E-ISSN: 3108-4176

APSSHS

Academic Publications of Social Sciences and Humanities Studies
2024, Volume 5, Page No: 28-38
Available online at: https://apsshs.com/

Annals of Organizational Culture, Leadership and External Engagement Journal

Institutional Influence on Gender Entrepreneurship in Latin America

Jorge Guillen[1*], Renato Pereira[2]

1. Department School of Business, Graduate of Business, Universidad ESAN, Lima, Peru.
2. Department of Business, Graduate School of Business, ISCTE, Lisbon, Portugal.

Abstract

This study examines the institutional factors shaping female entrepreneurship in 8 Latin American countries. Based on established classifications of institutional systems, we grouped these countries into three categories: emerging liberal market, state-led, and family-led economies. The analysis was conducted using two data panels: the first includes Argentina, Ecuador, Bolivia, and Venezuela, which primarily operate under a state-led system, while the second includes Brazil, Colombia, Chile, Mexico, and Peru, where state intervention is lower, and the economies follow either a family-led or emerging liberal market model. The study examines the key institutional drivers of female entrepreneurship by considering cognitive, socioeconomic, and macroeconomic variables. The findings provide a new perspective on gender-based entrepreneurship in Latin America by integrating external macroeconomic and institutional diversity factors. This framework is essential for understanding gender-specific entrepreneurial motivations.

Keywords: Female entrepreneurship, Institutional frameworks, Latin America, Macroeconomic influences, Panel data

How to cite this article: Guillen J, Pereira R. Institutional Influence on Gender Entrepreneurship in Latin America. Ann Organ Cult Leadersh Extern Engagem J. 2024;5:28-38. https://doi.org/10.51847/RaQltcyzXu

Received: 19 May 2024; **Revised:** 16 August 2024; **Accepted:** 02 September 2024
Corresponding author: Jorge Guillen
E-mail ✉ jguillen@esan.edu.pe

Introduction

Entrepreneurship involves starting, maintaining, and growing a business to generate profit [1]. Drucker [2] highlights that entrepreneurs are individuals who recognize and seize moments of change, turning them into business opportunities. As a key driver of economic growth across various social groups [3], entrepreneurship fosters innovation, intensifies market competition, and stimulates economic development [4].

Previous studies have examined different aspects of entrepreneurship. Hessels *et al.* [5] explored aspirational, socioeconomic, and motivational factors. Carree *et al.* [6] investigated the connection between economic development and business ownership, while Acs [7] analyzed the motivations behind entrepreneurship. This paper focuses specifically on the factors influencing female entrepreneurship.

The topic of entrepreneurship in Latin America has also gained increasing academic interest. Acs and Amorós [8] found that countries in the region follow distinct strategies for competitiveness, contributing to diverse entrepreneurial landscapes. Additionally, institutional and macroeconomic policies, including trade liberalization and market openness, shape entrepreneurial activity [9]. In this study, we account for institutional variations across Latin American countries

Gender plays a crucial role in entrepreneurship research [10] for various reasons [11, 12]. Historically, entrepreneurship in Latin America has been male-dominated, highlighting the need for a deeper understanding of the barriers women face at multiple levels [13]. Institutional constraints, such as market entry regulations, present significant challenges for women entrepreneurs in the region and contribute to the existing gender gap [14, 15].

This paper aims to provide an empirical contribution to the study of entrepreneurship by examining gender-related factors within two distinct institutional contexts in Latin America. Using entrepreneurial intention data from the Global Entrepreneurship Monitor (2009–2015), we conducted our analysis within this timeframe due to the availability of complete data, which remains sufficient for our study.

Theoretical review

According to Santos *et al.* [16], gender studies in entrepreneurship emerged in the mid-1970s, initially adopting both psychological and sociological perspectives to understand the rise of female entrepreneurship.

Despite historically low female participation in the economy, Latin America now has one of the highest rates of female entrepreneurship globally. However, most women in the region start businesses out of necessity rather than opportunity, which limits their overall impact on national economies. As market competition intensifies, many female entrepreneurs opt to abandon their businesses in favor of formal employment. Consequently, women's entrepreneurial activities are often considered supplementary rather than primary sources of income [17, 18].

Languía *et al.* [19] argue that female entrepreneurship is more prevalent in factor-driven economies like those in Latin America—sometimes 3 times higher than in innovation-driven economies such as Europe and the United States.

Contrary to traditional assumptions, women entrepreneurs in Latin America apply for credit at similar rates as men, although they face higher borrowing costs. This challenges the notion that women in developing regions are more risk-averse or less financially literate than men [20]. While the returns on credit are comparable, women typically receive smaller loan amounts. Businesses owned by women are generally smaller across all industries, accounting for about 37% of total ventures in the region. These businesses also tend to underperform in terms of sales and employment growth compared to male-owned firms. Gender disparities in business size, expansion, and efficiency are more pronounced in Latin America than in other similar regions. Additionally, women-owned firms tend to be younger—both in terms of business age and the age of their owners. Women predominantly operate in food preparation (nearly a quarter of all female-led businesses), retail, garment production, and machinery manufacturing, often limiting their participation to a narrow set of industries [21].

The gender gap in entrepreneurship across Latin America can be as high as 13%, with observable characteristics accounting for up to 38% of the disparity. Women are more influenced by the "need for achievement" than men, while factors such as "risk tolerance" and "income" contribute more significantly to the gap. In contrast, elements like "work satisfaction," "parental business background," and "autonomy" play a lesser role. Additionally, a significant education gap exists between women and men. If women had the same level of education as men, their likelihood of pursuing entrepreneurship would decrease, as higher education correlates negatively with entrepreneurial ambition [22].

Wu *et al.* [23] analyzed data from 28 countries, including 9 in Latin America, and found that weak female entrepreneurial cognitions combined with high initial capital requirements significantly contribute to the gender gap in entrepreneurship.

In Latin America, due to the dominance of necessity-driven entrepreneurship, there is little difference between "entrepreneurial perception" and "entrepreneurial intention." This dynamic increases the likelihood of women choosing entrepreneurship, with "perceived self-efficacy" emerging as a key factor in this decision [24].

Gender disparities in entrepreneurship are rooted in both formal institutions—such as laws and regulations—and informal societal norms, traditions, and attitudes. These factors reinforce the persistence of necessity-driven entrepreneurship among women while leaving opportunity-driven entrepreneurship largely to men [25].

Cuberes *et al.* [26] argue that the lower value-added nature of female entrepreneurship results from institutional discrimination as well as inherent gender-based constraints. Meanwhile, research confirms that gender gaps exist across various entrepreneurial settings, including migrant entrepreneurship, with institutional factors playing a critical role in shaping these disparities [27].

Paraphrased section

The political system of a country plays a crucial role in shaping its institutional environment, which in turn influences both male and female entrepreneurship. Judge, Fainshmidt *et al.* [28] introduced a widely recognized classification of political systems within institutional frameworks. Their approach highlights that advanced economies are typically categorized based on the "Varieties of Capitalism" (VOC) model, which divides them into coordinated market economies and liberal market economies. This classification depends on how resources, profits, and risks are allocated. However, this model does not fully capture the growing complexity of newly emerging, industrialized, and developing economies.

To address this gap, Fainshmidt *et al.* [28] proposed an institutional-level classification that applies to both emerging and advanced economies. This framework considers factors such as the role of the State, financial markets, human capital, social capital, and corporate governance. Within corporate governance, family influence and ownership concentration are particularly significant.

Carney and Witt [29] emphasize the importance of State involvement in ASEAN economies, arguing that the degree of market intervention by a government is a key factor in economic classification. A government's market orientation can take on different forms, including regulatory, welfare-driven, developmental, or even predatory.

Methods

Empirical strategy

To refine our analysis, we categorize Latin American economies into two institutional groups: State-Led economies and Emerging-Led economies. The latter also includes Family-Led economies, as they experience less government intervention than State-Led systems.

In our study, Argentina, Venezuela, Bolivia, and Ecuador are classified as state-led economies because they exhibit similar institutional characteristics. Meanwhile, Chile, Brazil, Colombia, Mexico, and Peru are grouped under emerging-led economies, which include both family-led and emerging-led countries due to shared attributes concerning government control and economic openness. Fainshmidt *et al.* [28] classify Chile as Emerging-Led, while the others fall under family-led economies. However, for our research, we merge these two categories into one group, as they share key economic traits **(Figures 1 and 2)**.

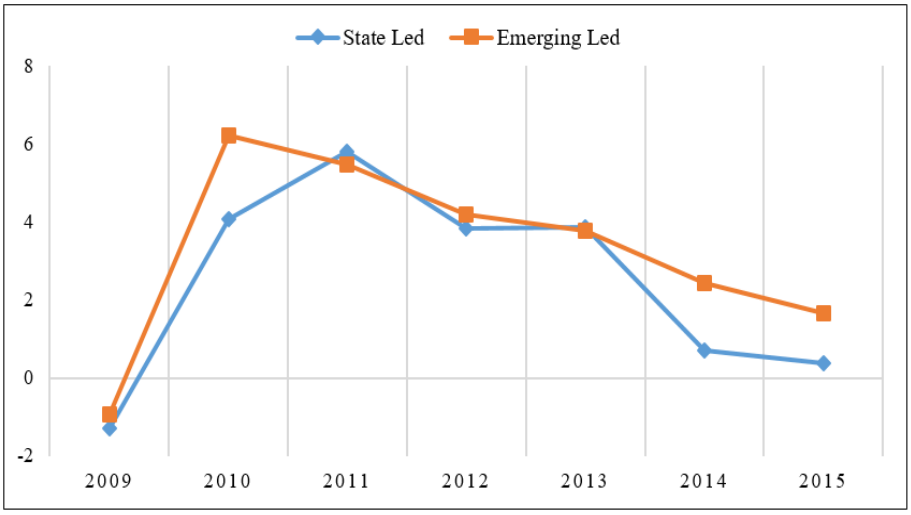

Figure 1. GDP growth (annual %) (Source: IMF)

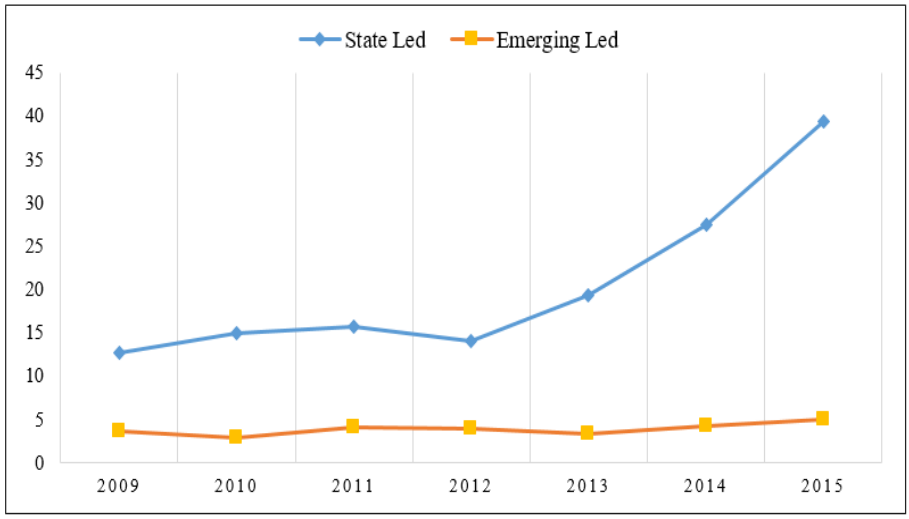

Figure 2. Inflation rate (annual %) (Source: IMF)

Our research focuses on the Latin American region, where entrepreneurship is deeply influenced by gender dynamics. De la O Cordero and Pulido [19] emphasize the need for further studies on the factors shaping female entrepreneurship in this area. Aboal and Veneri [30] compare Latin American entrepreneurs with those in the United States, revealing substantial differences in entrepreneurial behavior and opportunities.

From a social psychology perspective, uncertain environments tend to bring out specific entrepreneurial traits. Older entrepreneurs, more educated, come from entrepreneurial families, and have strong financial networks are more likely to succeed in such settings [31]. However, these influences vary across different countries, affecting female entrepreneurs in distinct ways depending on their societal and economic roles.

Worldwide, women engage in entrepreneurial activity at lower rates than men [32]. Various elements contribute to this disparity, including education levels [33], difficulties accessing credit [34], social capital, industry preferences, business structures [35], and motherhood-related responsibilities [23]. These factors can be broadly categorized as follows:

Demographic factors: Age, family size, and education level

Social capital: Business networks and investor support

Macroeconomic conditions: Market expectations and inflation rates

Cognitive aspects: Fear of failure and self-confidence

Certain macroeconomic conditions overlap with cognitive influences [36]. Additionally, cognitive barriers appear to have a stronger impact on women than men [37]. Given women's crucial role in economic progress, understanding institutional diversity in emerging economies is essential for assessing entrepreneurial potential.

Two perspectives explain gender differences in entrepreneurship. The constraint-based theory suggests that societal norms restrict women's access to opportunities, making entrepreneurship an option for only a select few. On the other hand, the motivation-based theory argues that women's entrepreneurial choices stem from personal preferences, leading them to enter less competitive markets and operate on a smaller scale [21].

It is well established in the literature that women are more likely to cite external pressures, such as financial necessity, as their primary motivation for entrepreneurship rather than being drawn in by opportunities [38]. In Latin America, parental influence plays a key role in shaping entrepreneurial aspirations, a phenomenon often referred to as the "kitchen table effect." Among personality traits, the need for achievement is the strongest driver of female entrepreneurship in the region, followed by the desire for autonomy. Key contributors to the gender gap include risk tolerance and income levels, while factors such as job satisfaction and the kitchen table effect have a relatively smaller impact [22]. Women in Latin America are only half as likely as men to become entrepreneurs.

To identify the main determinants of female entrepreneurship, we consider Total Entrepreneurial Activity (TEA) as the dependent variable in our analysis. The selection of independent variables is outlined in the following section. Our study employs PANEL DATA analysis, which enables us to examine individuals across multiple countries over different periods. The foundation of our empirical strategy is represented by the following model:

$$Y_{ist=}\alpha + \beta X_{ist} + \gamma_{st} Z + \varepsilon_{ist} \quad (1)$$

The variable YistisY_{istis}Yistis represents the endogenous variable being analyzed for time ttt, individual iii, and region sss. The independent and control variables are captured within the set XXX for the same time, individual, and region. Additionally, the model includes an error term, which is assumed to follow a white noise process.

In Panel Data analysis, the model can incorporate a fixed effect for the intercept α\alphaα, accounting for unobserved individual influences that remain constant over time. Alternatively, it can include a random effect, which adjusts for serial correlation introduced by unobserved, time-invariant attributes. Pooling is also an option, where no fixed or random effect is included.

Given that random effects provide a more efficient estimation under our assumptions, we selected the Random Effect (RE) model instead of a Pooled or Fixed Effect (FE) model. The coefficient β\betaβ must be tested for both significance and direction. The null hypothesis of significance is tested under the three conventional significance levels, ensuring rigorous hypothesis testing in our study. Additionally, we introduce a variable ZZZ to capture time effects, allowing the estimation to account for variations across regions sss and time ttt.

Application of panel data in research

Panel or longitudinal studies are widely used in social sciences, medicine, and psychology due to their ability to track changes over time. This method is especially valuable in studying behavioral shifts, economic trends, and policy impacts.

- In psychology, longitudinal studies help track developmental trends in individuals.
- In sociology, they assist in analyzing events over time, such as demographic changes.
- In business and economics, they are instrumental in identifying structural changes in consumer behavior and political trends.
- In advertising research, Panel Data helps track the impact of campaigns on consumer attitudes and behaviors.
- In economic studies, they distinguish between short-term and long-term phenomena, such as income distribution and poverty dynamics.

While cross-sectional analysis examines multiple individuals at a single point in time, longitudinal studies provide a more accurate representation of trends by tracking the same individuals across multiple periods. Though experiments might offer stronger causal inference, Panel Data is superior to cross-sectional studies as it accounts for individual-level variations over time.

Despite the time-consuming nature of longitudinal studies, the size of our dataset is manageable and does not introduce significant estimation difficulties [39].

Data overview

Our analysis will be conducted using Panel Data Analysis based on data from the Global Entrepreneurship Monitor (GEM). The dataset includes information on individuals from 2009 to 2015. While more recent data is unavailable, this period is particularly relevant due to the commodities boom in the region, making it a suitable timeframe for the study. The dataset consists of seven time periods, covering 5 countries and 1,628 respondents, resulting in over 57,000 observations. This extensive dataset allows for robust and reliable inferences.

Endogenous variable

The key variable under assessment is Total Early-stage Entrepreneurial Activity (TEA), which represents the percentage of individuals aged 18 to 64 who are either nascent entrepreneurs or owners of young businesses. The TEA indicator is derived from expert interviews conducted globally, with around 200,000 people surveyed annually. It captures two essential dimensions:

Entrepreneurial behavior and attitudes (e.g., business ownership, entrepreneurial intentions).

National context (e.g., tax policies, macroeconomic environment).

The TEA metric is published by GEM, offering a comprehensive measure of entrepreneurship levels across different countries.

Data collection

GEM data is compiled from two main sources:

Adult population survey (APS): Surveys approximately 2,000 adults per country, focusing on individual entrepreneurial activities.

National expert survey (NES): Conduct interviews with at least 36 business and academic experts in each country, evaluating institutional factors that impact entrepreneurship.

For our study, we rely primarily on APS data, as it provides insights into individual entrepreneurial activity. Each year, GEM collects data from at least 2,000 adults per country and a minimum of 36 experts to produce annual reports. In 2014 alone, 206,000 adults and 3,936 experts participated in the survey. Although each GEM report has a global section, the survey content varies based on the population size and economic diversity of each country.

Estimation method: generalized method of moments (GMM)

To estimate the coefficients of our proposed model, we employ the Generalized Method of Moments (GMM). This econometric technique is widely used for estimating parameters in semi-parametric models, particularly when the underlying data distribution is unknown. Unlike Maximum Likelihood Estimation (MLE), which may be less efficient under these conditions, GMM minimizes estimation errors by using moment conditions derived from the data.

Key properties of GMM estimators

Consistency: With a sufficiently large dataset, the estimator converges to the true parameter value.

Asymptotic normality: This property enables the construction of confidence intervals and hypothesis testing for estimated parameters.

Efficiency: GMM estimators are widely recognized in empirical research for their robustness and accuracy.

Originally introduced by Lars Peter Hansen, GMM is a specialized case of minimum-distance estimation. Given its strong theoretical foundation and frequent application in econometrics, we will use GMM to estimate the parameters of our Panel Data model.

Thus, the final model for our data analysis is structured as follows:

$$TEA_{ij} = \alpha. + \beta_1(DemographicFactors)_{ij} + \beta_2(SocioCapitalFactors)_{ij} + \beta_3(CognitiveFactors)_{ij} + \beta_4(MacroeconomicFactors)_{ij} + \varepsilon_{ij} \quad (2)$$

Where:

TEA_{ij}: Total entrepreneurship activity for individual "i" in-country "j".
Demographic $factors_{ij}$: Age, size of the family, income, and education "i" in-country "j".
Socio-$capital_{ij}$: Business angels and network connections "i" in-country "j".
$Macroeconomic_{ij}$: Business expectations and inflation "i" in-country "j".
$Cognitive_{ij:}$ Fear to fail "i" in-country "j".

The preceding discussion helps us establish that the demographic factors are expected to have a positive relationship with TEA. Similarly, all the socio-capital factors are anticipated to also exhibit a positive correlation. Cognitive factors, however, are predicted to have a negative impact. The effect of macroeconomic factors remains uncertain. According to Aboal and Veneri [30], entrepreneurship and the surrounding environment can vary across different countries. The macroeconomic factor may, therefore, help capture any time-related effects in our analysis. As noted earlier, GMM estimation will be applied in the panel data analysis.

Table 1. Descriptive overview of variables

Variables	Description	Mean	Standard deviation	Minimum	Maximum
Age	Age of the respondent	39.39	14.69	18	99
TEA female	Female participation in total early-stage entrepreneurial activity (TEA)	0.1944	0.40	0	1
Busang	Business angel involvement in the past 3 years	0.07	0.26	0	1
Gender	Gender of the respondent	1.53	0.50	1	2
Education	The education level of the respondent	2.82	1.43	0	6
Fearfail	Fear of failure in business	0.34	0.47	0	1
Network	Engagement in business networking	0.39	0.49	0	1
HHsize	number of household members	3.97	2.11	0	89
Inflation	Inflation rate in the country	6.14	7.32	0.35	38.5
Expectation	Business expectations based on GDP growth in the respective country	2.10	2.62	-5.92	10.13
Gemhhinc	Income classification of the respondent into three categories	Qualitative	Qualitative	Qualitative	Qualitative

Table 1 offers a descriptive breakdown of the variables included in the model. The subsequent section delves into the results derived from the panel data model. The longitudinal nature of this analysis provides insights into variations across different countries. This same panel dataset can be examined for both emerging and state-led nations, helping to determine if there is any heterogeneity within these groups. A previous section explained the differences between these classifications.

Results and Discussion

Figures 3-5 present initial findings related to the gender income gap within households. At higher income levels, a noticeable gender income disparity exists. In contrast, at lower income levels, the gap reverses, with women often earning more, although this difference narrows as income increases. The results were derived from the Global Entrepreneurship Monitor (GEM) data, covering the period from 2009 to 2015 across various countries in Latin America. This income gap trend is consistent across both Emerging-Led and State-Led countries. Therefore, it can be concluded that gender-based income inequality exists across the entire Latin American region. This observed pattern aligns with the findings from previous studies by Kariv [14], Kelley *et al.* [32], and Aboal and Veneri [30].

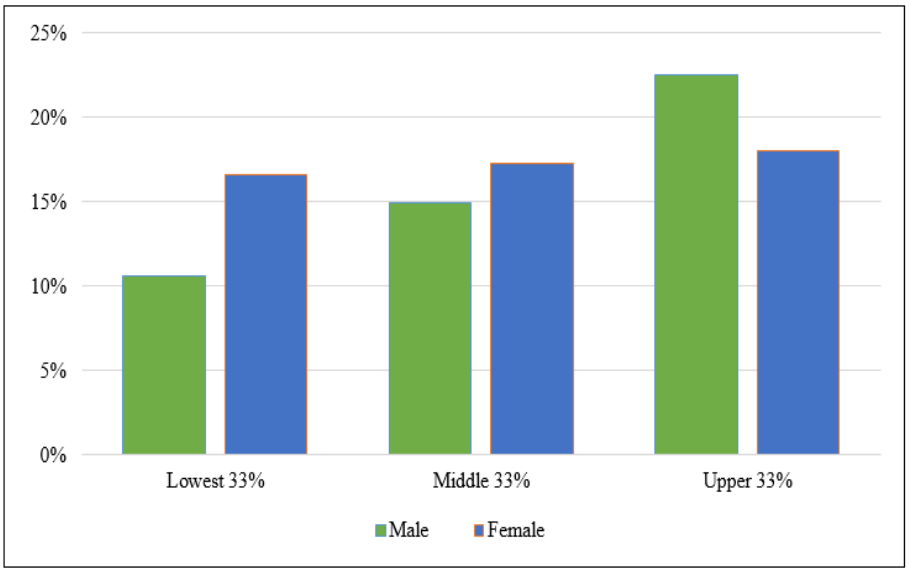

Figure 3. Household income by gender (% of total) (Source: GEM)

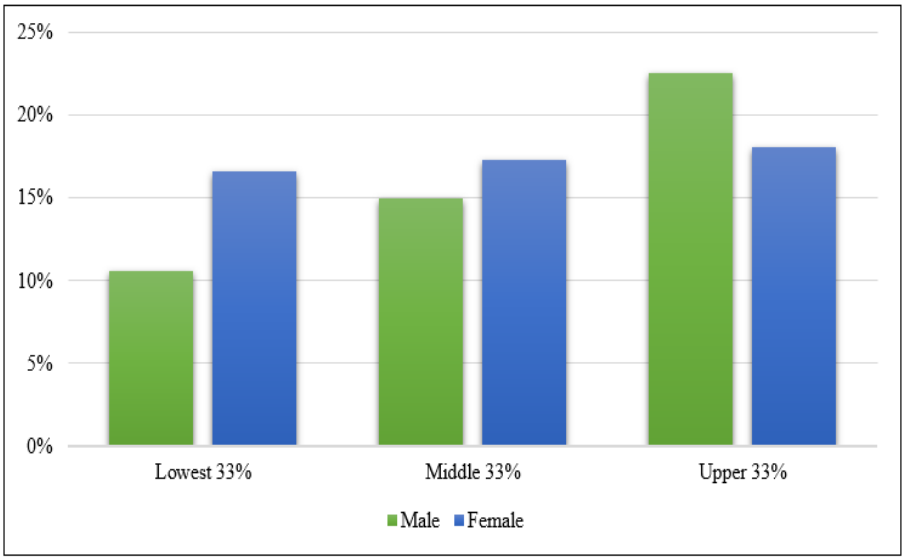

Figure 4. Household income by gender (% of total) emerging led institutions (Source: GEM)

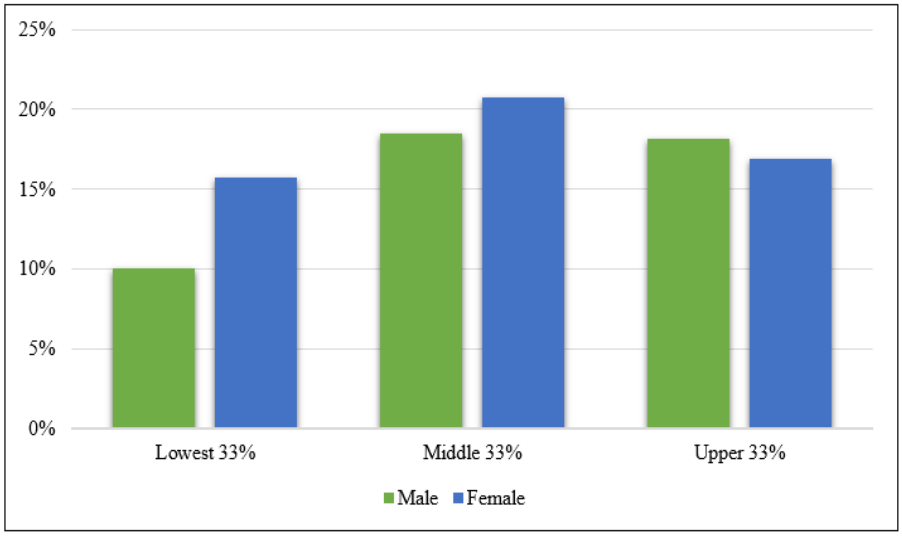

Figure 5. Household income by gender (% of total) state-led institutions (Source: GEM)

Regarding women choosing to become entrepreneurs (female TEA), the results were low for both groups of institutional countries **(Figure 6)**. The majority of women tend to postpone their decision to pursue entrepreneurship, with 80% of survey respondents indicating this delay. This finding is in line with the conclusions of Aboal and Veneri [30] and Bardasi *et al.* [21].

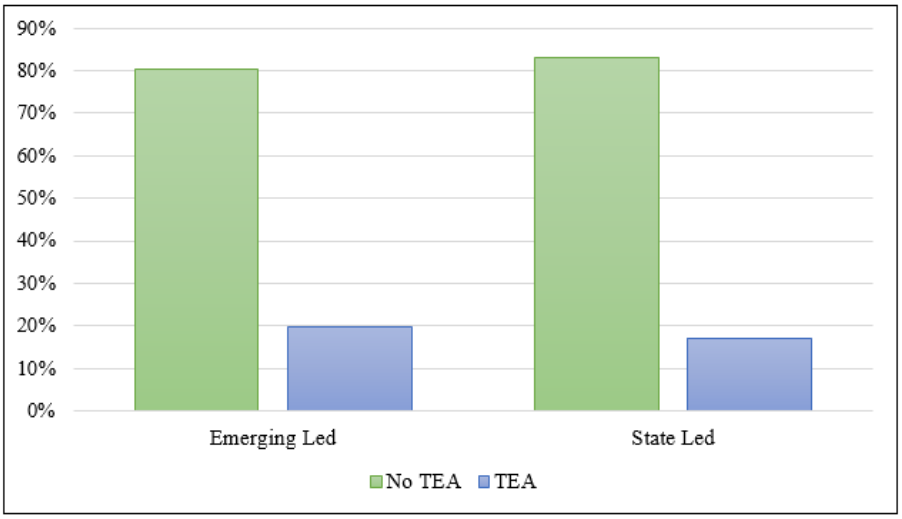

Figure 6. Female's TEA by the institutional system (% del total) (Source: GEM)

The determinants of entrepreneurship, categorized by institutional typology, are shown in **Table 2**. We divided the panel into 2 groups: Emerging-led countries and state-led countries. The emerging-led group had over 50,000 respondents, while the state-led group had around 10,000 respondents. We selected the period from 2009 to 2015, as it followed the global financial crisis and coincided with a commodities boom. Some countries in both groups exhibited similar macroeconomic performance. External factors were shared across both groups of countries.

Table 2. Estimation results-random effect (Dependent variable: TEA)

Variables	Emerging led (male)	Emerging led (female)	State-led (male)	State-led (female)
Demographic factors				
Age	-0.0052 (0.00076) ***	-0.0069 (0.00082) ***	-0.0075 (0.00146) ***	-0.0112 (0.00158) ***
HHsize	0.0069 (0.00496)	0.0328 (0.00543) ***	0.0032 (0.01112)	0.0354 (0.01119) ***
Gemhhinc	0.0000035 (0.00000034) ***	0.0000009 (0.00000036) **	0.0000001 (0.0000007)	0.00000007 (0.00000073)
Education	0.0879 (0.00859) ***	0.0211 (0.00877) **	0.0830 (0.01611) ***	0.0022 (0.01618)
Socio capital factors				
Busang	0.3492 (0.03116) ***	0.3091 (0.03991) ***	0.4436 (0.07272) ***	0.3798 (0.08359) ***
Network	0.7896 (0.02130) ***	0.8438 (0.02200) ***	0.6793 (0.04314) ***	0.6924 (0.04382) ***
Macroeconomic factors				
Inflation	0.0919 (0.01001) ***	0.0899 (0.01048) ***	-0.0267 (0.00202) ***	-0.0350 (0.00219) ***
Expectations	0.0450 (0.00425) ***	0.0574 (0.00451) ***	0.0339 (0.00755) ***	0.0547 (0.00777) ***
Cognitive factor				
Fearfail	-0.3626 (0.02387) ***	-0.4571 (0.02330) ***	-0.3564 (0.04795) ***	-0.4665 (0.04619) ***
Constant	-2.2796 (0.12830) ***	-2.1415 (0.09508) ***	-0.9575 (0.10021) ***	-0.7722 (0.10467) ***

Significant at 99%, 95%, and 90% confidence

Table 3. Breusch-pagan Lagrange multiplier test for open and closed data countries

Group	TEA female	Var	Sd = sqrt (Var)	Test Var (u) = 0	Chibar2 (01)	Prob > chibar2
Open		0.1452	0.3811	Yes	309.48	0.0000
	e	0.1446	0.3803			
	u	0.0009	0.2970			
Closed		0.1687	0.4107	Yes	3351.16	0.0000
	e	0.1628	0.4035			
	u	0.0086	0.0925			

The income variable (Gemhhinc) showed a significant positive relationship only for emerging-led countries, regardless of gender. In contrast, the state-led group showed no significant effect **(Table 3)**. This suggests that income levels play a crucial

role in fostering entrepreneurship in emerging-led countries, likely due to structural market differences. Van Stel *et al.* [40] highlighted the positive economic impact of entrepreneurship, especially in regions with high income per capita.

Age also proved to be an important factor for both state-led and emerging-led countries. It showed a significant negative relationship, indicating that entrepreneurship tends to begin at a younger age in both groups of countries [30, 32].

The BUSANG (business angels) variable showed the expected positive and significant result. Access to initial seed capital is essential for launching new ventures, regardless of gender or the type of institutional system in place. Similarly, Fearfail, which measures risk aversion, was found to have a significant negative impact, as anticipated, based on previous analyses.

The Network variable, which captures entrepreneurial networking, was positively significant, indicating that networking is crucial for both male and female entrepreneurs in both types of countries. Previous studies have emphasized the importance of the environment in fostering female entrepreneurship [30, 41].

The size of the family (HHsize) variable was found to have a positive and significant impact on females in both groups. This result highlights gender inequality, suggesting that women with larger households are more likely to start a business, as they might face family pressures that push them to pursue entrepreneurial opportunities. In contrast, males tend to have better work opportunities and may be less likely to start ventures due to family size constraints. Family pressures are a significant factor in a woman's decision to become an entrepreneur [21, 38].

Inflation, as a macroeconomic variable, showed varying results between the two groups of countries. For emerging-led countries, inflation was positively significant, while for state-led economies, it had a significant negative impact. This suggests that inflation encourages entrepreneurship in emerging-led countries, likely due to their relatively stable macroeconomic environment, while it has a discouraging effect in state-led countries. While there's no direct connection in the entrepreneurial literature linking inflation to female entrepreneurship, the relationship makes theoretical sense in macroeconomic terms.

Finally, expectations were found to be positively significant, aligning with prior expectations. This variable considers GDP growth and the respondent's expectations for the future. Poor expectations tend to reduce the motivation for starting a business, reflecting both macroeconomic and microeconomic influences. Luca's critique and Keynesian concepts like "animal spirits" can provide additional insights into this result.

Conclusion

This study provides an analysis of the factors influencing entrepreneurship within two distinct institutional contexts: emerging-led economies and state-led economies. The state-led countries examined in this research, including Argentina, Bolivia, Ecuador, and Venezuela, are characterized by strong governmental control and significant restrictions on openness. These nations had left-wing political orientations during the 2009-2015 period and lacked international free trade agreements. In contrast, the Emerging Led countries—Brazil, Chile, Colombia, Mexico, and Peru—had fewer restrictions on economic openness.

Our findings highlight that gender is a crucial factor in explaining the observed differences in entrepreneurship. In State-Led countries, income levels were not found to be significant in the decision to pursue entrepreneurial ventures for either males or females. However, macroeconomic variables, particularly inflation, were found to have a negative impact on entrepreneurial decisions, mainly due to the macroeconomic volatility characteristic of state-led economies.

Socioeconomic factors, such as age and education, were found to have a significant and expected relationship with entrepreneurship in both groups of countries and for both genders. Similar patterns were observed for socio-capital factors like business angels and networking, as well as cognitive factors such as fear of failure and expectations.

The variable HHsize, which represents family size, was particularly interesting in explaining gender inequality in entrepreneurship. While males were not influenced by family size, females were, suggesting that family pressures may drive women to start businesses out of necessity, whereas men are less likely to face such constraints.

The study also has some limitations due to the data used. The GEM dataset has some issues with outdated information and incomplete interviews. An interesting area for future research could involve examining how the pandemic has impacted entrepreneurial decisions, especially concerning gender. The COVID-19 crisis may have caused shifts in entrepreneurial behavior, and informal economies in different countries could further influence the results. Unfortunately, due to the timing of the survey data publication, the current study is unable to address this issue. Once the GEM data is updated to include information from the pandemic period, the model applied in this study could be revisited to assess how the pandemic has shaped entrepreneurial outcomes and compare the new results with the findings presented here.

Acknowledgments: None

Conflict of interest: None

Financial support: None

Ethics statement: None

References

1. Cole A. Introductory remarks. Am Ec Rev. 1968;58(2):60-3. Available from: https://www.hbs.edu/ris/Publication%20Files/07-007.pdf
2. Drucker P. Innovation and entrepreneurship: practice and principle. New York: Harper Business; 1985.
3. Karlsson C, Friis C, Paulsson T. Relating entrepreneurship to economic growth. CESIS Electronic Working Papers Series. 2004;13. Available from: https://econpapers.repec.org/paper/hhscesisp/0013.htm
4. Wong PK, Ho YP, Autio E. Entrepreneurship, innovation and economic growth: evidence from GEM data. Small Bus Econ. 2005;24(3):335-50. doi:10.1007/s11187-005-2000-1
5. Hessels J, Van Gelderen M, Thurik R. Entrepreneurial aspirations, motivations, and their drivers. Small Bus Econ. 2008;31(3):323-39. doi:10.1007/s11187-008-9134-x
6. Carree M, Van Stel A, Thurik R, Wennekers S. Economic development and business ownership: an analysis using data of 23 OECD countries in the period 1976–1996. Small Bus Econ. 2002;19(3):271-90. doi:10.1023/A:1019604426387
7. Acs ZJ. Foundations of high impact entrepreneurship. Found Trends Entrep. 2008;4(6):535-620. doi:10.1561/0300000025
8. Acs ZJ, Amorós JE. Entrepreneurship and competitiveness dynamics in Latin America. Small Bus Econ. 2008;31(3):305-22. doi:10.1007/s11187-008-9133-y
9. Krueger A. Why trade liberalization is good for growth. Econ J. 1998;108(450):1513-22. doi:10.1111/1468-0297.00358
10. Lin TL, Lu TY, Hsieh MC, Liu HY. From conception to start-up: who and what affects female entrepreneurship. Contemp Manag Res. 2018;14(4):253-76. doi:10.7903/cmr.17957
11. Nyakudya FW, Simba A, Herrington M. Entrepreneurship, gender gap and developing economies: the case of post-apartheid South Africa. J Small Bus Entrep. 2018;30(4):293-324. doi:10.1080/08276331.2017.1412612
12. AlShehri KM, Alqahtani WS, Alqahtani IS, Albalawi MA, Alotaibi NM, Alahdal KY. Laser-assisted removal of all-ceramic restorations: a systematic review. Ann Dent Spec. 2021;9(3):45-50. doi:10.51847/cvBEagK4iN
13. de la O Cordero D, Pulido DU. Female entrepreneurial activity in Latin-America: a literature review within perspective of institutional theory. Rev Acad Neg. 2019;5(2):9-28. Available from: http://ran.udec.cl/ojs/index.php/ran/article/view/133/183
14. Kariv D. Female entrepreneurship and the new venture creation: an international overview. New York: Routledge; 2013.
15. Klapper L, Laeven L, Rajan R. Entry regulation as a barrier to entrepreneurship. J Financ Econ. 2006;82(3):591-629. doi:10.1016/j.jfineco.2005.09.006
16. Santos G, Marques CS, Ferreira JJ. A look back over the 40 years of female entrepreneurship: mapping knowledge networks. Scientometrics. 2018;115:953-87. doi:10.1007/s11192-018-2705-y
17. Terjesen S, Amorós JE. Female entrepreneurship in Latin America and the Caribbean: characteristics, drivers and relationship to economic development. Eur J Dev Res. 2010;22(3):313-30. doi:10.1057/ejdr.2010.13
18. Hamdani M, Sellami M. Bio-ecological study of the Berber toad Amietophrynus mauritanicus (Anura: Bufonidae), in the K'sob Perimeter, M'Sila–Algeria. World J Environ Bio. 2020;9(3-2020):6-9.
19. Languía A, García-Ael C, Wach D, Moriano JA."Think entrepreneur – think male": a task and relationship scale to measure gender stereotypes in entrepreneurship. Int Entrep Manag J. 2019;15(8):749-72. doi:10.1007/s11365-018-0553-0
20. Bönte W, Piegeler M. Gender gap in latent and nascent entrepreneurship: driven by competitiveness. Small Bus Econ. 2013;41(12):961-87. doi:10.1007/s11187-012-9459-3
21. Bardasi E, Sabarwal S, Terrell K. How do female entrepreneurs perform? Evidence from three developing regions. Small Bus Econ. 2011;37(4):417-41. doi:10.1007/s11187-011-9374-z
22. Bernat LF, Lambardi G, Palacios P. Determinants of the entrepreneurial gender gap in Latin America. Small Bus Econ. 2017;48(3):727-52. doi:10.1007/s11187-016-9789-7
23. Wu J, Li Y, Zhang D. Identifying women's entrepreneurial barriers and empowering female entrepreneurship worldwide: a fuzzy-set QCA approach. Int Entrep Manag J. 2019;15(3):905-28. doi:10.1007/s11365-019-00570-z
24. Guzmán-Alfonso C, Guzmán-Cuevas J. Entrepreneurial intention models as applied to Latin America. J Organ Change Manag. 2012;25(5):721-35. doi:10.1108/09534811211254608
25. Warnecke T. Entrepreneurship and gender: an institutional perspective. J Econ Issues. 2013;47(2):455-63. doi:10.2753/JEI0021-3624470219

26. Cuberes D, Priyanka S, Teignier M. The determinants of entrepreneurship gender gaps: a cross-country analysis. Rev Dev Econ. 2019;23(1):72-101. doi:10.1007/s11187-012-9459-3
27. Brieger SA, Gielnik MM. Understanding the gender gap in immigrant entrepreneurship: a multi-country study of immigrants' embeddedness in economic, social, and institutional contexts. Small Bus Econ. 2021;56(3):1007-31. doi:10.1007/s11187-019-00314-x
28. Fainshmidt S, Judge WQ, Aguilera RV, Smith, A. Varieties of institutional systems: a contextual taxonomy of understudied countries. J World Bus. 2018;53(3):307-22. doi:10.1016/j.jwb.2016.05.003
29. Carney RW, Witt MA. The role of the state in Asian business systems. The Oxford Handbook of Asian Business Systems; 2014. p. 538-60. doi:10.2139/ssrn.2188887
30. Aboal D, Veneri F. Entrepreneurs in Latin America. Small Bus Econ. 2016;46(3):503-25. doi:10.1007/s11187-015-9696-3
31. Wennekers S, Uhlaner L, Thurik R. Entrepreneurship and its conditions: a macro perspective. J Entrep Educ. 2002;1(1):25-64. Available from: http://hdl.handle.net/1765/15876
32. Kelley DJ, Brush CG, Greene PG, Litovsky Y. GEM 2012 women's report, global entrepreneurship research association. Babson Center for Women's Leadership: Wellesley, MA; 2013. Available from: https://www.empowerwomen.org/en/resources/documents/2013/8/global-entrepreneurship-monitor-2012-womens-report?lang=en
33. Menzies TV, Diochon M, Gasse Y. Examining venture-related myths concerning women entrepreneurs. J Dev Entrep. 2004;9(2):89. Available from: https://ssrn.com/abstract=1510012
34. Scherr FC, Sugrue TF, Ward JB. Financing the small firm start-up: determinants of debt use. J Entrepreneurial Finance. 1993;3(1):17-36. Available from: https://digitalcommons.pepperdine.edu/jef/vol3/iss1/2
35. Greene PG, Hart MM, Gatewood EJ, Brush CG, Carter NM. Women entrepreneurs: moving front and center: an overview of research and theory. Coleman White Paper Series. 2003;3(1):1-47. Available from: https://pdfs.semanticscholar.org/93f8/6a7c3bea663e620e07a7e57fed322082904a.pdf
36. Arafat MY, Saleem I, Dwivedi AK, Khan A. Determinants of agricultural entrepreneurship: a GEM data-based study. Int Entrep Manag J. 2018:1-26. doi:10.1007/s11365-018-0540-5
37. Caliendo M, Fossen F, Kritikos AS. Personality characteristics and the decisions to become and stay self-employed. Small Bus Econ. 2014; 42(4): 787-814. doi:10.1007/s11187-013-9514-8
38. Aidis R, Welter F, Smallbone D, Isakova N. Female entrepreneurship in transition economies: the case of Lithuania and Ukraine. Fem Econ. 2007;13(2):157-83. doi:10.1080/13545700601184831
39. Greene W. Econometric analysis. Stern School of Business, New York University; 2018.
40. Van Stel A, Wennekers S, Scholman G. Solo self-employed versus employer entrepreneurs: determinants and macro-economic effects in OECD countries. Eurasian Bus Rev. 2014;4(1):107-36. doi:10.1007/s40821-014-0003-z
41. Frese M. Towards a psychology of entrepreneurship—an action theory perspective. Found Trends Entrep. 2009;5(6):437-96. doi:10.1561/0300000028