



The Impact of National Culture on Entrepreneurship: Evidence from Five-Year Pooled Data Across 93 Countries

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Abstract. Drawing on two international databases, the Global Entrepreneurship Monitor (GEM) and Hofstede Insights, this study explores how various dimensions of national culture influence entrepreneurial activity within a country. It reveals that national culture impacts entrepreneurship in multifaceted ways. Specifically, power distance and indulgence positively correlate with entrepreneurial endeavors, whereas individualism tends to dampen such activity. Further analysis elucidates that the impact of national culture on entrepreneurship exhibits marked gender disparities, with certain cultural dimensions exerting a more pronounced effect on female entrepreneurial engagement. Moreover, this study introduces economic freedom as a moderating variable, empirically demonstrating its capacity to mitigate the negative effects of individualism on entrepreneurship. These insights offer significant policy implications for fostering a country's entrepreneurial levels.

Keywords: National culture; Entrepreneurial activity; Gender difference; Economic freedom

1 Introduction

In 2023, according to data from the National Bureau of Statistics, China's youth unemployment rate remained high and showed a monthly rising trend, increasing from 17.3% in January to 21.3% in June. Since April, the unemployment rate has exceeded the 19.9% mark of July 2022, continuously setting new highs since records began in 2018. Against this backdrop, entrepreneurship, as one of the effective ways to alleviate employment pressure, has become increasingly important. Entrepreneurship is not only an engine that stimulates innovation and promotes social progress but also provides opportunities for individuals and creates new values and possibilities for society ([37] Zemlyak et al., 2023). Entrepreneurial activity is a crucial indicator for assessing a country's entrepreneurial vibrancy and is widely used in entrepreneurship research ([39] Zheng et al., 2019).

In today's globalized era, national culture profoundly influences entrepreneurial behavior and attitudes. The unique values, belief systems, and social norms of each country shape how individuals perceive and engage in entrepreneurship. Culture is regarded as the collective spirit and behavior pattern of a nation or community ([31] Tektigul et al., 2023). The cultural diversity of different countries, shaped by their history, religion, values, and more, is not only reflected in language, customs, and artistic expressions but also deeply influences thought processes, decision-making, and definitions of success. Hofstede's theory of cultural dimensions ([16] Hofstede et al., 2010) offers a framework for inter-country cultural studies. According to Hofstede's classification of cultural dimensions, there are distinct differences in power distance, uncertainty avoidance, individualism versus collectivism, masculinity versus femininity, long-term versus short-term orientation, and indulgence versus restraint across different national cultures. The impact of national culture on entrepreneurship is multi-level and multifaceted. Understanding the influence of these cultural dimensions on entrepreneurial activity can enhance our comprehension of the differences in entrepreneurial environments across countries, providing more tailored recommendations for entrepreneurial policies and practices to alleviate employment pressures faced by governments.

In the world of entrepreneurship, the question of gender disparities is garnering increased attention ([5] Brieger et al., 2024; [21] McGrath et al., 2022; [35] Welsh et al., 2023). Historically, entrepreneurial endeavors have been perceived predominantly as a male domain, influenced by traditional societal norms. In several countries, women are often relegated to domestic roles, making it challenging for them to gain recognition for business ventures that stem from their ambitions and ideals ([18] Liu et al., 2013). This cultural backdrop can significantly alter the expectations, societal pressures, and resources accessible to entrepreneurs based on their gender. Thus, this research aims to shed light on how national culture influences the entrepreneurial activities of men and women differently, providing insights into the unique obstacles faced by female entrepreneurs in various cultural contexts. By understanding these gender-specific challenges, the study seeks to pave the way for more inclusive and supportive entrepreneurial ecosystems.

While national culture significantly influences entrepreneurial activity, formal institutions like the market environment may play a crucial role in shaping this impact. [38] Zhao et al. (2012) indicate that a country's level of economic development, which is closely linked to its economic liberalization and marketization, can moderate the influence of culture on entrepreneurship. Similarly, [36] Yang et al. (2021) explore how a region's *guanxi* culture and formal institutions drive enterprise ambidextrous innovation and discover that a market-oriented environment enhances the positive effects of *guanxi* culture on exploitative innovation. To provide new insights into the complex interplay between formal and informal institutional frameworks and their joint impact on entrepreneurial activities, this paper examines how economic freedom moderates the relationship between national culture and entrepreneurship.

This paper contributes to our understanding of entrepreneurship in two key areas. First, it examines the impact of national culture on entrepreneurship through the lens of gender differences, discovering that different cultural dimensions affect women's entrepreneurial activities more significantly. This contributes to a nuanced understanding

of how cultural contexts intersect with gender in shaping entrepreneurial pathways. Second, unlike most prior studies focusing on the moderating role of economic development levels, this paper introduces economic freedom as a moderating variable. It finds that economic freedom can mitigate the negative effects of individualism on entrepreneurial activity, thereby enhancing the policy relevance of the findings.

The structure for the subsequent sections of the paper is as follows: Section 2 revisits the existing literature relevant to this topic and formulates the study's hypotheses; Section 3 outlines the research design; Section 4 presents the empirical findings of the paper, including analyses on baseline regression, gender disparities, and moderating effects; Section 5 summarizes the key findings and offers policy recommendations.

2 Literature Review and Hypotheses

2.1 Literature Review

2.1.1. National Culture Definitions and Measures.

National culture comprises a collection of values, traditional customs, social norms, and behavior patterns of a country, all of which significantly impact entrepreneurial activities. The notion of national culture as a value system is particularly prominent among scholars of entrepreneurship. According to the seminal work of [14] Hofstede (1980), national culture is characterized by the values, beliefs, and expected behaviors shared by a group of people living in or originating from the same region or country ([13] Herbig and McCarty, 1993; [14] Hofstede, 1980). Individuals operate not in a social vacuum but within a specific set of values and cultural standards that shape their needs, motivations, beliefs, perceptions, and behaviors ([9] Fink et al., 2006; [12] Hayton et al., 2002).

At the level of values, Hofstede's Cultural Dimensions Theory emerged. It was developed by Dutch psychologist Geert Hofstede as a theoretical framework to elucidate the cultural differences among countries. Hofstede regards culture as a psychological attribute shared by people in a given environment that differentiates one group of people from another. Through factor analysis, he identifies the variances among cultures in six fundamental dimensions of cultural values, namely, power distance, individualism, uncertainty avoidance, masculinity, long-term orientation, and indulgence ([15] Hofstede, 2001; [16] Hofstede et al., 2010). In addition to Hofstede's six-dimensional cultural framework, [32] Trompenaars and Hampden-Turner (2011) introduce a seven-dimensional model that focuses on the differences in interaction and communication styles between cultures, aiding in the understanding of cross-cultural communication in international business.

2.1.2. Entrepreneurship Determinants and Gender Disparities.

Entrepreneurship represents a multifaceted phenomenon. While theoretically optimal conditions for entrepreneurship should correlate with increased entrepreneurial activity, in practice, a myriad of constraints complicates this relationship. Current re-

search on entrepreneurial activity determinants predominantly examines two dimensions. Macro-level factors, encompassing economic conditions, national culture, and institutional frameworks, exert a profound influence on the broader entrepreneurial ecosystem ([2] Ardagna and Lusardi, 2008; [4] Bosma and Harding, 2006; [7] Estrin et al., 2013; [38] Zhao et al., 2012). At the micro-level, individual characteristics such as gender, social networks, personal risk perception, and educational attainment significantly shape an individual's propensity and approach to entrepreneurship ([3] Blanchflower, 2004; [17] Hvide and Panos, 2014; [19] Ma and Yang, 2011).

The concept of national culture has become increasingly significant within entrepreneurship research, providing insights into variances in entrepreneurial endeavors at both national and individual levels ([11] Hayton and Cacciotti, 2013; [12] Hayton et al., 2002). Recent investigations into how national culture impacts entrepreneurial activities have concentrated on the quantity and quality of these activities. Reports from the Global Entrepreneurship Monitor (GEM) over the years have highlighted a trend where entrepreneurial activities in developing countries are numerous yet generally of lower quality, primarily focused on survival-driven or low-innovation entrepreneurship. Conversely, developed nations report fewer entrepreneurial activities, but those that occur tend to be opportunity-driven, with high expectations and innovative contributions. Some studies explore the effects of cultural types on entrepreneurship. [38] Zhao et al. (2012) utilize the Global Leadership and Organizational Behavior Effectiveness (GLOBE) database to reveal the complex influence of culture. They find that traditional cultural values encourage entrepreneurship in low- and middle-income countries while potentially hindering it in more affluent societies. Furthermore, research into the regional entrepreneurial cultural environment, as seen in comparisons between Zhongguancun, Shenzhen, and Wenzhou, uncovers significant variations in entrepreneurial and innovation models in the three places of China, influenced by factors such as wealth aspiration, entrepreneurial drive, and risk perception ([10] Gu and Li, 2007).

When exploring the factors influencing entrepreneurship, scholars have increasingly recognized the potential gender disparities in entrepreneurial activities. The variance in personal characteristics between genders, such as risk tolerance ([27] Sexton and Bowman-Upton, 1990), entrepreneurial experience, and skills ([33] Verheul et al., 2012), contributes to the underrepresentation of women in entrepreneurship. Gender discrimination further exacerbates these disparities. Research indicates that women often encounter gender discrimination while seeking startup funding ([8] Fay and Williams, 1993; [20] Malmström et al., 2024), especially when they have previously experienced entrepreneurial failure ([26] Pistilli et al., 2023). Additionally, the experience of starting a business elicits differing responses from men and women, as well as from their spouses. [34] Wang and Du (2019) observe that while a husband's self-employment may diminish his own satisfaction, it significantly enhances his wife's; conversely, self-employed wives may see an increase in their own happiness but potentially decrease their husbands'. Past studies have explored these gender disparities in entrepreneurship through the lens of cultural factors. [29] Shneor et al. (2017) utilize the theory of planned behavior to examine how the interplay between culture and gender influences

the development of entrepreneurial intention. Their findings suggest that the gap in entrepreneurial intention between genders is contingent on their cultural background.

2.2 Hypotheses

2.2.1. Power Distance and Entrepreneurial Activity.

Power distance, a concept that measures the extent to which less powerful members of organizations and institutions accept and expect power to be distributed unequally, significantly influences societal dynamics. In societies characterized by high power distance, there is a greater acceptance of hierarchical authority and a more pronounced readiness among individuals to accept their societal positions. This acceptance of inequality and hierarchical structures can, to some extent, create a stable environment for entrepreneurs. It enables a clearer understanding of one's place within social and business networks, facilitating smoother interactions with individuals across different societal levels. Such clarity in social and business hierarchies can provide entrepreneurs with more stable relationships and opportunities for collaboration ([22] McGrath et al., 1992).

Conversely, in societies with low power distance, there is a stronger inclination towards equality and skepticism of unequal power distributions. These societies tend to foster a sense of egalitarianism, where social distinctions are minimized. This backdrop might render entrepreneurship less enticing, as the key driver of entrepreneurship in such contexts-achieving social mobility or higher status through individual efforts-is not as pronounced as in societies with high power distance. Based on these arguments, this paper puts forward the following hypothesis.

Hypothesis 1: Power distance promotes entrepreneurial activity in a country.

2.2.2. Individualism and Entrepreneurial Activity.

Individualism versus collectivism significantly reflects national cultural differences and influences entrepreneurial activities ([25] Pinillos and Reyes, 2011). In individualistic cultures, people tend to prioritize personal independence, autonomy, and happiness ([24] Oyserman et al., 2002). This focus on personal interests and rationality might decrease their willingness to embrace the risks and uncertainties of entrepreneurship, which often requires considering more than self-interest and involves venturing into the unknown. Consequently, individualism may partially inhibit entrepreneurial activity.

Conversely, in collectivist cultures, the group is seen as the cornerstone of society. Individuals' actions and survival are closely aligned with the group's interests and expectations ([15] Hofstede, 2001). Such collectivist orientations foster group harmony and shared access to information, resources, and opportunities ([6] Dheer, 2017), which can enhance entrepreneurial activities unlike in individualistic societies. Based on this analysis, the paper proposes the following hypothesis.

Hypothesis 2: Individualism dampens entrepreneurial activity in a country.

2.2.3. Indulgence and Entrepreneurial Activity.

The cultural dimension of Indulgence versus Restraint, which explores the degree to which societies regulate individual behavior and attitudes towards desire, pleasure, and self-control, is considered a determinant of subjective well-being by psychologists. Societies with an indulgent orientation allow for greater freedom in social activities and personal enjoyment; those that are restrained impose strict norms and prohibitions that limit individual actions. Entrepreneurs typically exhibit high internal control, a strong personal value system, a desire for economic independence, a capacity for enjoyment, and a pleasant personality ([30] Swierczek and Quang, 2004; [1] Amiri and Marimaei, 2012). In indulgent cultures, individuals often place a higher emphasis on self-expression and the realization of personal values. Such environments encourage openness, adventurousness, and innovation, which positively correlates with entrepreneurial activity. Accordingly, this paper proposes the following hypothesis.

Hypothesis 3: A culture of indulgence fosters entrepreneurial activity in a country.

3 Methodology

3.1 Data

This paper primarily utilizes data sourced from the Hofstede Insight database and the Global Entrepreneurship Monitor (GEM) database. The information about national culture is derived from the Hofstede Insight database, with updates made in both 2015 and 2023. To align with the GEM data, this study specifically selects the national culture data from 2015 and couples it with the GEM data spanning from 2013 to 2017. The insights regarding entrepreneurial activity originate from the GEM database's adult population survey reports, while the data concerning the conditions of the entrepreneurial framework are extracted from the national expert survey reports within the same database. Additionally, the analysis includes data on economic freedom from an annual publication by the Wall Street Journal and the Heritage Foundation. Through meticulous matching and analysis, this study identifies 93 countries and regions with comprehensive data on national culture, entrepreneurial activity, and economic freedom, making them suitable samples for this research.

3.2 Variables

Entrepreneurial activity (TEA): TEA represents the primary dependent variable in this study and refers to the percentage of the adult population in a country or region engaged in early-stage entrepreneurial activities. Specifically, TEA is calculated based on the proportion of individuals who are either initiating a startup or are in the preparatory stages of launching a business. This includes new businesses (less than 42 months old) and individuals who are actively working towards starting a business. For reference, Figure A1 in the appendix displays the average TEA values for the sample economies from 2013 to 2017.

Cultural variables: The study incorporates three of Hofstede's cultural dimensions—power distance, individualism, and indulgence—as measures of national culture. These dimensions are specifically defined in Table 1.

Control variables: To enhance the reliability of this study's findings, this paper controls the National Entrepreneurial Context Index following [38] Zhao et al. (2012). The Global Entrepreneurship Monitor (GEM) research team developed a comprehensive index of the entrepreneurial environment—the Entrepreneurship Framework Condition—based on interviews and surveys with entrepreneurship experts across various countries ([4] Bosma and Harding, 2006). The Entrepreneurship Framework Conditions include 10 subscales, detailed in Table 1. The National Entrepreneurial Context Index (NECI) employed in this study is derived by weighting these 10 subscales of entrepreneurship framework conditions.

Table 1. Variable definition

Variable category	Variable name	Definition
Dependent variable	Entrepreneurial activity (TEA)	The proportion of entrepreneurs in the startup phase and those operating businesses among the adult population (ages 18-64).
	Entrepreneurial activity of males (TEAm)	The proportion of entrepreneurs in the startup phase and those operating businesses among the adult male population (ages 18-64).
	Entrepreneurial activity of females (TEAf)	The proportion of entrepreneurs in the startup phase and those operating businesses among the adult female population (ages 18-64).
Independent variable	Power distance (pdi)	It refers to the degree of acceptance and attitude towards the distribution of power and authority among members within a society or culture.
	Individualism (idv)	It measures the extent to which a society values individual autonomy, self-expression, and individual rights.
	Indulgence (ivr)	It examines a society's attitude towards enjoying life, satisfying desires, and emotional expression.
Control variable	National Entrepreneurial Context Index (NECI)	NECI is derived from entrepreneurship framework conditions, which consist of 10 subscales, covering a variety of factors related to entrepreneurship such as financial support, government policies, government programs, education and training, research and development transfer, commercial infrastructure, market openness, intellectual property protection, and tangible infrastructure.
Moderating variable	Economic freedom index (EF_all)	It measures the degree of marketization in a country, calculated based on scores in the dimensions of rule of law, government role, regulatory efficiency, and open markets.
	Rule of law (EF_rl)	It is assessed based on three indicators: property rights, government integrity, and judicial efficiency in a country.

	Government role (EF_gr)	It is assessed based on three indicators: government spending, tax systems, and fiscal health in a country.
	Regulatory efficiency (EF_re)	It is assessed based on three indicators: business freedom, labor freedom, and monetary freedom in a country.
	Open market (EF_om)	It is assessed based on three indicators: trade freedom, investment freedom, and financial freedom in a country.

Notes: Except for the National Entrepreneurial Context Index, which is scored from 0 to 10, the ranges for all other variables are from 0 to 100 percent.

Descriptive statistics: The results are summarized in Table 2. The range of entrepreneurial activity among the sample countries is notable, with a maximum value of 39.91, a minimum of 2.10, and an average of 13.03. This average suggests a generally low level of entrepreneurial activity. A breakdown by gender reveals that the average entrepreneurial activity is higher among men (15.11) than women (10.98). The wide range in the values of the three cultural dimensions—power distance, individualism, and indulgence—reflects significant cultural diversity across the countries studied. Lastly, the mean value of economic freedom in the sample countries is 64.93, positioning them within the medium range of economic freedom.

Table 2. Descriptive statistics

Variable	N	Mean	SD	Min	Max
TEA	313	13.03	7.776	2.100	39.91
TEAm	313	15.11	7.983	2.670	40.94
TEAf	313	10.98	7.926	1.500	40.74
pdi	290	61.62	20.90	11	100
idv	290	43.33	23.52	6	91
ivr	259	48.11	21.44	4.241	97.32
NECI	308	3.767	0.943	2.176	6.050
EF_all	308	64.93	10.46	0	89.40
EF_rl	308	39.10	17.92	10	88.37
EF_gr	308	47.57	15.21	0	92.63
EF_re	308	69.85	8.928	21.60	91.60
EF_om	308	68.12	14.42	17.13	89.27

4 Results

4.1 Baseline Regression

Table 3 presents the impact of national culture on entrepreneurial activity. It distinguishes between regression results without control variables (Columns 1, 3, and 5) and with control variables (Columns 2, 4, and 6), showing no significant differences between the two sets of results. The empirical findings indicate that power distance positively influences entrepreneurial activity, with a significant effect at the 1% level, sug-

gesting that higher power distance may promote entrepreneurial activity within a country. Conversely, the coefficient of individualism on entrepreneurial activity is -0.143, significant at the 1% level, implying that individualism may somewhat inhibit entrepreneurial activity. Additionally, the influence of indulgent culture on entrepreneurial activity is significantly positive at the 10% level, indicating that stronger indulgent cultures may enhance entrepreneurial activity. These results support Hypotheses 1, 2, and 3, respectively. The model's adjusted R-squared and the absolute values of the coefficients suggest that the impact of individualism on changes in entrepreneurial activity is more pronounced than that of the other cultural dimensions examined.

Table 3. The main effects of cultural dimensions on entrepreneurial activity

Variable	(1) TEA	(2) TEA	(3) TEA	(4) TEA	(5) TEA	(6) TEA
pdi	0.0752*** (4.77)	0.0706*** (4.46)				
idv			-0.143*** (-8.97)	-0.143*** (-8.88)		
ivr					0.0396* (1.95)	0.0371* (1.84)
NECI		-0.512 (-1.18)		-0.241 (-0.59)		-0.487 (-1.15)
Cons	7.992*** (9.40)	10.29*** (5.14)	18.84*** (20.22)	19.81*** (11.39)	9.979*** (9.48)	12.04*** (6.44)
N	290	287	290	287	259	256
Adj r2	0.0427	0.0416	0.209	0.210	0.0125	0.0123

Notes: T value in parentheses; *, **, and *** indicates significance at the 10%, 5%, and 1% levels respectively.

4.2 Gender Disparities

Social norms play a critical role in shaping entrepreneurial intentions, with research suggesting a more pronounced impact on female entrepreneurship than male entrepreneurship. This difference arises from cultural variations in gender roles and expectations, which in turn influence distinct behavioral norms and social roles for each gender. Traditionally, social norms have positioned men as more suitable for leadership and innovation, whereas women are often expected to prioritize family and caregiving roles. [28] Shabbir and Di Gregorio (1996) observe that societal reactions to entrepreneurial failure are gendered: a failing male entrepreneur typically garners sympathy, whereas a failing female entrepreneur may face ridicule. This bias can significantly restrict women's participation and success in entrepreneurship. Consequently, this paper posits that national culture exerts a stronger influence on women's entrepreneurial decisions than men. The gender-specific effects of national culture on entrepreneurial activity are detailed in Table 4.

In Table 4, Columns 1, 3, and 5 examine the effects of power distance, individualism, and indulgence cultures on male entrepreneurial activities, respectively, while Columns 2, 4, and 6 detail the impacts of these cultural dimensions on female entrepreneurial activities. The regression results reveal that power distance significantly positively affects both male and female entrepreneurship, while individualism displays a significant negative effect on entrepreneurship across both genders. Notably, these cultural dimensions exert a more pronounced impact on female entrepreneurs. Furthermore, the coefficient of indulgence culture is significantly positive at a 5% level for female entrepreneurial activity, whereas, for males, it is positive but not statistically significant. These findings underscore the role of national cultural backgrounds in explaining gender disparities in entrepreneurial activities. The influences of power distance, individualism, and indulgence culture are notably stronger on female entrepreneurial activities compared to their male counterparts.

Table 4. Gender differences in the influence of national culture on entrepreneurial activity

Variable	(1) TEAm	(2) TEAf	(3) TEAm	(4) TEAf	(5) TEAm	(6) TEAf
pdi	0.0562*** (3.31)	0.0840*** (5.35)				
idv			-0.132*** (-7.71)	-0.154*** (-9.71)		
ivr					0.0281 (1.26)	0.0463** (2.40)
NECI	-0.548 (-1.21)	-0.486 (-1.12)	-0.273 (-0.63)	-0.216 (-0.54)	-0.487 (-1.10)	-0.501 (-1.16)
Cons	13.33*** (4.26)	6.399** (2.20)	20.85*** (8.09)	16.89*** (6.90)	14.29*** (5.71)	9.517*** (3.88)
N	287	287	287	287	256	256
Adj r2	0.0245	0.0564	0.169	0.235	0.00454	0.0204

Notes: T value in parentheses; *, **, and *** indicates significance at the 10%, 5%, and 1% levels respectively.

4.3 The Moderating Effect of Economic Freedom

The economic freedom of a nation is often viewed as a reflection of its formal institutional framework, encompassing the laws, regulations, and policies that shape the norms and operations of its economy ([23] Miller et al., 2022). In environments where markets are more liberated, entrepreneurs tend to be more innovative, devising new business models, products, or services. Such innovation is crucial for overcoming the limitations imposed by informal systems, like cultural traditions or social norms, on entrepreneurial activities. Consequently, this paper employs the economic freedom index as a moderating variable to examine how formal institutional contexts may influence the relationship between national culture and entrepreneurship.

This paper initially presents the interaction terms between the three dimensions of national culture and the overall index of economic freedom, with the regression results displayed in Table 5. The findings in Columns 3 and 4 of Table 5 indicate that the interaction coefficient between individualism (*idv*) and economic freedom (*EF_all*) is positive and statistically significant at the 1% level. This suggests that economic freedom can mitigate the negative effects of individualism on entrepreneurial activities. In countries where individualism is prevalent, the government can facilitate entrepreneurship by enacting policies that enhance economic freedom. However, the analysis does not reveal a significant moderating effect of economic freedom in the relationships between power distance or indulgence culture and entrepreneurial activity.

Table 5. The moderating effects of the overall EFI

Variable	(1) TEA	(2) TEA	(3) TEA	(4) TEA	(5) TEA	(6) TEA
<i>pdi</i>	0.0517*** (3.06)	0.0152 (0.10)				
<i>idv</i>			-0.147*** (-8.77)	-0.976*** (-8.10)		
<i>ivr</i>					0.0579*** (2.63)	0.00614 (0.04)
<i>EF_all</i>	-0.0944* (-1.76)	-0.130 (-0.93)	0.00741 (0.18)	-0.466*** (-5.09)	-0.105** (-2.36)	-0.148 (-1.20)
<i>pdi</i> × <i>EF_all</i>		0.000529 (0.23)				
<i>idv</i> × <i>EF_all</i>				0.0120*** (6.88)		
<i>ivr</i> × <i>EF_all</i>						0.000797 (0.34)
<i>NECI</i>	-0.341 (-0.77)	-0.335 (-0.75)	-0.304 (-0.74)	-0.484 (-1.24)	-0.248 (-0.58)	-0.257 (-0.60)
<i>Cons</i>	17.03*** (4.03)	19.53* (1.97)	19.84*** (6.95)	52.19*** (8.61)	17.09*** (5.56)	19.89** (2.36)
<i>N</i>	282	282	282	282	251	251
<i>Adj r2</i>	0.0521	0.0489	0.216	0.306	0.0368	0.0334

Notes: T value in parentheses; *, **, and *** indicates significance at the 10%, 5%, and 1% levels respectively.

To delve deeper into the moderating effect of economic freedom and to provide more precise policy recommendations, this paper incorporates four sub-indices of economic freedom—rule of law, government role, regulatory efficiency, and open markets—into the regression analysis. The results of this analysis are presented in Table 6.

Columns 1 to 3 of Table 6 detail the moderating effects of the rule of law on the relationship between national culture and entrepreneurial activity. The results demonstrate that the interaction coefficient between the rule of law and individualism is significantly positive at the 1% level. This indicates that as the rule of law in a country

strengthens, the restrictive influence of an individualistic culture on entrepreneurial activities substantially diminishes. However, the interaction coefficients between the rule of law and both power distance and indulgence culture are not statistically significant, suggesting that the rule of law does not have a moderating effect on these dimensions of national culture with respect to entrepreneurial activity.

Columns 4 to 6 of Table 6 explore the moderating effects of government involvement on the relationship between national culture and entrepreneurial activity. The analysis reveals a significant negative interaction between the role of government and power distance. This indicates that increased governmental intervention in the economy substantially weakens the supportive impact of power distance on entrepreneurial activity. In other words, the more the government intervenes in the economy, the less pronounced the positive influence of power distance on entrepreneurial initiatives becomes. However, the interactions between government role and individualistic or indulgent cultures do not show statistically significant effects, suggesting that government intervention does not significantly moderate the relationship between these cultural dimensions and entrepreneurial activity.

Regulatory efficiency denotes the effectiveness and transparency of a government’s regulatory framework. A higher level of regulatory efficiency implies that the government manages economic regulations in a more effective and transparent manner. This enhances market competition fairness and stimulates innovation. According to the empirical evidence presented in Columns 7 to 9 of Table 6, there is a significant positive interaction between regulatory efficiency and individualism at the 1% significance level. This suggests that increased regulatory efficiency substantially mitigates the negative impact of individualistic national culture on entrepreneurial activity.

The results in Columns 10 to 12 indicate a similar moderating effect in open markets on individualistic cultures. However, the interaction coefficients between both regulatory efficiency and open markets with power distance and indulgent culture are not statistically significant, indicating that neither regulatory efficiency nor open markets significantly affect the relationship between these cultural dimensions and entrepreneurial activity. These findings align closely with the regression results for the overall index of economic freedom.

Table 6. The moderating effects of the subscales of EF

Variable	(1) TEA	(2) TEA	(3) TEA	(4) TEA	(5) TEA	(6) TEA
pdi×EF_rl(pdi× EF_gr)	-0.000270 (-0.24)			-0.00174* (-1.89)		
idv×EF_rl(idv× EF_gr)		0.00471*** (5.07)			0.000555 (0.60)	
ivr×EF_rl(ivr×E F_gr)			-0.000734 (-0.54)			-0.000217 (-0.18)
N	282	282	251	282	282	251
Adj r2	0.104	0.277	0.132	0.144	0.244	0.215
Variable	(7)	(8)	(9)	(10)	(11)	(12)

	TEA	TEA	TEA	TEA	TEA	TEA
pdi×EF_re(pdi× EF_om)	-0.00171 (-0.60)			0.00229 (1.29)		
idv×EF_re(idv× EF_om)		0.0113*** (6.91)			0.00734*** (4.36)	
ivr×EF_re(ivr× EF_om)			0.00349 (1.40)			-0.00256 (-1.51)
N	282	282	251	282	282	251
Adj r2	0.0750	0.310	0.0704	0.0746	0.267	0.0907

Notes: T value in parentheses; *, **, and *** indicates significance at the 10%, 5%, and 1% levels respectively.

5 Conclusions

This study investigates the influence of national culture on entrepreneurship, utilizing data on country-level entrepreneurial activity from 2013-2017 and the 2015 Hofstede cultural indicators. The results reveal varied effects of national cultural dimensions on entrepreneurial activity. Power distance and indulgence culture significantly enhance entrepreneurship, while individualism tends to dampen it. Additionally, the impact of cultural dimensions on entrepreneurship shows gender disparities, with women being more affected than men. Introducing economic freedom as a moderating variable, the analysis demonstrates that improved economic freedom can significantly reduce the negative effects of individualism on entrepreneurial activity. Based on these findings, the paper offers targeted policy recommendations to enhance the national entrepreneurial ecosystem and promote entrepreneurial activities.

To cultivate a dynamic entrepreneurial culture, it is crucial to promote both power distance and indulgence. Enhancing power distance allows individuals to break free from traditional occupational confines, thereby creating a favorable environment for entrepreneurs. Concurrently, an indulgent culture encourages risk-taking, innovation, and self-realization, which not only stimulates entrepreneurial enthusiasm among potential entrepreneurs but also improves overall entrepreneurial activity within the country.

Integrating entrepreneurship education into the educational system is pivotal for fostering a resilient mindset towards failure. Many potential entrepreneurs avoid entrepreneurial entry due to fear of failure. To address this, governments could provide targeted entrepreneurship training to elucidate the risks and opportunities in entrepreneurship. Additionally, establishing a special fund or guarantee mechanism would lessen perceived risks for entrepreneurs and encourage wider participation in entrepreneurial activities.

Tailored entrepreneurship policies are essential for addressing the unique needs of different cultural and gender groups. Governments should optimize resource allocation and establish more business incubators and support networks, especially for female entrepreneurs. Promoting exchanges and cooperation among various cultural groups, re-

ducing gender discrimination and cultural prejudice, and fostering an open and inclusive business environment will help dismantle barriers and enhance participation in entrepreneurship.

The culture of a nation tends to remain relatively stable over time, allowing formal institutions to effectively fulfill their roles. This is particularly pertinent in individualistic societies, where the government can counteract the potential negative effects of individualism on entrepreneurial activity by enhancing economic freedom, focusing on the rule of law, regulatory efficiency, and open markets. These measures can stimulate entrepreneurial initiatives and balance the effects of a predominantly individualistic culture.

Appendix

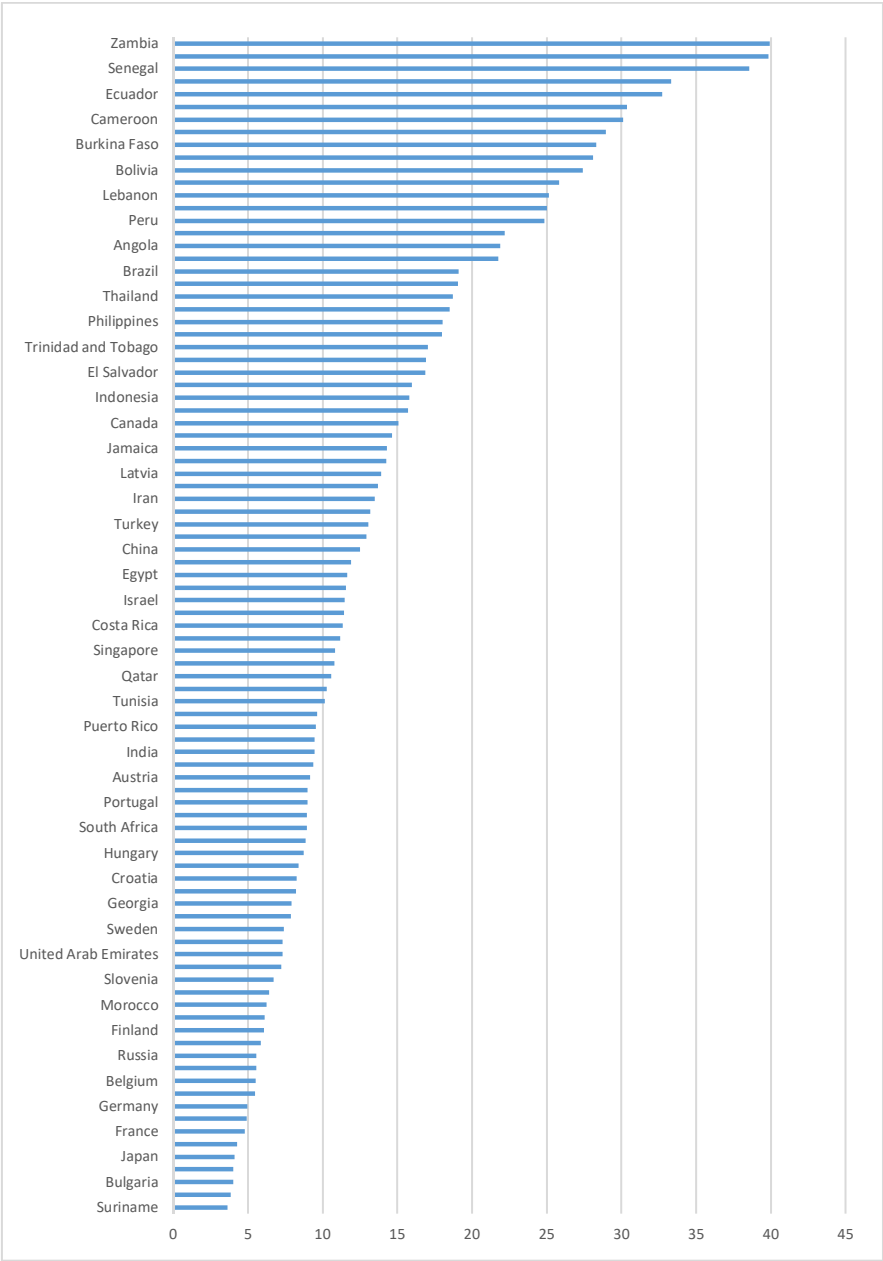


Figure A1 Average TEA values of 93 economies from 2013 to 2017¹
Data source: GEM database

¹ Due to space limitations, the figure only displays data from a subset of countries.

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