the Index of Economic Freedom. Finally, the control variables are obtained from the World Economic Forum datasets. Table 1 presents the list of dependent and independent variables used in this research, including their sources.

Regarding the sample, we used country-level information from each source for 17 years, between 2001 and 2017. The final sample consists of an unbalanced panel with data from 671 observations in 99 countries. The sample comprises countries from different regions across the world. The distribution is the following: 47% of the observations are from Europe (38 countries); 18% from South America, Central America, and the Caribbean (19 countries); 16% from the Asia–Pacific (18 countries); 8% from the Middle East and North Africa (15 countries); 6% from Sub-Saharan Africa (14 countries); and 5% from North America (3 countries). See Appendix 1 for a detailed list of countries.

3.2 Measures

3.2.1 Dependent variables

As mentioned earlier, this study considers three stages in the entrepreneurial process, which are the dependent variables. The first measure is the *potential entrepreneurship* stage, referring to the percentage of the population that intends to start a business within three years. The second measure is the *nascent entrepreneurship* stage, consisting of the percentage of the population actively involved in setting up a business (either owned or co-owned); however, this business has not produced salaries or other financial benefits for the owners for more than three months. Finally, the third measure is the *new entrepreneurship* stage or the percentage of the population managing a business with paid salaries or financial benefits to the owners for three months to 3.5 years.

3.2.2 Independent variables

The explanatory variables in this model are the institutional dimensions (normative, cultural-cognitive, and regulative). These dimensions are not easy to measure, mainly because they are not directly observable. For this reason, the study uses proxies to operationalise these constructs at the country level. The variables in the GEM are measured individually, and then calculated the aggregation percentage for the

Table 1 Description of the variables

	Variable	Description	Database
Dependent variables	Potential entrepreneurship stage	Percentage of 18–64 population (individuals involved in any stage of entrepreneurial activity excluded) who intend to start a business within three years	GEM 2001–2017
	Nascent entrepreneurship stage	Percentage of 18–64 population who are actively involved in setting up a business they will own or co-own; this business has not paid salaries, wages, or any other payments to the owners for more than three months	GEM 2001–2017
	New entrepreneurship stage	Percentage of 18–64 population who own and manage a running business that has paid salaries, wages, or any other payments to the owners for more than three months, but not more than 42 months	GEM 2001–2017
Normative dimension	Equalitarianism	Percentage of people in a country that prefer equal standard of living for all	GEM 2001–2017
	Entrepreneurial career	Percentage of people in a country that consider starting a business to be a good career choice	
	Entrepreneurial status	Percentage of people in a country that attach a high status to successful entrepreneurs	
	Media attention	Percentage of people that consider there to be significant media attention for entrepreneurship in that country	
Cultural-cognitive dimension	Opportunity	Percentage of people that agreed with the statement “There are good conditions to start a business in the next six months.”	GEM 2001–2017
	Skills	Percentage of people that agreed with the statement “You have the knowledge, skills, and experience required to start a new business.”	
	Fear of failure	Percentage of people that agreed with the statement “Fear of failure would prevent me from starting a business.”	
	Knowing an entrepreneur	Percentage of people that agreed with the statement “You know someone personally who started a business in the past two years.”	

Table 1 (continued)

	Variable	Description	Database
Regulative dimension	Rule of law Limited government Regulatory efficiency Open markets	Property rights Fiscal freedom Business freedom Investment freedom	Heritage Foundation–Index of Economic Freedom 2001–2017
Control variables	Per capita income	Natural logarithm of gross domestic product (GDP) at purchasing power parity (PPP) per capita, constant prices (U.S. dollars)	International Monetary Fund (IMF), World Economic Outlook Database 2001–2017
	Level of development	Classification of countries into three levels of development: 1. Factor-driven 2. Efficiency-driven 3. Innovation-driven	Global Competitiveness Report published by the World Economic Forum 2001–2017

country. Table 1 presents these measures, and each dimension is subsequently explained.

Normative dimension This dimension refers to the evaluation that people in society attach to entrepreneurship. There are four proxies for this dimension. The first proxy, *equalitarianism*, is the percentage of people in a country who believe that people should have different income levels. Second, an *entrepreneurial career* incorporates information about the percentage of people in a country that consider entrepreneurship to be a good career choice. Conversely, we consider *entrepreneurial status* to be the percentage of people who attach a high social status to entrepreneurs. Finally, to operationalise this dimension, we consider *entrepreneurial media attention*, measured by the percentage of people who consider there to be significant media attention for entrepreneurship in their countries.

Cultural-cognitive dimension This dimension refers to the individual's perceived opportunities and capabilities to start a new venture, that is, the factors concerning the ease or difficulty of becoming an entrepreneur. This measure incorporates information concerning *opportunities*, referring to the percentage of people in a country who consider there to be good possibilities to initiate a new firm. By contrast, we operationalise this construct with the *skills* variable, referring to the percentage of people that believe they

have the knowledge, skills, and experience required to start a new business. *Fear of failure* is the other proxy, which is the percentage of people that think that the fear of failure would prevent them from starting a new firm. Finally, the *role model* variable refers to the percentage of people that affirm they personally know someone who has started a business in the past two years.

Regulative dimension To operationalise this dimension, we consider the indicators of the Heritage Foundation; in particular, we use the indicators of four components. The first is *property rights*, which refers to the legal conditions to accumulate private property with security and clear laws. The second component is *fiscal freedom*, measuring the level of public debt associated with poor government budget management. The third component is *business freedom*, which measures the extent of the regulatory and infrastructure environments relating to the efficient operation of businesses in a country and thus reflects the ease of starting, operating, and closing a business. These rankings are scored between 0 and 100, with 100 indicating the freest business environment. The final variable to operationalise in the regulative dimension is *investment freedom*. This dimension evaluates the different regulatory restrictions imposed on the country's investments; in a country with no restrictions on moving monetary resources, this score is 100.

3.2.3 Control variables

We use income per capita and the level of development to classify the countries because the levels of income and development in a country are critical factors in explaining entrepreneurial activity. For robustness checks, on the one hand, to measure a country's income we use the natural logarithm of the GDP at PPP per capita in constant (U.S. dollar) prices. On the other hand, to group the countries by the level of development, we use the classifications of the different stages of development from the World Economic Forum–Global Competitiveness Report, thereby categorising countries into three different stages: the first stage includes “factor-driven” economies, where a country competes primarily on the use of unskilled labour and natural resources, and companies compete based on price as they buy and sell primary products or commodities; the second stage includes “efficiency-driven” economies, where growth is based on more efficient production processes and increased product quality; the third and final stage includes “innovation-driven” economies, where companies compete by producing and delivering new and different products and services through sophisticated processes. Moreover, we conducted robustness checks by incorporating controls for the size of the country (the number of states or regions within each country) as indicators of regional heterogeneity.

3.3 Analysis

To analyse the role of institutional dimensions in the entrepreneurial process, we use a panel-data model that allows us to control for specific characteristics and the unobservable effects of each country. Not all countries have data for each year; therefore, an unbalanced panel analysis was developed. We combine and compare variables from each construct to comprehensively analyse the interactions between the institutional dimensions. Initially, we ran a pooled regression, calculating the ordinary least squares regression, which does not consider the time and space dimensions. Later, to verify the choice of model, we estimated random and fixed effects models and used the Hausman specification test. This test shows if the difference in coefficients is systematic or not; a fixed-effects model considers that certain variables are constant over time for each country. Conversely,

a random-effects model considers that each cross-sectional unit (country) has a different constant. After the Hausman specification test for each model, the result is significant, indicating that the fixed effects approach is more consistent than random effects in all cases.

Although we considered the temporal and spatial heterogeneity in our model, the panel data structure sometimes violates several assumptions regarding the ordinary least squares estimators. In our sample, the error terms of each country could be correlated between them (contemporary correlation), or the errors within the country could be correlated (autocorrelation or serial correlation).

We conduct the Wooldridge test of autocorrelation (Wooldridge, 2002) for each stage of the entrepreneurial process model. We found that potential entrepreneurship model and new entrepreneurship model have serial autocorrelation problems. Next, to prove whether the variance of the error of each country is constant or not, we conduct the modified Wald test for groupwise heteroscedasticity in the fixed effects regression model. The null hypothesis of this test is H_0 : a heteroscedasticity problem does not exist. Following the results, we reject H_0 for the three models (potential, nascent and new entrepreneurship) at 99% confidence. These results indicate that heteroscedasticity is a problem in the models. Consequently, we fit the panel-data linear models using feasible generalised least squares (FGLS) to correct the problems detected concerning serial correlation and heteroscedasticity. Accordingly, we are aware that FGLS estimation does not consider fixed effects; in this order, we insert the dichotomising variables of each country and each year. The tables do not present these dummy variable estimations.

4 Results And Discussion

Table 2 reports the observations, means, standard deviations, and correlation matrix with the correlation coefficients of the variables used in this study. Differences between each stage of entrepreneurship among the individual levels of development are evident. Factor-driven countries have a mean of 42% of potential entrepreneurship, whereas efficiency- and innovation-driven countries have a mean of 25% and 12%, respectively. This tendency continues in the

Table 2 Descriptive Statistics and Correlation Matrix

Variable	Factor-driven Countries			Efficiency-driven Countries			Innovation-driven Countries		
	Observations	Mean	Std. Dev	Observations	Mean	Std. Dev	Observations	Mean	Std. Dev
Potential entrepreneurship	101	42.25	18.15	331	25.95	14.00	367	12.14	7.71
Nascent entrepreneurship	102	11.32	6.81	339	7.51	4.93	388	4.32	2.14
New entrepreneurship	102	10.13	6.30	339	5.81	3.61	388	3.18	1.50
Rule of law	102	32.32	14.96	337	46.04	17.97	388	79.96	13.74
Limited government	101	80.64	6.29	337	78.09	7.33	388	61.46	14.41
Regulatory efficiency	101	59.31	11.50	337	67.30	10.18	388	82.68	9.97
Open markets	102	40.88	20.41	337	58.18	17.99	388	74.73	13.79
Fear of failure	102	31.40	11.48	339	34.65	12.09	388	35.45	15.49
Knowing an entrepreneur	102	51.87	15.69	339	38.58	13.97	388	31.43	14.35
Skills	102	65.60	16.46	339	49.85	18.43	388	37.06	16.60
Opportunity	102	55.11	16.94	339	38.57	16.65	388	32.11	18.69
Equalitarianism	92	60.52	13.01	299	64.69	13.87	308	62.86	11.26
Entrepreneurial career	92	74.17	11.77	304	68.88	11.65	324	57.46	11.89
Entrepreneurial status	92	77.21	10.54	305	67.98	10.80	326	68.69	9.54
Entrepreneurial media attention	92	73.50	69.31	305	61.68	14.65	322	57.71	13.28
Per capita income	101	8.70	0.84	337	9.60	0.39	387	10.59	0.28
Number of countries	22			43			34		

1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	Potential entrepreneurship															
2	Nascent entrepreneurship	0.70*	1													
3	New entrepreneurship	0.71*	0.59*	1												
4	Rule of law	-0.50*	-0.32	-0.40*	1											
5	Limited government	0.47*	0.34*	0.35*	-0.51*	1										
6	Regulatory efficiency	-0.45*	-0.34*	-0.44*	0.70*	-0.34*	1									
7	Open markets	-0.34*	-0.19*	-0.33*	0.71*	-0.35*	0.58*	1								
8	Fear of failure	-0.04	-0.14*	-0.08*	-0.08*	0.08*	0.08*	0.03	1							

Table 2 (continued)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
9	Knowing an entrepreneur	0.53*	0.35*	0.45*	-0.35*	0.29*	-0.27*	-0.28*	0.37*	1						
10	Skills	0.71*	0.53*	0.52*	-0.41*	0.37*	-0.32*	-0.21*	0.31*	0.75*	1					
11	Opportunity	0.59*	0.48*	0.48*	-0.19*	0.20*	-0.15*	-0.12*	0.21*	0.71*	1					
12	Equalitarianism	0.08+	0.03	0.09+	-0.02	0.08+	0.00	0.08+	0.11*	0.00	0.23*	0.00	1			
13	Entrepreneurial career	0.56*	0.35*	0.49*	-0.47*	0.29*	-0.41*	-0.29*	-0.13*	0.29*	0.57*	0.40*	0.31*	1		
14	Entrepreneurial status	0.33*	0.15*	0.33*	-0.09*	0.12*	-0.05	-0.15*	-0.06	0.31*	0.33*	0.40*	0.17*	0.40*	1	
15	Media attention	0.21*	0.23*	0.22*	-0.11*	0.18*	-0.12*	-0.18*	-0.12*	0.25*	0.15*	0.29*	0.06	0.15*	0.19*	1
16	Per capita income	-0.62*	-0.48*	-0.62*	0.71*	-0.42*	0.66*	0.49*	0.12*	-0.38*	-0.44*	-0.30*	-0.04	-0.51*	-0.20*	-0.17*

Significance: + $p < 0.05$, * $p < 0.01$

other two stages of entrepreneurship, although there are fewer entrepreneurs developed at each successive stage.

Table 3 shows the results of the fixed effects estimation considering the initial model and the models with the moderation relationships. The different models present the coefficients of the influence of institutional dimensions at the three stages: potential entrepreneurship, nascent entrepreneurship, and new entrepreneurship, respectively.

The main findings of the panel-data models demonstrate that institutional dimensions have different influences at each stage of the entrepreneurial process. Although the results confirm previous research proposing that institutional dimensions influence entrepreneurial activity (Maurer et al., 2022), not all the proxies that measure the dimensions affect the different stages of entrepreneurship in the same manner. This reaffirms the need to analyse in depth the impact of institutions in the different stages of the entrepreneurial process (Audretsch et al., 2022a, 2022b; Lee et al., 2022).

The first model analyses the influences of the regulative dimension (the rule of law, limited government, regulatory efficiency, open markets), the normative dimension (entrepreneurial career, entrepreneurial status, media attention), and the cultural-cognitive dimension (fear of failure, knowing another entrepreneur, skills) in the first stage of the entrepreneurial process (potential entrepreneurship). The results indicate that *open markets*, *fear of failure*, *skills*, *opportunity*, *equalitarianism*, and *entrepreneurial career* are statistically significant and show the expected sign. The rest of the variables are not sufficiently statistically significant and thus cannot explain the dependent variable.

According to the results, H1 is supported. Results evidenced that the normative dimension is more important in the first stage of the entrepreneurial process than in the other two stages. The variable that measures whether entrepreneurship is considered a *good career option* ($\beta = 0.089$, $p < 0.1$) has the expected sign.

First, in the case of potential entrepreneurship, the normative dimension plays a vital role in explaining the initial stage of entrepreneurship, thus confirming the results obtained in previous literature (Galanakis & Giourka, 2017; Uhlaner & Thurik, 2007; Urbano & Alvarez, 2014). Not only demonstrating the

importance of this dimension in the early stages as in previous research (Audretsch et al., 2022a, 2022b) but the differences with other advanced stages. Society requires a high rate of individuals who wish to start a business and are willing to try, and the normative context such as networks, status are vital in this process (Audretsch et al., 2022a, 2022b).

When the interaction effects are added to the model, the coefficient of this variable is greater and statistically significant ($\beta=0.221$, $p<0.05$). As illustrated in Fig. 2, this supports H4a, which proposes that the cultural-cognitive dimension strengthens the positive relationship between the normative dimension and the nascent entrepreneurship stage. Regarding *media attention*, the coefficient has an unexpected sign and is statistically significant. Although this variable influences the other two stages in the entrepreneurial process, the coefficient shows a stronger relationship in the potential entrepreneurship stage than the other models and is greater in the models with moderation effects ($\beta=-0.098$, $p<0.05$). These results regarding the first stage of the entrepreneurial process support both H1 and H4a. In addition, the cultural-cognitive dimension measured by the *fear of failure* variable appears to have the expected negative slope ($\beta=-0.081$, $p<0.1$). By contrast, this variable has no effect on the other entrepreneurship stages. In addition, the moderation relationship strengthens the effect regarding this variable ($\beta=-0.090$, $p<0.1$). Considering the results, the most significant dimension in the explanation of the first stage in the entrepreneurial process is cultural-cognitive (through the *skills* variable), which has the expected slope and a higher coefficient in the main effects model as well as in the moderation model.

The second model analyses the influence of the regulative, normative, and cultural-cognitive dimensions on the nascent entrepreneurship stage. H2 (“the most relevant institutional dimension in the nascent entrepreneurship stage is the cultural-cognitive dimension”) is supported by the coefficients and the significance of two of the variables used to operationalise the cultural-cognitive dimension: *skills* ($\beta=0.105$, $p<0.01$) and *opportunity* ($\beta=0.035$, $p<0.01$). Similarly, two of the variables used to operationalise the normative dimensions are statistically significant in the explanation of nascent entrepreneurship: *media attention* has a positive expected slope ($\beta=0.015$, $p<0.01$), indicating that if the percentage

of people who think there is significant media attention for entrepreneurs increases, then the percentage of nascent entrepreneurs increases in the country. However, with the moderation effect, this variable loses its significance. Conversely, the *egalitarianism* variable ($\beta=-0.044$, $p<0.01$) has a negative sign. This result means that if people who prefer an equal standard of living increase, the percentage of nascent entrepreneurs in the country decreases.

Thus, the results show that there are more entrepreneurs in societies in which people pursue individual interests than in collectivistic societies, which is in line with previous research (Henriquez-Daza et al., 2023; Pinillos & Reyes, 2011). This fact has a special effect on the nascent entrepreneurship stage. The results support H4b and H4c, which propose that the normative and regulative institutional dimensions, respectively, strengthen the positive relationship between the cultural-cognitive institutional dimension and nascent entrepreneurship. For the *skills* variable, the coefficient without interaction ($\beta=0.105$, $p<0.01$) has a statistically significant change compared to the same coefficient in the moderation model ($\beta=0.434$, $p<0.01$), as shown in Figs. 3 and 4.

In the nascent entrepreneurship stage, the normative dimension is relevant when individuals are actively involved in establishing a new business. However, the coefficients show that cultural-cognitive proxies are the most important in explaining nascent entrepreneurship. This result follows previous literature (Arenius & Minniti, 2005; Davidsson & Honig, 2003; Johansson et al., 2021). Individuals decide to start a new business (nascent entrepreneurs) depending on their self-perception skills and close role models, thereby supporting H2.

Regarding the interaction effects the results confirm previous research on the importance between the interaction between normative and regulative dimensions to explain the first stages of entrepreneurship (Audretsch et al., 2022a, 2022b). Moreover, expand this discussion in the sense that includes the cultural-cognitive interaction in the model. What can explain the mixed effects of these investigations that find a positive effect between the normative dimension and latent entrepreneurship (called potential in our research) but not significant for emerging entrepreneurship (called nascent in our study) (Audretsch et al., 2022a, 2022b). In consequence, the main contribution is the integration of the cultural-cognitive dimension.

Finally, the results regarding the third model support H3 (“the most relevant institutional dimension in the new entrepreneurship stage is the regulative dimension”). *Regulatory efficiency* ($\beta = -0.026$, $p < 0.05$) has a significant relationship and the expected sign in explaining new entrepreneurship. This variable refers to the procedures to formalise a business, and this regulative constraint has a negative effect on entrepreneurship, as per the results produced in previous studies (Schüler, 2022; Smallbone & Welter, 2012). In particular, compared to the other two models, *regulatory efficiency* only has a statistically significant effect in the last stage of the entrepreneurial process (defined as between 3 and 42 months after the establishment of a new business). Our results confirm previous research in different contexts (Audretsch et al., 2019; Parker & Belghitar, 2006); however, the dimension that explains this stage the most is the cultural-cognitive.

On the other hand, when the moderation effects are added to the model, these variables lose significance in the new entrepreneurship stage and gain significance in the other two stages. Furthermore, as mentioned previously, the cultural-cognitive dimension also plays an important role in this stage. The *skills* variable ($\beta = 0.078$, $p < 0.01$) has positive and statistically significant coefficients explaining the new entrepreneurship stage. Furthermore, among all the statistically significant variables in explaining the dependent variable in the third model, the proxy for *skills* is the most important. H4d predicted that the cultural-cognitive dimension strengthens the relationship between the regulative and new entrepreneurship stages. Thus, as shown in Fig. 5, H4d is supported. The coefficient for the interaction between the regulative dimension and cultural-cognitive dimension is significant ($\beta = -0.130$, $p < 0.05$), whilst the *skills* variable increases the coefficient in the moderation model ($\beta = 0.140$, $p < 0.05$). Finally, *media attention* ($\beta = -0.014$, $p < 0.01$) also negatively and statistically significantly affects the new entrepreneurship stage. These results are in accordance with those of Lafuente et al. (2007), who show that cognitive variables affect the latter stages of entrepreneurship and assert the need for policies that consider the individual characteristics of entrepreneurs (Verheul et al., 2002).

Table 3 shows that in most models, the level of income has the most important effect in explaining the different entrepreneurship stages. For robustness

checks, we control the models considering the classification of countries by the level of development; these results are shown in Table 4. In this regard, the results confirm that institutional dimensions have different influences on the stages of entrepreneurship and that the level of development in a country plays an important role.

As observed in Table 4, in factor-driven countries, the three institutional dimensions influence entrepreneurship in the first stage (the potential entrepreneurship stage). Most of the proxies have a significant effect and the expected slope coefficients. However, there are differences present between the levels of development. The regulative dimension does not have any significant effect on this stage in innovation-driven countries. However, it has the most fundamental effect in factor-driven countries, with the proxies of *limited government* ($\beta = -0.962$, $p < 0.1$) and *regulatory efficiency* ($\beta = -0.626$, $p < 0.01$). In efficiency-driven economies, the regulative dimension has a significant effect in this entrepreneurship stage, as reflected in the proxy of *open markets* ($\beta = -0.225$, $p < 0.05$). The cultural-cognitive dimension has a significant effect on all three types of countries but not all of the variables. For example, *fear of failure* does not significantly affect this stage for any level of development. Finally, the normative dimension affects the potential entrepreneurship stage, but the effects are, curiously, varied at different development levels. In factor-driven countries ($\beta = -0.036$, $p < 0.01$), *media attention* has a negative effect on potential entrepreneurs, while in efficiency-driven countries ($\beta = 0.157$, $p < 0.01$) and innovation-driven countries ($\beta = 0.118$, $p < 0.01$), the effect of the same variable (*media attention*) is positive. Regarding the entrepreneurial status, in factor-driven countries, the effect is positive and statistically significant ($\beta = 0.283$, $p < 0.05$); however, at the other two levels of development, although the coefficient is not significant, the sign is negative.

Concerning the nascent entrepreneurship stage at different levels of development, in the regulative dimension, the *investment freedom* variable is influential; it is statistically significant and possesses the expected sign in factor-driven ($\beta = 0.064$, $p < 0.08$) and efficiency-driven ($\beta = 0.074$, $p < 0.00$) economies. However, this dimension does not have an effect on nascent entrepreneurship in innovation-driven countries. For their part in the cultural-cognitive

Table 3 Institutional dimensions and entrepreneurial process—Panel data estimations of direct and moderation effects

Variables		(1)	(2)	(3)	(4)	(5)	(6)
		Potential	Nascent	New	Potential	Nascent	New
Regulative dimension	Rule of law	−0.01 (0.048)	−0.003 (0.017)	−0.005 (0.012)	0.006 (0.048)	0.002 (0.017)	−0.001 (0.012)
	Limited government	−0.062 (0.083)	−0.022 (0.028)	−0.032 (0.021)	−0.068 (0.082)	−0.026 (0.028)	−0.029 (0.02)
	Regulatory efficiency	0.039 (0.05)	−0.002 (0.017)	−0.026** (0.012)	0.280** (0.135)	0.089* (0.046)	−0.002 (0.034)
	Open markets	0.080** (0.04)	0.036*** (0.014)	−0.002 (0.01)	0.086** (0.039)	0.037*** (0.014)	0.001 (0.01)
Cultural-cognitive dimension	Fear of failure	−0.081* (0.049)	−0.001 (0.017)	−0.019 (0.012)	−0.090* (0.048)	−0.006 (0.017)	−0.018 (0.012)
	Knowing an entrepreneur	0.018 (0.045)	0.001 (0.016)	0.014 (0.012)	0.011 (0.044)	−0.003 (0.016)	0.014 (0.012)
	Skills	0.297*** (0.051)	0.105*** (0.018)	0.078*** (0.013)	1.061*** (0.223)	0.434*** (0.078)	0.140** (0.057)
	Opportunity	0.072** (0.033)	0.035*** (0.012)	0.007 (0.008)	0.071** (0.033)	0.035*** (0.011)	0.005 (0.008)
Normative dimension	Equalitarianism	0.058* (0.032)	−0.044*** (0.011)	−0.007 (0.008)	0.041 (0.032)	−0.051*** (0.011)	−0.01 (0.008)
	Entrepreneurial career	0.089* (0.053)	−0.004 (0.019)	0.044*** (0.014)	0.221** (0.105)	0.096** (0.037)	0.017 (0.027)
	Entrepreneurial status	−0.015 (0.052)	0.008 (−0.018)	−0.013 (0.013)	−0.043 (0.052)	−0.003 (−0.018)	−0.018 (−0.013)
	Media attention	−0.015 (0.009)	0.015*** (0.003)	−0.014*** (0.002)	−0.098** (0.04)	−0.007 (0.014)	−0.035*** (0.01)
Control variables	Per capita income	−6.783** (3.249)	0.519 (1.077)	−2.509*** (0.772)	−6.604** (3.247)	0.348 (1.072)	−2.217*** (0.772)
Moderation effects	Regulatory efficiency X Skills				−0.802*** (0.236)	−0.270*** (0.082)	−0.130** (0.06)
	Entrepreneurial career X Skills				−0.318* (0.19)	−0.219*** (0.067)	0.047 (0.05)
	Media attention X Regulatory efficiency				0.219** (0.101)	0.057 (0.035)	0.056** (0.026)
	Constant	2.804 (25.436)	−13.6 (9.092)	2.316 (6.642)	34.57 (38.59)	−14.858 (12.813)	27.757*** (9.245)
	Countries	99	99	99	99	99	99
Observations	671	671	671	671	671	671	
Wald χ^2		3192.55 ***	3084.41 ***	3805.14 ***	3293.12 ***	3235.23 ***	3949.82 ***

The numbers in brackets are standard errors corrected for group heteroscedasticity. Year and country fixed effects are controlled but not reported. Standard errors in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Countries in models listed in Appendix 1

dimension, *fear of failure* ($\beta = 0.037$, $p < 0.00$) and *knowing an entrepreneur* ($\beta = 0.022$, $p < 0.09$) are statistically significant in innovation-driven countries.

In addition, the sign of the coefficient for *fear of failure* in developed economies does not follow the existing results in the literature. The results show that

in these countries, a higher fear of failure increases the number of nascent entrepreneurs. However, following the previous research, this relationship should be negative, akin to the coefficients in efficiency- and factor-driven countries, although the relationships are not statistically significant. With respect to *skills*, the variable is statistically significant in all types of countries but has a greater effect on efficiency-driven ones.

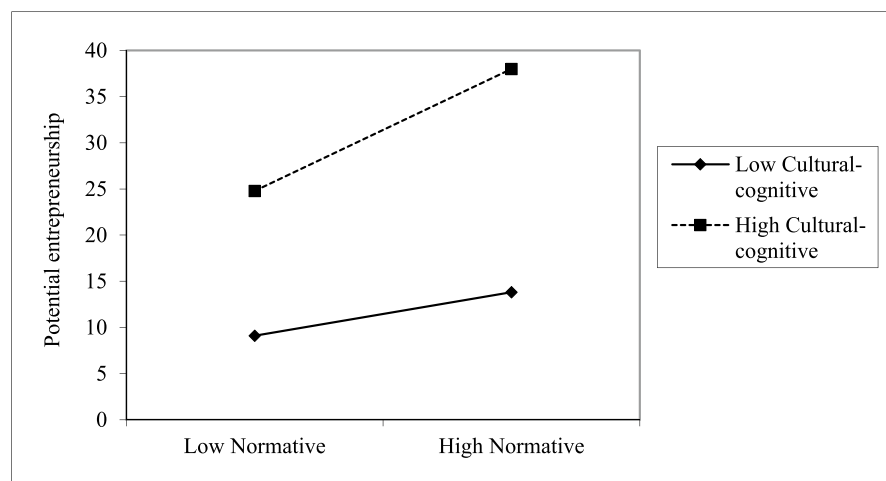
Regarding the normative dimension, *media attention* is the variable that is statistically significant in the three types of countries, with the same sign in each. However, the coefficient is larger in efficiency-driven economies ($\beta=0.069$, $p<0.00$). In addition, only entrepreneurial status ($\beta=0.156$, $p<0.00$) is statistically significant in factor-driven economies with the expected sign. Further, the cultural-cognitive dimension, measured as *skills*, has a positive effect in nascent entrepreneurship in factor-driven ($\beta=0.105$, $p<0.06$), efficiency-driven ($\beta=0.126$, $p<0.00$), and innovation-driven ($\beta=0.048$, $p<0.00$) countries. On the one hand, *opportunity* positively affects nascent entrepreneurs in innovation-driven economies ($\beta=0.035$, $p<0.00$). On the other, however, it negatively influences ($\beta=-0.165$, $p<0.00$) nascent entrepreneurs in factor-driven countries.

Finally, with regard to the new entrepreneurship stage, the regulative dimension, measured by *business freedom*, has a negative effect on this entrepreneurship stage in both efficiency-driven ($\beta=-0.051$, $p<0.02$) and innovation-driven countries ($\beta=-0.024$, $p<0.01$). Only *investment freedom* positively and significantly affects the new entrepreneurship stage

in efficiency-driven countries ($\beta=0.034$, $p<0.05$). Furthermore, *property rights* have a significant and negative effect only in factor-driven economies ($\beta=-0.182$, $p<0.01$). Similarly, the cultural-cognitive dimension influences the new entrepreneurship stage. *Fear of failure* is statistically significant and has a negative slope in factor-driven ($\beta=-0.128$, $p<0.00$) and efficiency-driven ($\beta=-0.044$, $p<0.05$) countries. *Knowing an entrepreneur* also has different effects on the new entrepreneurship stage, depending on the country's classification. In factor-driven economies ($\beta=-0.135$, $p<0.00$), the variable has a negative effect, which is counterintuitive when considering the theory involved. However, in innovation-driven economies ($\beta=0.050$, $p<0.00$), *knowing an entrepreneur* positively affects those in the entrepreneurship stage and is statistically significant. Again, the *skills* variable positively influences and is statistically significant in this stage of entrepreneurship in the three types of countries. As mentioned earlier, *opportunity* has a negative and significant influence on the new entrepreneurship stage in factor-driven ($\beta=-0.095$, $p<0.04$) and efficiency-driven ($\beta=-0.029$, $p<0.08$) countries. Conversely, it positively and statistically significantly influences innovation-driven economies ($\beta=0.013$, $p<0.03$).

For its part, the normative dimension also influences the new entrepreneurship stage. The *entrepreneurial career* variable has the expected positive and significant coefficient in efficiency-driven ($\beta=0.051$, $p<0.03$) and innovation-driven countries ($\beta=0.041$, $p<0.00$). This result means there are

Fig. 2 Moderation effect of cultural-cognitive dimension on potential entrepreneurship stage



more entrepreneurs in this part of the entrepreneurial process in countries where people consider being an entrepreneur a good career choice. However, another counterintuitive result was obtained from the entrepreneurial status: the coefficient has a negative sign and is statistically significant in both factor-driven ($\beta = -0.117, p < 0.01$) and innovation-driven countries ($\beta = -0.046, p < 0.00$). As a result, and contrary

to theoretical intuition, in countries where people attach high status to entrepreneurs, there are fewer entrepreneurs in this third stage.

Although the coefficient does not have the expected sign, this could be explained because, during this stage, entrepreneurs are working to maintain their business and do not make decisions to continue based on the fashion trend of entrepreneurship.

Fig. 3 Moderation effect of normative dimension on nascent entrepreneurial stage

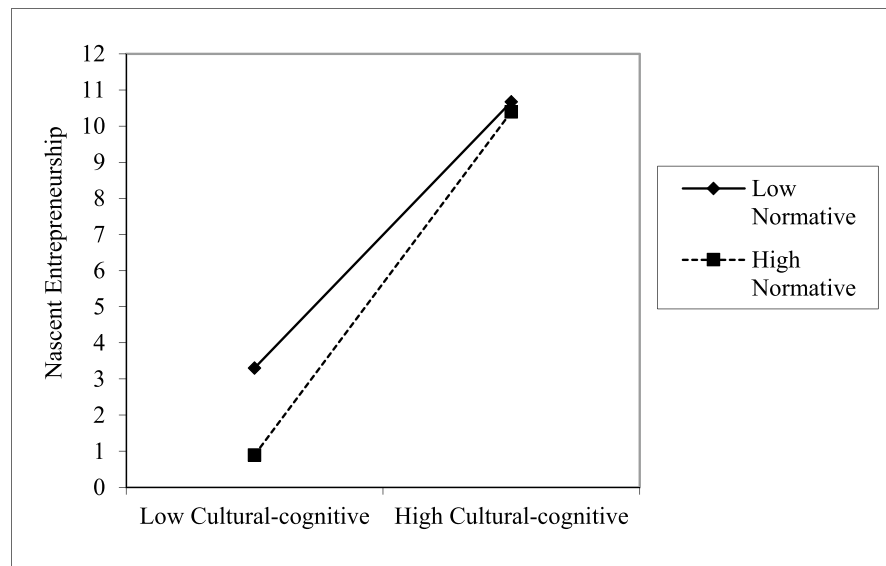
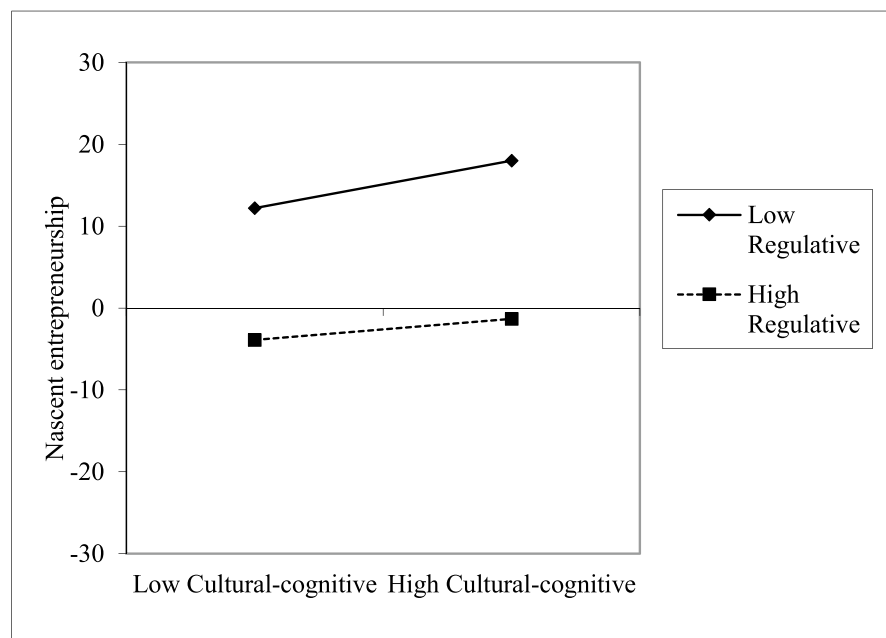


Fig. 4 Moderation effect of regulative dimension on nascent entrepreneurship stage



On the contrary, people consider starting a business based on entrepreneurial status in the potential stage, among other factors. All the different results regarding the influence of institutional dimensions considering country development are highly interesting and show the importance of conducting the models according to development groups.

Finally, we also conduct a robustness test to account for the regional differences across countries. Our results from these additional specifications are consistent with our main findings, providing robust empirical support for our theoretical arguments (Appendix 2). It is important to note that while some coefficients experienced changes, the signs and significance of the variables of interest remained consistent.

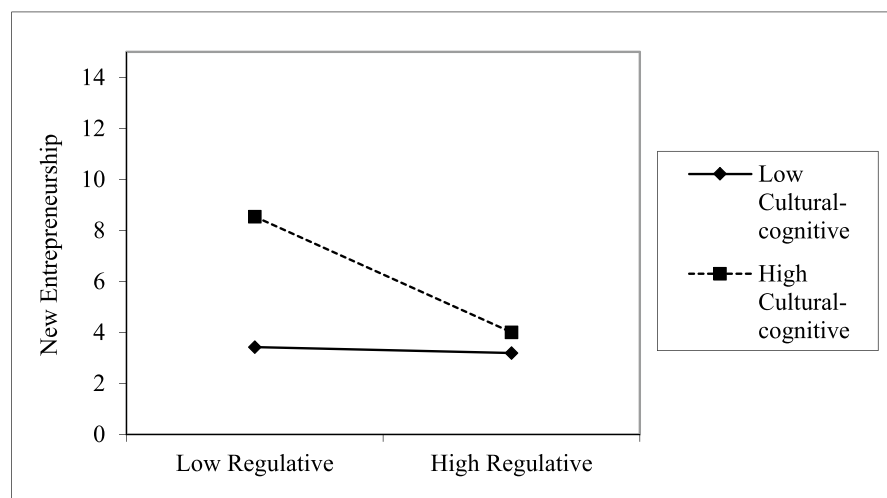
Regarding the robustness checks, the specific results show that depending on the level of development, the media's focus on entrepreneurship affects potential entrepreneurs differently. Consequently, policymakers should take these differences into account. For example, in developed countries, media attention positively affects potential entrepreneurs. However, the same factor affects them negatively in factor-driven developing countries. Entrepreneurial status, by contrast, positively affects potential entrepreneurs in factor-driven countries; nevertheless, this variable does not have the same effect in the other types of countries. These results suggest that in less developed countries, status is more important than in developed countries.

In addition, the results also show that the fear of failure has a positive effect on entrepreneurs, particularly in the nascent entrepreneurship stage in innovation-driven economies. Conversely, the fear of failure negatively influences factor-driven and efficiency-driven countries in the new entrepreneurship stage. These findings show that in factor-driven and efficiency-driven economies, it is necessary to have policies to explain and support a failure culture to generate high-impact and technologically-driven entrepreneurship that can address societal problems. This would be helpful in countries in which most new businesses are not very innovative or technologically associated with necessity entrepreneurship, such as developing economies (Chowdhury et al., 2019).

One of the most important findings of the study is the relevance of the cultural-cognitive dimension throughout all stages of the entrepreneurial process. The importance of the interaction between the culture, the norms, and the individual in decision-making is one aspect that needs more attention in this field. As mentioned previously, this dimension is the most difficult to measure but is one of the most important factors in explaining entrepreneurship across countries. In summary, most of these results suggest that the policies should always be specifically designed according to the country and considering their characteristics (Audretsch et al., 2019).

When controlled by the levels of development, the results show that the institutional dimensions that affect some stages of entrepreneurship in one

Fig. 5 Moderation effect of cultural – cognitive dimension in new entrepreneurship stage



type of country might not work in the same way in another type. Opportunity recognition in innovation-driven countries positively affects entrepreneurship (nascent and new entrepreneurship stages) but negatively affects entrepreneurship in factor-driven and efficiency-driven economies. In summary, in factor-driven economies, people often start businesses because they do not have other employment options and not necessarily because they see opportunities in their environment.

5 Conclusion

The main contribution of this paper is framed in the in-depth understanding of institutional dimensions (regulative, normative, and cultural-cognitive) as the determinants of entrepreneurship when considering the different stages of the entrepreneurial process, adding the potential and new entrepreneurship stages to the recent discussion of institutional context and latent and emergent entrepreneurship (Audretsch et al., 2021, 2022a, 2022b). In entrepreneurship research, the stages of the entrepreneurial process are not particularly well distinguished, and the interrelation of the institutional dimensions as determinants in each stage has not been sufficiently considered.

This research has implications for public policy that encourages entrepreneurial activity. Governments and policymakers are interested in formulating programmes that increase the number of entrepreneurs and improve the quality of new businesses. In this sense, understanding how institutional dimensions intervene in each of the entrepreneurship stages will allow policymakers to design targeted policies that have the desired effects in each stage of the entrepreneurial process. However, it is important to consider that not all entrepreneurship is productive, as we learned from Baumol (1990) and it is crucial to carefully design policies with specific targets as outlined in the recent OECD framework (OECD, 2023). The results in this study contribute in that vein since the influence of the institutional dimensions not only is evaluated in general entrepreneurship rates but specific stages in the process. Therefore, to increase the number of potential entrepreneurs, policies should be oriented toward strengthening the normative

dimension, for example, by increasing the general support and knowledge of entrepreneurship through various channels (Audretsch et al., 2021). Social media diffusion, for example, helps attach high status to successful entrepreneurs within a society. However, this media strategy must be implemented with great care, considering the unique contexts of each country and even each city because (Audretsch et al., 2021), in countries where entrepreneurship is seen as an exit to unemployment, it can have counterproductive effects. As we learned. For example, encouraging people without the necessary skills and resources to become entrepreneurs will lead to businesses that inevitably fail in the market. In the long term, this can cause the expenditure of resources and further unemployment. Thus, an increase in the levels of entrepreneurship should not be the only objective to fulfil. The type of entrepreneurship and the necessary institutions to encourage innovative and high-impact new ventures should guide the regulative policies to generate social and economic development through entrepreneurship (Demirdag & Eraydin, 2022; Stenholm et al., 2013).

Similarly, to effectively increase the number of entrepreneurs that successfully pass from the potential stage to the nascent entrepreneurship stage, the most important institution is the cultural-cognitive dimension. Therefore, education policies should be oriented to improving the knowledge, skills, and experience of entrepreneurship to help overcome the early barriers to approaching entrepreneurship. From this perspective, reducing the stigma of fear of failure that hinders entrepreneurship will empower people to form ideas, make mistakes, and try again. Since these values are cultural and cognitive processes that take time to be assimilated and internalised by individuals, these policies must be based in the long term and begin at the earliest educational levels. In this stage, it is crucial to ensure that entrepreneurs trust their abilities and believe in their success and skills to manage risks (Kollmann et al., 2017).

Finally, the effort to move from nascent entrepreneurship to the new entrepreneurship stage must be accompanied by policies that strengthen the regulatory dimension, not only the costs of entry but also the procedures (Audretsch et al., 2019), facilitating

Table 4 Institutional dimensions and entrepreneurial process—Panel data estimations of direct and moderation effects considering the level of development

	Factor-driven			Efficiency-driven			Innovation-driven		
	Potential	Nascent	New	Potential	Nascent	New	Potential	Nascent	New
Regulative dimension									
Rule of law	0.303 (0.213)	-0.087 (0.092)	-0.182** (0.072)	-0.043 (0.082)	-0.027 (0.031)	-0.006 (0.023)	0.041 (0.049)	-0.009 (0.015)	0.003 (0.010)
Limited government	-0.962* (0.517)	-0.468** (0.222)	-0.076 (0.182)	0.042 (0.115)	-0.037 (0.044)	-0.028 (0.031)	-0.099 (0.079)	0.035 (0.024)	0.005 (0.017)
Regulatory efficiency	-0.626*** (0.191)	-0.121 (0.081)	0.021 (0.070)	-0.085 (0.084)	-0.052 (0.032)	-0.050** (0.022)	0.060 (0.046)	-0.017 (0.014)	-0.024** (0.010)
Open markets	0.168* (0.085)	0.063* (0.036)	0.017 (0.030)	0.225** (0.064)	0.074*** (0.025)	0.034* (0.017)	-0.015 (0.039)	-0.009 (0.012)	-0.002 (0.008)
Cultural-cognitive dimension									
Fear of failure	0.01 (0.132)	-0.068 (0.057)	-0.128*** (0.046)	-0.106 (0.079)	-0.003 (0.030)	-0.044* (0.022)	0.036 (0.045)	0.037*** (0.013)	0.009 (0.009)
Knowing an entrepreneur	0.260*** (0.150)	-0.003 (0.065)	-0.135*** (0.051)	-0.061 (0.076)	0.030 (0.029)	0.027 (0.022)	0.204*** (0.044)	0.022* (0.013)	0.049*** (0.009)
Skills	0.285** (0.130)	0.105* (0.056)	0.209*** (0.046)	0.289*** (0.074)	0.126*** (0.029)	0.101*** (0.020)	0.160*** (0.056)	0.048*** (0.017)	0.016 (0.012)
Opportunity	0.321** (0.136)	-0.165*** (0.058)	-0.094** (0.047)	-0.057 (0.059)	0.004 (0.022)	-0.028* (0.016)	0.007 (0.027)	0.034*** (0.008)	0.012** (0.006)
Normative dimension									
Equalitarianism	0.042 (0.134)	0.117** (0.057)	0.109** (0.047)	0 (0.043)	-0.043*** (0.016)	-0.018 (0.012)	0.030 (0.040)	-0.017 (0.012)	-0.001 (0.009)
Entrepreneurial career	-0.327** (0.164)	-0.280*** (0.070)	0.048 (0.058)	0.175** (0.085)	0.041 (0.033)	0.050** (0.024)	0.020 (0.052)	-0.011 (0.015)	0.040*** (0.011)
Entrepreneurial status	0.283** (0.136)	0.155*** (0.058)	-0.117** (0.047)	-0.109 (0.084)	-0.039 (0.032)	0.014 (0.023)	-0.038 (0.052)	-0.012 (0.015)	-0.046*** (0.011)
Media attention	-0.035*** (0.011)	0.009* (0.004)	-0.014*** (0.003)	0.157*** (0.056)	0.068*** (0.021)	0.013 (0.015)	0.118*** (0.038)	0.024** (0.011)	0.011 (0.008)
Control variable									
Per capita income	-26.731** (11.010)	14.701*** (4.670)	1.178 (4.167)	-8.867 (4.977)	-0.645 (1.889)	-2.671** (1.279)	16.393*** (4.014)	4.533*** (1.226)	1.141 (0.886)
Constant	371.373*** (102.886)	91.469*** (43.538)				30.281** (13.684)	-187.263*** (-4.150)	45.490*** (13.788)	-9.177 (9.947)
Countries	22	22	22	43	43	43	34	34	34
Observations	78	78	78	288	288	288	305	305	305

The numbers in brackets are standard errors corrected for group heteroscedasticity. Year and country fixed effects are controlled but not reported. Countries in models listed in Appendix 1

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$; standard errors in parentheses

business and fiscal freedom, openness to trade, the protection of property rights, investment in education and training, and spending on research and development. Although it is necessary to have fewer legalising procedures, laws that support other aspects, such as networks with universities, incubators, and easy access to financing, are essential, particularly in this final stage. The results also showed that in this advanced stage, the confidence of individuals in their skills to manage their business is essential (Mickiewicz et al., 2017); therefore, government programmes must strengthen the regulative dimension and empower the individual to gain more skills and confidence. In this manner, entrepreneurs can move to and stay in more advanced stages of the entrepreneurial process.

This study also has some limitations that present several potential areas for future research. First, the regulative dimension could represent barriers to nascent entrepreneurship because it is related to formalisation costs and procedures. However, in specific sectors that require technology and specific property rights and patents, the regulative dimension provides the necessary entry conditions to support entrepreneurship. Consequently, further research could be conducted on a specialised, sector-based basis to analyse these specific differences. For instance, the results of this study confirm that the influences of institutional dimensions may differ between necessity- and opportunity-motivated entrepreneurs, as well as between more or less innovative start-ups among different sectors (e.g., technology, services, commerce), when considering this type of entrepreneurs in further analysis adding to the model the conducive dimension would contribute to the discussion (Stenholm et al., 2013). Second, we are aware of the limitations of the secondary databases. The GEM dataset suffers from methodological variations by countries, each country may employ different methodologies for data collection, sampling, and survey design, also the participation on the GEM project maybe is not consistent

across different years, reducing the coverage and the time to analyse. This can introduce biases and inconsistencies in the data, making it challenging to draw accurate and generalized conclusions. Third, while GEM captures various dimensions of entrepreneurship, it may offer limited coverage of the institutional context. Some scholars argue that the database does not fully capture the intricacies of formal and informal institutions that shape entrepreneurial activities, potentially limiting the depth of analysis. Moreover, as is shown in Dvouletý (2018) where the author compare some institutional variables and their effect on different measures of entrepreneurship, for all the entrepreneurship proxies the institutions have the same direction. As in previous research we carefully employed methodological considerations and complemented GEM data with other sources to address these limitations. Despite these limitations, the GEM database remains important in the entrepreneurship field, with multiple recent publications in high-quality journals. Finally, because of the theoretical nature of the institutional dimensions and especially the cultural-cognitive one, data that enables researchers to conduct multilevel analyses is crucial. Moreover, other perspectives, such as a sensemaking approach, would help to enrich the analysis at the individual level and the interaction between the individual and their institutional context.

Acknowledgements The authors acknowledge useful comments by Professor Maksim Belitski and three anonymous referees. Tatiana Lopez thanks Universidad EAFIT and Universitat Autònoma de Barcelona for the scholarship and the financial support to conduct this research. Also, Tatiana Lopez and David Urbano acknowledge the financial support from Grant PID2022-141777NB-I00 funded by MCIN/AEI/ <https://doi.org/10.13039/501100011033> and by “ERDF A way of making Europe”, and Grant 2021-SGR-00719 funded by Agency for Management of University and Research Grants (AGAUR), Generalitat de Catalunya. In addition, David Urbano acknowledges the financial support from ICREA under ICREA Academia programme.

Funding Open Access Funding provided by Universitat Autònoma de Barcelona.

Appendix 1. List of countries

N	Country	N	Country
1	Algeria	51	Kazakhstan
3	Argentina	52	Korea
4	Australia	53	Kosovo
5	Austria	54	Latvia
6	Bangladesh	55	Lebanon
7	Barbados	56	Libya
8	Belgium	57	Lithuania
9	Belize	58	Luxembourg
10	Bolivia	59	Macedonia
11	Bosnia and Herzegovina	60	Malawi
12	Botswana	61	Malaysia
13	Brazil	62	Mexico
14	Bulgaria	63	Morocco
15	Burkina Faso	64	Netherlands
16	Cameroon	65	New Zealand
17	Canada	66	Nigeria
18	Chile	67	Norway
19	China	68	Pakistan
20	Colombia	69	Panama
21	Costa Rica	70	Peru
22	Croatia	71	Philippines
23	Cyprus	72	Poland
24	Czech Republic	73	Portugal
25	Denmark	74	Qatar
26	Dominican Republic	75	Romania
27	Ecuador	76	Russia
28	Egypt	77	Saudi Arabia
29	El Salvador	78	Serbia
30	Estonia	79	Singapore
31	Ethiopia	80	Slovakia
32	Finland	81	Slovenia
33	France	82	South Africa
34	Georgia	83	Spain
35	Germany	84	Suriname
36	Ghana	85	Sweden
37	Greece	86	Switzerland
38	Guatemala	87	Taiwan
39	Hong Kong	88	Thailand
40	Hungary	89	Trinidad and Tobago
41	Iceland	90	Tunisia
42	India	91	Turkey
43	Indonesia	92	Uganda

N	Country	N	Country
44	Iran	93	United Arab Emirates
45	Ireland	94	United Kingdom
46	Israel	95	United States
47	Italy	96	Uruguay
48	Jamaica	97	Venezuela
49	Japan	98	Vietnam
50	Jordan	99	Zambia

Appendix 2. Model controlling by Size of the country

	Poten- tial	Nascent	New	Potential	Nascent	New
Size of the country	-0.144 (0.393)	-0.146 (0.130)	0.175* (0.093)	-0.221 (0.396)	-0.224* (0.131)	0.200** (0.095)
Rule of law	-0.010 (0.048)	-0.003 (0.017)	-0.005 (0.012)	0.005 (0.048)	0.002 (0.017)	-0.002 (0.012)
Limited government	-0.062 (0.083)	-0.022 (0.028)	-0.032 (0.021)	-0.071 (0.083)	-0.025 (0.028)	-0.031 (0.021)
Regulatory efficiency	0.039 (0.050)	-0.002 (0.017)	-0.026** (0.012)	0.412*** (0.122)	0.127*** (0.042)	0.029 (0.031)
Open markets	0.080** (0.040)	0.036*** (0.014)	-0.002 (0.010)	0.077** (0.039)	0.035*** (0.014)	-0.002 (0.010)
Fear of failure	-0.081* (0.049)	-0.001 (0.017)	-0.019 (0.012)	-0.087* (0.049)	-0.005 (0.017)	-0.018 (0.012)
Knowing an entrepreneur	0.018 (0.045)	0.001 (0.016)	0.014 (0.012)	0.009 (0.044)	-0.003 (0.016)	0.014 (0.012)
Skills	0.297*** (0.051)	0.105*** (0.018)	0.078*** (0.013)	1.032*** (0.225)	0.407*** (0.079)	0.135** (0.058)
Opportunity	0.072** (0.033)	0.035*** (0.012)	0.007 (0.008)	0.075** (0.033)	0.037*** (0.011)	0.006 (0.008)
Equalitarianism	0.058* (0.032)	-0.044*** (0.011)	-0.007 (0.008)	0.047 (0.032)	-0.047*** (0.011)	-0.009 (0.008)
Entrepreneurial career	0.089* (0.053)	-0.004 (0.019)	0.044*** (0.014)	0.273** (0.120)	0.135*** (0.042)	0.019 (0.031)
Entrepreneurial status	-0.015 (0.052)	0.008 (0.018)	-0.013 (0.013)	-0.024 (0.052)	0.004 (0.018)	-0.013 (0.013)
Media attention	-0.015 (0.009)	0.015*** (0.003)	-0.014*** (0.002)	-0.048* (0.106)	-0.044 (0.037)	-0.005* (0.028)
Per capita income	-6.783** (3.249)	0.519 (1.077)	-2.509*** (0.772)	-6.583** (3.256)	0.368 (1.081)	-2.247*** (0.781)

	Poten- tial	Nascent	New	Potential	Nascent	New
Regulatory efficiency				-0.789***	-0.273***	-0.121**
X Skills				(0.238)	(0.083)	(0.061)
Entrepreneurial career X Skills				-0.354	-0.279***	0.057
Media attention X				(0.222)	(0.078)	(0.057)
Regulatory efficiency				0.068**	0.114	0.016*
Constant	71.196** (27.658)	3271 (9.270)	23.383*** (6.665)	39.222 (29.793)	-5039 (10.030)	16.487** (7.282)
Countries	90	90	90	90	90	90
Observations	677	677	677	677	677	677

Open Access This article is licensed under a Creative Commons Attribution 4.0 International License, which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons licence, and indicate if changes were made. The images or other third party material in this article are included in the article's Creative Commons licence, unless indicated otherwise in a credit line to the material. If material is not included in the article's Creative Commons licence and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder. To view a copy of this licence, visit <http://creativecommons.org/licenses/by/4.0/>.

References

- Agostino, M., Nifo, A., Trivieri, F., & Vecchione, G. (2020). Rule of law and regulatory quality as drivers of entrepreneurship. *Regional Studies*, 54(6), 814–826. <https://doi.org/10.1080/00343404.2019.1648785>
- Alvarez, C., Urbano, D., & Amorós, J. E. (2014). GEM research: Achievements and challenges. *Small Business Economics*, 42(3), 445–465. <https://doi.org/10.1007/s11187-013-9517-5>
- Amorós, J. E., Ciravegna, L., Mandakovic, V., & Stenholm, P. (2019). Necessity or Opportunity? The Effects of State Fragility and Economic Development on Entrepreneurial Efforts. *Entrepreneurship: Theory and Practice*, 43(4), 725–750. <https://doi.org/10.1177/1042258717736857>
- Arenius, P., & Minniti, M. (2005). Perceptual variables and nascent entrepreneurship. *Small Business Economics*, 24(3), 233–247. <https://doi.org/10.1007/s11187-005-1984-x>
- Audretsch, D. B., Belitski, M., Caiazza, R., Chowdhury, F., & Menter, M. (2023). Entrepreneurial growth, value creation and new technologies. *Journal of Technology Transfer*. <https://doi.org/10.1007/s10961-023-10034-w>
- Audretsch, D. B., Belitski, M., Caiazza, R., & Desai, S. (2022a). The role of institutions in latent and emergent entrepreneurship. *Technological Forecasting and Social Change*, 174, 121263. <https://doi.org/10.1016/j.techfore.2021.121263>
- Audretsch, D. B., Belitski, M., Caiazza, R., Günther, C., & Menter, M. (2022b). From latent to emergent entrepreneurship: The importance of context. *Technological Forecasting and Social Change*, 175, 121356. <https://doi.org/10.1016/j.techfore.2021.121356>
- Audretsch, D. B., Belitski, M., & Cherkas, N. (2021). Entrepreneurial ecosystems in cities: The role of institutions. *PLoS ONE*, 16(3 March 2021). <https://doi.org/10.1371/journal.pone.0247609>
- Audretsch, D. B., Belitski, M., & Desai, S. (2019). National Business Regulations and City Entrepreneurship in Europe: A Multilevel Nested Analysis. *Entrepreneurship Theory and Practice*, 43(6), 1148–1165. <https://doi.org/10.1177/1042258718774916>
- Baron, R. A. (2004). The cognitive perspective: A valuable tool for answering entrepreneurship's basic 'why' questions. *Journal of Business Venturing*, 19(2), 221–239. [https://doi.org/10.1016/S0883-9026\(03\)00008-9](https://doi.org/10.1016/S0883-9026(03)00008-9)
- Baumol, W. J. (1990). Entrepreneurship: Productive, Unproductive, and Destructive. *The Journal of Political Economy*, 98(5), 893–921. http://www.jstor.org/stable/2937617?seq=1#page_scan_tab_contents
- Belitski, M., Chowdhury, F., & Desai, S. (2016). Taxes, corruption, and entry. *Small Business Economics*, 47(1), 201–216. <https://doi.org/10.1007/s11187-016-9724-y>
- Belitski, M., & Grigore, A.-M. (2022). The economic effects of politically connected entrepreneurs on the quality and rate of regional entrepreneurship. *European Planning Studies*, 30(10), 1892–1918. <https://doi.org/10.1080/09654313.2021.1985436>
- Belitski, M., Guenther, C., Kritikos, A. S., & Thurik, R. (2022). Economic effects of the COVID-19 pandemic on entrepreneurship and small businesses. *Small Business Economics*, 58(2), 593–609. <https://doi.org/10.1007/s11187-021-00544-y>
- Bello, B., Mattana, V., & Loi, M. (2018). The power of peers: A new look at the impact of creativity, social context and self-efficacy on entrepreneurial intentions. *International Journal of Entrepreneurial Behaviour & Research*, 24(1), 214–233. <https://doi.org/10.1108/IJEBR-07-2016-0205>
- Bergmann, H., & Stephan, U. (2013). Moving on from nascent entrepreneurship: Measuring cross-national differences in the transition to new business ownership. *Small Business Economics*, 41(4), 945–959. <https://doi.org/10.1007/s11187-012-9458-4>
- Bosma, N., Content, J., Sanders, M., & Stam, E. (2018). Institutions, entrepreneurship, and economic growth in Europe. *Small Business Economics*, 51(2), 483–499. <https://doi.org/10.1007/s11187-018-0012-x>
- Braunerhjelm, P., Eklund, J. E., & Thulin, P. (2021). Taxes, the tax administrative burden and the entrepreneurial life cycle. *Small Business Economics*, 56(2), 681–694. <https://doi.org/10.1007/s11187-019-00195-0>
- Brinckmann, J., & Kim, S. M. (2015). Why We Plan: The Impact of Nascent Entrepreneurs' Cognitive Characteristics and Human Capital on Business Planning.

- Strategic Entrepreneurship Journal*, 9(2), 153–166. <https://doi.org/10.1002/sej.1197>
- Busenitz, L., & Lau, C.-M. (1996). A Cross-Cultural Cognitive Model of New Venture Creation. *Entrepreneurship Theory and Practice*, 20(4), 25–40. <https://doi.org/10.1177/104225879602000403>
- Busenitz, L. W., Gomez, C., & Spencer, J. W. (2000). Country Institutional Profiles: Unlocking Entrepreneurial Phenomena. *Academy of Management Journal*, 43(5), 994–1003. <https://doi.org/10.2307/1556423>
- Caliendo, M., & Kritikos, A. S. (2010). Start-ups by the unemployed: Characteristics, survival and direct employment effects. *Small Business Economics*, 35(1), 71–92. <https://doi.org/10.1007/s11187-009-9208-4>
- Chen, C., Huang, Y., & Wu, S. (2023). How do institutional environment and entrepreneurial cognition drive female and male entrepreneurship from a configuration perspective? *Gender in Management*. <https://doi.org/10.1108/GM-04-2022-0124>
- Chowdhury, F., Audretsch, D. B., & Belitski, M. (2019). Institutions and Entrepreneurship Quality. *Entrepreneurship Theory and Practice*, 43(1), 51–81. <https://doi.org/10.1177/1042258718780431>
- Davidsson, P., & Honig, B. (2003). The role of social and human capital among nascent entrepreneurs. *Journal of Business Venturing*, 18(3), 301–331. [https://doi.org/10.1016/S0883-9026\(02\)00097-6](https://doi.org/10.1016/S0883-9026(02)00097-6)
- Deerfield, A., & Elert, N. (2022). Entrepreneurship and regulatory voids: The case of ridesharing. *Entrepreneurship: Theory and Practice*, 47(5), 1568–1593. <https://doi.org/10.1177/10422587221093300>
- Demirdag, I., & Eraydin, A. (2022). Distinctive role of region-specific institutions in regional entrepreneurship patterns: evidence from turkish regions. *European Planning Studies*, 1–24. <https://doi.org/10.1080/09654313.2022.2061308>
- Dileo, I., & García-Pereiro, T. (2019). Assessing the impact of individual and context factors on the entrepreneurial process. A cross-country multilevel approach. *International Entrepreneurship and Management Journal*, 15(4), 1393–1441. <https://doi.org/10.1007/s11365-018-0528-1>
- Dvoutely, O. (2018). How to analyse determinants of entrepreneurship and self-employment at the country level? A methodological contribution. *Journal of Business Venturing Insights*, 9, 92–99. <https://doi.org/10.1016/j.jbvi.2018.03.002>
- Fritsch, M., Sorgner, A., & Wyrwich, M. (2021). Types of institutions and well-being of self-employed and paid employees in Europe. *Small Business Economics*, 56(2), 877–901. <https://doi.org/10.1007/s11187-019-00274-2>
- Galanakis, K., & Giourka, P. (2017). Entrepreneurial path: Decoupling the complexity of entrepreneurial process. *International Journal of Entrepreneurial Behavior & Research*, 23(2), 317–335. <https://doi.org/10.1108/IJEBR-03-2016-0079>
- Guerrero, M., & Marozau, R. (2023). Assessing the influence of institutions on students' entrepreneurial dynamics: Evidence from European post-socialist and market-oriented economies. *Small Business Economics*, 60(2), 503–519. <https://doi.org/10.1007/s11187-022-00600-1>
- Henriquez-Daza, M. C., Capelleras, J. L., & Osorio-Tinoco, F. (2023). Does fear of failure affect entrepreneurial growth aspirations? The moderating role of institutional collectivism in emerging and developed countries. *Journal of Entrepreneurship in Emerging Economies*. <https://doi.org/10.1108/JEEE-08-2022-0232>
- Hofstede, G. (1983). National Cultures in Four Dimensions: A Research-Based Theory of Cultural Differences among Nations. *International Studies of Management & Organization*, 13(1/2), 46–74. <https://ezproxy.eafit.edu.co/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=edsjsr&AN=edsjsr.40396953&site=eds-live&scope=site>
- Johansson, J., Malmström, M., Wincent, J., & Parida, V. (2021). How individual cognitions overshadow regulations and group norms: A study of government venture capital decisions. *Small Business Economics*, 56(2), 857–876. <https://doi.org/10.1007/s11187-019-00273-3>
- Junaid, D., He, Z., Yadav, A., & Asare-Kyire, L. (2019). Whether analogue countries exhibit similar women entrepreneurial activities? *Management Decision*, 58(4), 759–772. <https://doi.org/10.1108/MD-06-2018-0681>
- Junaid, D., Yadav, A., Afzal, F., Shah, I. A., Shanmugam, B., Jonkman, M., et al. (2020). The Configurations of Informal Institutions to Promote Men's and Women's Entrepreneurial Activities. *Frontiers in Psychology*, 11(July), 1909. <https://doi.org/10.3389/fpsyg.2020.01909>
- Kautonen, T., Kibler, E., & Minniti, M. (2017). Late-career entrepreneurship, income and quality of life. *Journal of Business Venturing*, 32(3), 318–333. <https://doi.org/10.1016/j.jbusvent.2017.02.005>
- Kim, P. H., Aldrich, H. E., & Keister, L. A. (2006). Access (not) denied: The impact of financial, human, and cultural capital on entrepreneurial entry in the United States. *Small Business Economics*, 27(1), 5–22. <https://doi.org/10.1007/s11187-006-0007-x>
- Klonek, F. E., Isidor, R., & Kauffeld, S. (2015). Different Stages of Entrepreneurship: Lessons from the Transtheoretical Model of Change. *Journal of Change Management*, 15(1), 43–63. <https://doi.org/10.1080/14697017.2014.918049>
- Kollmann, T., Stöckmann, C., & Kensbock, J. M. (2017). Fear of failure as a mediator of the relationship between obstacles and nascent entrepreneurial activity—An experimental approach. *Journal of Business Venturing*, 32(3), 280–301. <https://doi.org/10.1016/j.jbusvent.2017.02.002>
- Kostova, T. (1997). Country Institutional Profiles: Concept and Measurement. *Academy of Management Proceedings*, 1997(1), 180–184. <https://doi.org/10.5465/AMBPP.1997.4981338>
- Krueger, N. F., Reilly, M. D., & Carsrud, A. L. (2000). Competing models of entrepreneurial intentions. *Journal of Business Venturing*, 15(5), 411–432.
- Lafuente, E., Vaillant, Y., & Rialp, J. (2007). Regional differences in the influence of role models: Comparing the entrepreneurial process of rural Catalonia. *Regional Studies*, 41(6), 779–795. <https://doi.org/10.1080/00343400601120247>
- Lang, R., Fink, M., & Kibler, E. (2014). Understanding place-based entrepreneurship in rural Central Europe: A comparative institutional analysis. *International Small*

- Business Journal*, 32(2), 204–227. <https://doi.org/10.1177/0266242613488614>
- Lee, C. K., Wiklund, J., Amezcua, A., Bae, T. J., & Palubinskas, A. (2022). Business failure and institutions in entrepreneurship: A systematic review and research agenda. *Small Business Economics*, 58(4), 1997–2023. <https://doi.org/10.1007/s11187-021-00495-4>
- Li, Y., Wu, J., Zhang, D., & Ling, L. (2020). Gendered institutions and female entrepreneurship: A fuzzy-set QCA approach. *Gender in Management: An International Journal*, 36(1), 87–107. <https://doi.org/10.1108/GM-07-2019-0110>
- Manolova, T. S., Eunn, R. V., & Gyoshev, B. S. (2008). Institutional Environments for Entrepreneurship: Evidence from Emerging Economies in Eastern Europe. *Entrepreneurship: Theory and Practice*, 32(1), 203–218
- Maurer, J. D., Creek, S. A., Bendickson, J. S., McDowell, W. C., & Mahto, R. V. (2022). The three pillars' impact on entrepreneurial activity and funding: A country-level examination. *Journal of Business Research*, 142, 808–818. <https://doi.org/10.1016/j.jbusres.2021.12.080>
- McCann, B. T., & Vroom, G. (2015). Opportunity evaluation and changing beliefs during the nascent entrepreneurial process. *International Small Business Journal*, 33(6), 612–637. <https://doi.org/10.1177/0266242614544198>
- Mickiewicz, T., Nyakudya, F. W., Theodorakopoulos, N., & Hart, M. (2017). Resource endowment and opportunity cost effects along the stages of entrepreneurship. *Small Business Economics*, 48(4), 953–976. <https://doi.org/10.1007/s11187-016-9806-x>
- Mitchell, R. K., Busenitz, L., Lant, T., McDougall, P. P., Morse, E. A., & Smith, J. B. (2002). Toward a Theory of Entrepreneurial Cognition: Rethinking the People Side of Entrepreneurship Research. *Entrepreneurship Theory and Practice*, 27(2), 93–104. <https://doi.org/10.1111/1540-8520.00001>
- Mueller, P. (2006). Entrepreneurship in the region: Breeding ground for nascent entrepreneurs? *Small Business Economics*, 27(1), 41–58. <https://doi.org/10.1007/s11187-006-6951-7>
- North, D. C. (1990). *Institutions, Institutional Change and Economic Performance*. Cambridge University Press.
- Nyström, K. (2008). The institutions of economic freedom and entrepreneurship: Evidence from panel data. *Public Choice*, 136, 269–282. <https://doi.org/10.1007/s11127-008-9295-9>
- OECD. (2023). Framework for the Evaluation of SME and Entrepreneurship Policies and Programmes 2023. In *OECD Studies on SMEs and Entrepreneurship*. Paris: OECD Publishing. <https://doi.org/10.1787/a4c818d1-en>
- Parker, S. C., & Belghitar, Y. (2006). What happens to nascent entrepreneurs? An econometric analysis of the PSED. *Small Business Economics*, 27(1), 81–101. <https://doi.org/10.1007/s11187-006-9003-4>
- Pinillos, M. J., & Reyes, L. (2011). Relationship between individualist-collectivist culture and entrepreneurial activity: Evidence from Global Entrepreneurship Monitor data. *Small Business Economics*, 37(1), 23–37. <https://doi.org/10.1007/s11187-009-9230-6>
- Reynolds, P. D., Carter, N. M., Gartner, W. B., & Greene, P. G. (2004). The prevalence of nascent entrepreneurs in the United States: Evidence from the panel study of entrepreneurial dynamics. *Small Business Economics*, 23(4), 263–284. <https://doi.org/10.1023/b:sbej.0000032046.59790.45>
- Runst, P., & Thomä, J. (2022). Resilient entrepreneurs? — revisiting the relationship between the Big Five and self-employment. *Small Business Economics*. <https://doi.org/10.1007/s11187-022-00686-7>
- Schüler, D. (2022). Institutional change and entrepreneurship as occupational choice—The case of South Korea. *Journal of International Entrepreneurship*. <https://doi.org/10.1007/s10843-022-00313-2>
- Scott, W. R. (1995). *Institutions and Organizations: Ideas, Interests, and Identities* (Fourth.). London: SAGE Publications
- Shane, S., & Venkataraman, S. (2000). The Promise of Entrepreneurship As a Field of Research. *Academy of Management Review*, 25(1), 217–226. <https://doi.org/10.5465/AMR.2001.27879268>
- Shapiro, A., & Sokol, L. (1982). The Social Dimensions of Entrepreneurship. In C. A. Kent, D. L. Sexton, & K. H. Vesper (Eds.), *Encyclopedia of Entrepreneurship* (pp. 72–90). Englewood Cliffs: Prentice-Hall. <https://ssrn.com/abstract=1497759>
- Sine, W. D., Cordero, A. M., & Coles, R. S. (2022). Entrepreneurship Through a Unified Sociological Neoinstitutional Lens. *Organization Science*, 33(4), 1675–1699. <https://doi.org/10.1287/orsc.2022.1586>
- Smallbone, D., & Welter, F. (2012). Entrepreneurship and institutional change in transition economies: The Commonwealth of Independent States, Central and Eastern Europe and China compared. *Entrepreneurship & Regional Development*, 24(3–4), 215–233.
- Spencer, J. W., & Gómez, C. (2004). The relationship among national institutional structures, economic factors, and domestic entrepreneurial activity: A multicountry study. *Journal of Business Research*, 57(10), 1098–1107. [https://doi.org/10.1016/S0148-2963\(03\)00040-7](https://doi.org/10.1016/S0148-2963(03)00040-7)
- Steinz, H. J., van Rijnsoever, F. J., & Nauta, F. (2016). How to Green the red Dragon: A Start-ups' Little Helper for Sustainable Development in China. *Business Strategy and the Environment*, 25(8), 593–608. <https://doi.org/10.1002/bse.1899>
- Stenholm, P., Acs, Z. J., & Wuebker, R. (2013). Exploring country-level institutional arrangements on the rate and type of entrepreneurial activity. *Journal of Business Venturing*, 28(1), 176–193. <https://doi.org/10.1016/j.jbusvent.2011.11.002>
- Uhlaner, L., & Thurik, R. (2007). Postmaterialism influencing total entrepreneurial activity across nations. *Journal of Evolutionary Economics*, 17, 161–185. https://doi.org/10.1007/978-3-540-87910-7_14
- Urbano, D., & Alvarez, C. (2014). Institutional dimensions and entrepreneurial activity: An international study. *Small Business Economics*, 42(4), 703–716. <https://doi.org/10.1007/s11187-013-9523-7>
- Urbano, D., Aparicio, S., & Audretsch, D. (2019). Twenty-five years of research on institutions, entrepreneurship, and economic growth: What has been learned? *Small Business Economics*, 53(1), 21–49. <https://doi.org/10.1007/s11187-018-0038-0>
- Valdez, M. E., & Richardson, J. (2013). Institutional determinants of macro-level entrepreneurship. *Entrepreneurship:*

- Theory and Practice*, 37(5), 1149–1175. <https://doi.org/10.1111/etap.12000>
- van der Zwan, P., Thurik, R., & Grilo, I. (2010). The entrepreneurial ladder and its determinants. *Applied Economics*, 42(17), 2183–2191. <https://doi.org/10.1080/00036840701765437>
- van der Zwan, P., Verheul, I., & Thurik, A. R. (2012). The entrepreneurial ladder, gender, and regional development. *Small Business Economics*, 39(3), 627–643. <https://doi.org/10.1007/s11187-011-9334-7>
- Verheul, I., Wennekers, S., Audretsch, D., & Thurik, R. (2002). *An Eclectic Theory of Entrepreneurship: Policies, Institutions and Culture* (pp. 11–81). Amsterdam: Tinbergen Institute. https://doi.org/10.1007/0-306-47556-1_2
- Webb, J. W., Tihanyi, L., Ireland, R. D., & Sirmon, D. G. (2009). You say illegal, I say legitimate: Entrepreneurship in the informal economy. *Academy of Management Review*, 34(3), 492–510. <https://doi.org/10.5465/AMR.2009.40632826>
- Welter, F., & Smallbone, D. (2011). Institutional Perspectives on Entrepreneurial Behavior in Challenging Environments. *Journal of Small Business Management*, 49(1), 107–125.
- Wiklund, J., Wright, M., & Zahra, S. A. (2019). Conquering Relevance: Entrepreneurship Research's Grand Challenge. *Entrepreneurship: Theory and Practice*, 43(3), 419–436. <https://doi.org/10.1177/1042258718807478>
- Williams, C. C., Martinez-Perez, A., & Kedir, A. M. (2017). Informal Entrepreneurship in Developing Economies: The Impacts of Starting Up Unregistered on Firm Performance. *Entrepreneurship: Theory and Practice*, 41(5), 773–799. <https://doi.org/10.1111/etap.12238>
- Williamson, O. E. (2000). The new institutional economics: Taking stock, looking ahead. *Journal of Economic Literature*, 38(3), 595–613. <https://doi.org/10.1257/jel.38.3.595>
- Wooldridge, J. M. (2002). *Econometric analysis of cross section and panel data*. The MIT Press.
- Zulfqar, S., Nadeem, M. A., Khan, M. K., Anwar, M. A., Iqbal, M. B., & Asmi, F. (2021). Opportunity Recognition Behavior and Readiness of Youth for Social Entrepreneurship. *Entrepreneurship Research Journal*, 11(4). <https://doi.org/10.1515/erj-2018-0201>

Publisher's Note Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.