

New trends on entrepreneurship research in Latin America and Caribbean countries: evidence from GEM and GUESSS projects – an analytical editorial

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Nuevas tendencias en la investigación sobre emprendimiento en los países de América Latina y el Caribe – Evidencia de los proyectos GEM y GUESSS - Una editorial analítica

Gianni Romaní

*Centro de Emprendimiento y de la Pyme, Facultad de Economía y Administración,
Universidad Católica del Norte, Antofagasta, Chile*

Izaias Martins

Escuela de Administración, Universidad EAFIT, Medellín, Colombia

Rodrigo Varela

*Centro de Desarrollo del Espíritu Empresarial, Universidad ICESI,
Cali, Colombia, and*

Carlos Pombo

School of Management, Universidad de los Andes, Bogota, Colombia

Introduction

Research on entrepreneurship has been fundamentally based on the experience of developed countries, mainly the United States and Europe (Álvarez *et al.*, 2014) both within specific countries (Palmer *et al.*, 2019; Guerrero *et al.*, 2016) and across them (Laskovaia *et al.*, 2017; Criaco *et al.*, 2017; Sieger *et al.*, 2016; Estrin *et al.*, 2013). At the same time, there is little

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knowledge about the experience of Latin American and Caribbean (LAC) (Amorós *et al.*, 2019; Bartesaghi *et al.*, 2017; López and Alvarez, 2018; Martins *et al.*, 2018; Romaní and Atienza, 2016). Even though LAC is a single region, made up of 43 countries, each has its cultural characteristics and endowment of natural resources that make them different. Thus, entrepreneurship, its determinants or its characteristics could vary from country to country within this region. Knowing these particularities in each country and region will give more information to better face entrepreneurship. It will also contribute to the design of public policies ad hoc to the reality of each country.

On the other hand, there is increasing awareness about the importance of entrepreneurship in economic development due to employment and innovation development, among others. That is why many governments, in both developed and developing countries, particularly Latin Americans, have incorporated entrepreneurship in their agenda through the creation of various programs and policies that support the promotion of entrepreneurship, particularly innovative entrepreneurship (OECD, 2020; Kantis and Federico, 2012). On the other hand, entrepreneurship as a career option is growing among young people, especially in the university environment (Sieger *et al.*, 2019). Thus, the increase in demand for formal and informal entrepreneurial education courses has grown considerably in recent years, and the role of higher education institutions is decisive in the training of new generations of entrepreneurs and intrapreneurs.

At the same time, there is little standardized and reliable information on the different aspects of entrepreneurship in LAC, which makes research in this area scarce and excessively expensive if an information survey is required. In that sense, both the project Global Entrepreneurship Monitor (GEM) and Global University Entrepreneurial Spirit Student's Survey (GUESSS) offer a theoretical and conceptual model and a database with standardized and reliable information for the scientific research in entrepreneurship and university entrepreneurship. Both projects represent the most significant entrepreneurship research in the world.

Thus, preparing the call for articles for the Special Section, the objective was to invite the Latin American scientific community to develop research using the conceptual model or databases of projects to answer entrepreneurship phenomenon concerns in LAC. Thus, much remains to explore; entrepreneurship and entrepreneurs are necessary for this regional development.

In that sense, one contribution of this Special Section is to present what is the state of the academic research on entrepreneurship in its broadest sense, in one or more countries in the region or the region as a whole, or compared with some other region in the world. Moreover, based on these studies contribute to the design of national and regional public policies that promote innovative entrepreneurship with added value. Authors hope that this contribution from the academy will reinforce the development of entrepreneurial activity in the region's countries and lead towards entrepreneurship with a more significant impact.

This editorial has three sections: the first is a description of the GEM and GUESSS projects, objectives and scope. The second addresses entrepreneurship research and university entrepreneurship based on the GEM and GUESSS projects and the main challenges in LAC countries. The third briefly describes each article of this Special Section. Finally, the authors proposed some conclusions and future lines of research.

The objectives and scope of the GEM and GUESSS projects

In the 80s beginning, in various parts of the world and within several universities, revitalizing the concept of entrepreneurship began. With this, formal investigative processes in this area also began. In September 1997, scholars from Babson College and London Business School started the project of bringing together the best researchers around the world to study the complex relationship between entrepreneurship and economic growth and to have reliable and comparable information between countries (Reynolds *et al.*, 1999). Thus is born GEM

trying to respond to three concerns: Does the level of entrepreneurial activity vary between countries, and if so, to what extent? Does the level of entrepreneurial activity affect a country's economic growth rate and prosperity? What makes a country entrepreneurial?

In 1999, the first report on entrepreneurial activity was published, with the participation of the G7 countries (Canada, France, Germany, Italy, Japan, the United Kingdom and the USA), plus Denmark, Finland and Israel (Reynolds *et al.*, 1999).

Currently, the GEM is a consortium of national country teams in charge of carrying out survey-based research on entrepreneurship worldwide, and data are collected directly from individual entrepreneurs. The GEM's Adult Population Survey (APS) provides data on the individuals' characteristics, motivations and ambitions in different stages of the entrepreneurial process and social attitudes toward entrepreneurship. The National Expert Survey (NES) looks at the national context in which individuals start new businesses (Reynolds *et al.*, 2005).

This methodology and the conceptual model are in constant review to improve it over 22 years of existence. Research teams from different countries are coordinated with the specialized data unit which operate at the central level. Additionally, this central unit is in charge of homogenizing and harmonizing all world data and processing them in a centralized and autonomous way, free of any pressure or national interest that may exist.

The GEM's data collection occurs every year and has an impressive record in numbers:

- (1) A total of 22 years of data, allowing longitudinal analysis and across geographies at multiple levels.
- (2) More than 200.000 annual interviews with experts and the adult population, including business people from different productive sectors.
- (3) Participation of experts from each country.
- (4) Collaboration of over 500 entrepreneurship research specialists.
- (5) Participation of more than 300 academic and research institutions.
- (6) Support from more than 200 institutions in research funding.

From 1999 to 2021, more than 120 economies from almost all world regions have participated in at least one year of the GEM project (Bosma *et al.*, 2021). Latin America participates since 2000 with Argentina and Brazil (Amorós, 2011). A total of 21 LAC countries have participated in the GEM project in at least one year [1]. 2014 was the year in which the most significant number of Latin American countries participated (18), Brazil being the country that has been present since 2000. Only six LAC countries participated in the 2020 version of GEM (Brazil, Chile, Colombia, Guatemala, Panama and Uruguay). One of the reasons for the non-participation of some countries in specific years, particularly Latin America, is fundamentally due to the difficulties of covering research costs.

Due to this, the GEM is considered one of the most significant research projects on business dynamics in the world. Its global, regional, national reports and special topics (i.e. Bartesaghi *et al.*, 2017) have given rise to business support policies and have contributed to the formation of ecosystems to support entrepreneurship.

As the GEM, although more recent, the GUESSS is another most significant research projects on entrepreneurship in the world and the most important on university entrepreneurship. The general objective of this international research project is to carry out a systematic and longitudinal measurement of entrepreneurial activity in universities around the world. The main topics addressed are students' intention, attitude and aspirations towards entrepreneurial activity, companies created by university students, participation and succession in family businesses and the incidence of entrepreneurship training, among others.

The project began in 2003 at the University of St. Gallen (Switzerland). However, it is from 2006 that it broadens its scope in terms of geography and the number of participating universities. Data collection worldwide is carried out every two or three years through an online survey, and it stands out that in the last edition of 2018, 54 countries, 3.191 universities and 208.636 students participated.

Latin America begins its participation in the GUESSS from the third edition of the project in 2008 with the entry of Mexico. However, in the 2011 edition, there is an increase in the number of countries of the region and participating universities. In the 2013/2014 edition, although the number of participating universities in the region increases, responses decrease. Finally, as of the 2016 edition, there is a significant increase in participating countries and an increase in responses obtained in Latin American universities. In the 2018 edition, attended 11 countries of LAC (Argentina, Brazil, Chile, Colombia, Costa Rica, Ecuador, El Salvador, Mexico, Panama, Peru and Uruguay), representing 20% of the total number of participating countries and 30% of the total global sample with 67.938 complete responses and more than 400 participating universities, thus consolidating the region as an essential observation center on university entrepreneurship (see Figure 1).

An overview on entrepreneurship research in Latin American countries: evidence from GEM and GUESSS projects

This section provides an overview of research in entrepreneurship in LAC using the database of GEM and GUESSS projects. On a more general scale, only the studies by *Álvarez et al. (2014)*, *Álvarez and Urbano (2011a)*, *Amorós et al. (2013)* and *Bosma (2013)* analyze in greater depth the impact and scope of the GEM in entrepreneurship research.

For this description, the authors used the Clarivate Analytics Web of Science (WoS) database and focused the search on the management, business, finance and economics categories. The keywords “Global Entrepreneurship Monitor” and “GEM” were used, and the Latin American countries according to the Scimago Journal and Country Rank classification. Besides the creation of the advanced search algorithm, TS = (Global Entrepreneurship Monitor OR GEM) AND WC = (Management OR Business OR Finance OR Economics) AND CU = (Country) and the using of the Science Citation Index Expanded, Social Sciences Citation Index and Arts and Humanities Citation Index were used.

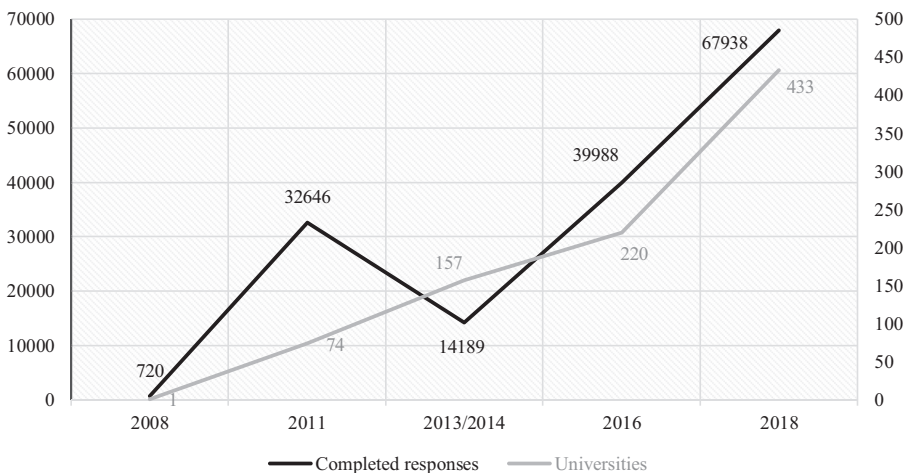


Figure 1.
GUESSS development
in Latin America

Source(s): Authors from GUESSS database

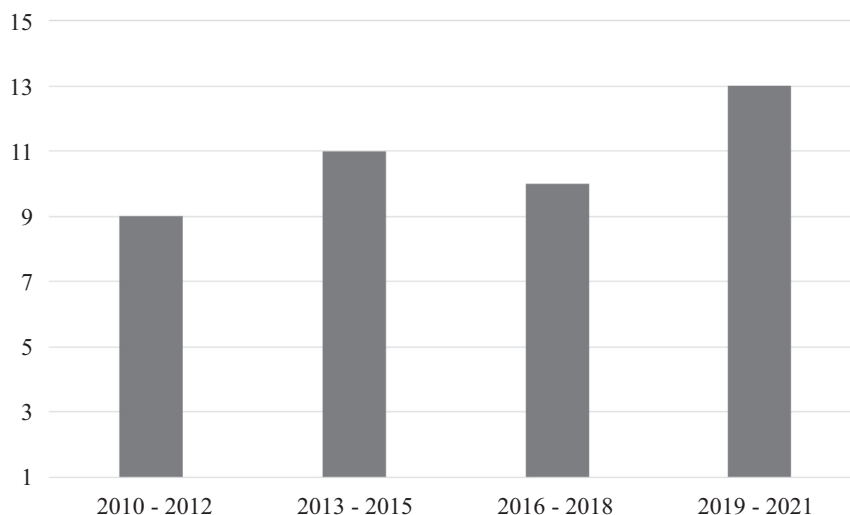
The results show that during the first decade of the GEM project (1999–2009), there were only three articles related to entrepreneurship in Latin America: two of them published in a special issue on entrepreneurship and economic development: The GEM approach edited by [Acs and Amorós \(2008\)](#). The first introduces the special issue on the startup process ([Acs and Amorós, 2008a](#)) and the second by [Amorós et al. \(2008\)](#) on formal and informal equity funding in Chile. The third article, which is also by [Acs and Amorós \(2008b\)](#), on entrepreneurship and competitiveness dynamics in Latin America was published in *Small Business Economics*.

Since 2010, a significant growth of publications on entrepreneurship in Latin America emerged, coming to identify 43 items only in WoS. [Figure 2](#) shows that, except for the 2016–2018 period, there has been a growing trend in scientific publications, reaching 13 publications between 2019 and April 2021.

When analyzing by geographic location of the authors, the observation is that the most significant number of academics who have used the GEM database are in Chile (22) followed by Colombia (12) and Mexico (9). In total, three academics are in Peru and two in Argentina and Venezuela, while only one academic appears in Ecuador, El Salvador, Trinidad and Tobago and Uruguay ([Figure 3, Table 1](#)). Considering that 21 Latin American countries have participated in the GEM project and academics affiliated with different universities participate in each country, an opportunity gap opens for academics from the rest of Latin American countries to contribute with their entrepreneurship research.

Regarding the journals which are being published scientific articles on entrepreneurship in LAC, it stands *Academia Revista Latinoamericana de Administración* (9), followed by *Small Business Economics* (6) and *International Entrepreneurship and Management Journal* (5) ([Table 2](#)). The authors with LAC affiliation are increasingly publishing in best-ranked WoS/Scopus journals. At the same time, there are more WoS and Scopus journals to publish contributions from academics. This growth of journals willing to publish articles on entrepreneurship in LAC using the GEM database is an excellent opportunity for researchers.

[Figure 4](#) presents the main topics addressed by Latin American researchers in their publications in WoS in the different operating time intervals of GEM project. The most



Note(s): The period from 2010 to 2021 has been segmented into four periods to visualize the growth of scientific production

Figure 2.
Number of
publications 2010–
April 2021



Figure 3.
Geographical location
of the authors

Note(s): The most intense colors represent the most significant number of authors

Country	Number of authors
Chile	22
Colombia	12
Mexico	9
Peru	3
Argentina	2
Venezuela	2
Ecuador	1
El Salvador	1
Trinidad and Tobago	1
Uruguay	1

Table 1.
Number of authors in
Latin American
universities

Note(s): Number of authors according to the affiliation that appears in their publications. There may be authors with more than one affiliation or authors with affiliations in Latin America or other countries. This table considers those having affiliation in LAC countries

addressed topics by researchers are those related to entrepreneurship motivations and intentions (13 articles), followed by political, social and economic issues affecting entrepreneurship (nine articles), cultural factors and diversity (six articles).

However, there many issues little explored by Latin American researchers: financing of entrepreneurship, gender aspects in entrepreneurship, senior entrepreneurship, business education, among others.

Regarding the academic literature with data from GUESSS project, there is also a growth in publications in recent years and articles in prestigious journals in entrepreneurship and chapters in specialized handbooks on the subject. However, there are still few publications affiliated with universities in Latin America. Remarkably this project is recent, and the incorporation of LAC countries is from 2008.

After a search following the same steps performed for the GEM – adding the keywords “GUESSS” and “Global University Entrepreneurial Spirit Students’ Survey” in the title, abstract or study keywords and expanding the search to the Scopus database – 51 documents

Journal	Ranking WoS/Scopus	N° publications
Academia Revista Latinoamericana de Administración	Q4/Q2	9
Small business economics	Q1/Q1	6
International entrepreneurship and management journal	Q2/Q1	5
Journal of business research	Q1/Q1	3
Entrepreneurship and regional development	Q1/Q1	3
International journal of entrepreneurial behavior and research	Q2/Q1	2
Journal of small business management	Q2/Q1	2
International journal of emerging markets	Q3/Q2	1
Economics of innovation and new technology	Q2/Q1	1
Journal of family business strategy	Q2/Q1	1
Applied economics letters	Q4/Q3	1
Journal of technology transfer	Q1/Q1	1
Economic research-ekonomska Istrazivanja	Q2/Q1	1
European journal of work and organizational psychology	Q1/Q1	1
Journal of evolutionary economics	Q2/Q2	1
Economics and human biology	Q2/Q1	1
Revista de Ciencias sociales	Q4/Q2	1
Management decision	Q2/Q2	1
Journal of business economics and management	Q2/Q1	1
African journal of business management	Q3/Q2	1

Table 2.
Journals that have published articles on Latin America using the GEM database

Note(s): The focus of the articles can have a basis on a Latin American country, or the region as a whole, or a comparison between Latin America and other regions

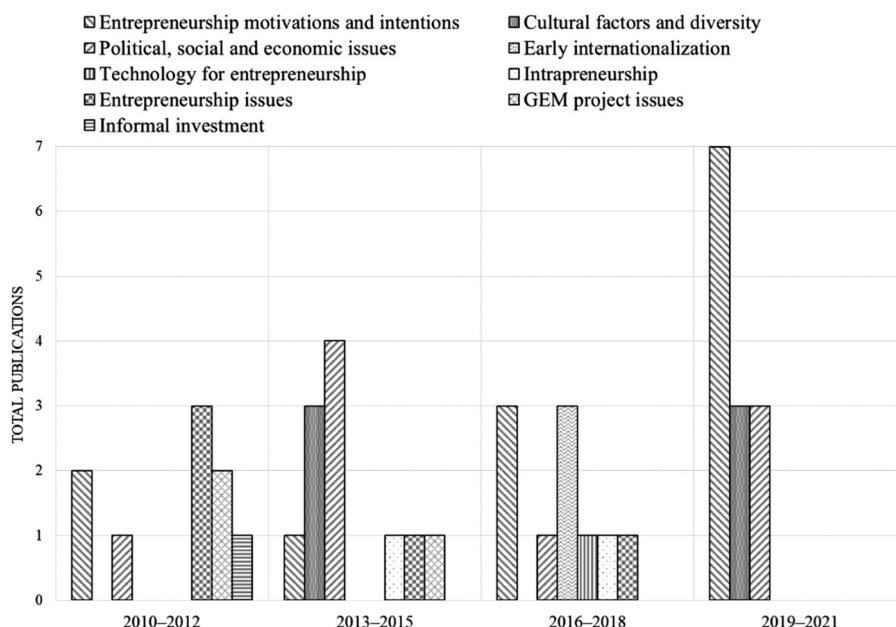


Figure 4.
Main topics developed by authors using the GEM database in Latin America

appear published, 32 indexed in both databases (WoS and Scopus), 15 appear only in Scopus and four only in WoS. Another critical aspect to highlight is that most production is recent, with the publication of 40 documents since 2017. The quality of the information supplied by the GUESSS project is confirmed as far as important journals on entrepreneurship are

increasingly accepting research based on this project. For example, *Small Business Economics* (5), *Journal of Small Business Management* (2), *Entrepreneurship and Regional Development* (2), *Journal of Business Research* (2), *International Entrepreneurship and Management Journal* (2), *Journal of Business Venturing* (1) and *Entrepreneurship Theory and Practice* (1), among others.

Regarding the publications affiliated with universities in Latin America, eight documents explore GUESSS data through analysis with data from a single country, international comparisons or considering the entire Latin American dataset. Notably, only one article was published in a WoS journal, while the remaining seven appear in Scopus journals. In this sense, the first article published by Latin American authors with data from the GUESSS considered the data collected with Brazilian students and the international GUESSS database to address comparison in terms of university students' perceptions about entrepreneurial education and intention towards self-employment (Lima *et al.*, 2015). Another example is the article by Moreno *et al.* (2019), who use data from GUESSS Colombia 2016 to examine the effect of the parental role model on EI and identify how gender moderates this effect. In turn, López and Álvarez (2019), considering the Latin American dataset, observe the influence of the factors of the university environment on the background model based on the theory of planned behavior to explain the EI of university students in the region. Recently, Leiva *et al.* (2021a, b) analyze the effects of the university ecosystem on the entrepreneurial activity of students in Costa Rica, highlighting that the skills, competencies and values that students acquire in university programs, as well as a recognized entrepreneurial reputation of the university environment, contribute positively to the EI.

Therefore, it is remarkable the knowledge creation from GEM and GUESSS projects impacting different groups of interest, for example

In the case of the GEM:

- (1) In the academic field, the GEM provides a source of information for teaching entrepreneurship, allowing comparisons about entrepreneurial dynamics globally; likewise, its conceptual theoretical model links entrepreneurial activity with regional development. Its databases allow increasing scientific knowledge and advancement in entrepreneurship research.
- (2) The entrepreneurs have a radiography of the entrepreneurial activity in their country/region with relevant information to plan their activities, visualizing their organizations' potential limitations and advantages.
- (3) Governments at all levels have reliable and relevant information for decision-making and orientation of national or regional public policies that promote entrepreneurship.
- (4) The entrepreneurial ecosystem actors, can also have an annual picture on entrepreneurial dynamics of their countries or regions.

In the case of the GUESSS:

- (1) The participating countries can obtain perceptions on their respective primary conditions for entrepreneurship in general and, in addition, acquire information on the entrepreneurial capacity in the university environment.
- (2) The universities can evaluate their students' EI and behavior and their perception of entrepreneurial education and the university environment in general.
- (3) The policy makers can better understand the motivations, intentions and obstacles perceived in university entrepreneurship.

- (4) Scholars can make comparative studies and test theoretical models from the data and also design or improve the content of entrepreneurial education programs considering the local reality and global trends in university entrepreneurship.
- (5) Students can benefit from the design of updated academic programs according to the needs identified from the reports with project data.

The challenges for GEM and GUESSS projects and the research on entrepreneurship in Latin America

The growth and positioning of GEM and GUESSS projects worldwide and particularly in the Latin American context is evident; however, there are challenges for both projects in general and specifically for research on entrepreneurial dynamics and university entrepreneurship in Latin America.

Generally speaking, the main challenges for GEM and GUESSS projects are to continue expanding their scope and achieve more representation in regions.

Concerning research on entrepreneurial dynamics and university entrepreneurship in Latin America and participation in GEM and GUESSS projects, the main challenges for the region are as follows:

In the case of GEM, the first challenge is the permanence of the project participating countries and the incorporation of those who do not have. Undoubtedly, the cost involved in participating in this project is a challenge for the region's countries. In this sense, urge a call to the government, multilateral organizations and business associations of each country to support this project by financing the gathering of information, as the only way to have reliable and standardized data to carry out quality research and advance in the knowledge about entrepreneurial dynamics in the region.

The other significant challenge is the constant updating of the data collection instrument, including relevant topics to the region and improving the information gathering methods.

Increasing the scientific production of LAC universities is also another challenge. Although the number of publications has increased significantly between 2010 and 2021, there is a range of opportunities for further research. The 2020 version of GEM, questions about COVID-19 are in the APS questionnaire and the NES, so new alternatives are opened to understand the impact of this crisis on business dynamics.

In the case of GUESSS, the challenge is to take advantage of the fact that it is not a very expensive project to expand the number of countries in the region in the project and the number of participating universities in each country.

Increasing scientific production in the study of university entrepreneurship and entrepreneurial education at universities in LAC is another challenge. The region is responsible for more than 30% of the total collected data, according to the latest edition of GUESSS; however, there are still few publications with Latin American affiliation. In this sense, a call is made to LAC researchers to use GUESSS databases to be the source of research works articulated with postgraduate programs and the development of master's and doctoral theses on university entrepreneurship.

There is much to research in this field and even more opportunities with the 2021 edition of GUESSS that includes new constructs, such as individual entrepreneurial orientation, and questions related to the effects of the COVID-19 pandemic on university entrepreneurship, besides exclusive questions for Latin America, such as the constructs of passion and perseverance in entrepreneurial activity for university students.

Finally, both projects must review their database access rules. The GEM only publishes the information three years out of date since the last information gathering. Data are available on the project website (www.gemconsortium.org). While GUESSS, at the moment, only gives access to researchers linked to the project, which dramatically limits

research on university entrepreneurship in LAC. In this context, we make a call for researchers interested in university entrepreneurship to contact existing national teams for joint research to exploit the GUESSSS database (www.guesssurvey.org).

To end, it is worth highlighting the importance of this Special Section of the *Academia Revista Latinoamericana de Administración*, which offers five new studies with empirical evidence on entrepreneurial activity and entrepreneurial intention (EI) in university environments in LAC. We invite to continue strengthening research in the region supported by alliances between researchers from different countries, using data from GEM and GUESSSS projects, and incorporating qualitative techniques through in-depth interviews and focus groups, among others, having a better understanding of entrepreneurial activity and university entrepreneurship in LAC countries.

The articles in this special section

The Special Section articles are the result of a call to present empirical works that allow increasing the understanding of entrepreneurship in the region and each of its countries, using as a basis the conceptual model or the database of GEM or GUESSSS projects. In total, ten articles were received, selecting five, two related to the GEM and three related to the GUESSSS.

Of the two articles related to the GEM project, [Avila et al. \(2021\)](#) address an important issue that is transversal to all Latin American economies: the informality of companies. The authors analyze the case of Colombia, a country with the highest informality rate in its productive system (more than 40%), and seek to answer the question of whether early-stage entrepreneurs with innovative startups are more likely to formalize their ventures, measured by registration with the Chamber of Commerce. For this, they use the information from the APS of GEM Colombia 2016 with 2.069 observations and estimate a logistic regression model. Their results did not validate their hypothesis. Contrary to expectations, empirical evidence shows that entrepreneurs competing with identical products or services as other entrepreneurs have a greater tendency to register their ventures in the Chamber of Commerce. Entrepreneurs with higher socioeconomic status are more likely to formalize their company. The authors open a whole line of research that is of great interest. It is still very little explored in Latin America since, from various instances, whether governmental or the private sector, it is about forcing the formalization processes. Possibly, other studies in this line can reach more conclusive results.

The second article by [Chávez-Rivera et al. \(2021\)](#) is a compelling case. Because unlike [Avila et al. \(2021\)](#) that uses a quantitative approach with the GEM database, this article is based on the GEM conceptual model, where the entrepreneurial context plays a relevant role in entrepreneurial activity in women entrepreneurs. The authors use a qualitative approach to identify factors that influence the identification and exploitation of opportunities. The data are collected from interviews and focus groups with 39 businesswomen from Quito, Cuenca, Guayaquil and Riobamba, using a semi-structured questionnaire based on the NES. Their findings show the predominance of family roles and the influence of the spatial context in identifying opportunities. The authors contextualize the Ecuadorian case, highlighting cultural aspects, such as gender roles and the predominant male hegemony.

The remaining three articles on the EI of university students presented in this Special Section have as a common denominator the analysis of the effect of learning programs oriented to entrepreneurship with EI, using different approaches and analysis techniques. Furthermore, two of the three articles analyze university students in the region as a whole, while the third focuses on a country.

The article by [Leiva et al. \(2021a, b\)](#) analyzes EI from a multilevel perspective in line with other studies such as that of [Bergmann et al. \(2016\)](#), who analyze entrepreneurial behavior at three levels: individual characteristics, the organization and the regional context. The authors do so using two levels: micro (cognitive aspects and the university context) and macro

(macroeconomic context and entrepreneurial context). Using a hierarchical linear model, the authors analyze the determinants of the EI of university students in business management and engineering careers at 421 universities from nine Latin American countries, totaling a sample of 9,012 students obtained from the GUESSS 2018 project. Results show that cognitive aspects such as control of perceived behavior, attitude towards entrepreneurship and intention to implement positively affect the intention to start a business. The authors point out tremendous implications for professors who teach entrepreneurship and university managers, since they are responsible for developing an entrepreneurial environment favorable to university entrepreneurship. They suggest evaluating their teaching/learning methodology, incorporating more experiential methodologies (Rauch and Hulsink, 2015). This research is also useful for university managers, to measure the effectiveness of entrepreneurship courses considering group size, program duration, course type – elective or compulsory – and incorporating these programs to all careers, not only administration and business.

The article by López *et al.* (2021) analyzes the relationship between the students' perception of entrepreneurship education programs (EEPs) and EI from 11 Latin American countries. With the Ajzen (1990) model as a theoretical basis, a sample of 37,599 students obtained from GUESSS 2018 project to apply structural equations modeling (SEM) for data analysis. The authors show the direct effect that the EEP has on EI and, in turn, the indirect effect mediated by the constructs of the Ajzen (1991) model. Likewise, their results allow corroborating once again and in line with Liñan and Chen (2009) that subjective norms (SN) do not necessarily have a direct and positive effect on EI. In Latin American students, the relationship is negative, mainly explained by cultural aspects, and has a mediating role between the attitude towards a specific behavior and the control of perceived behavior. This article contributes to a better understanding of the theory of planned behavior of Ajzen (1990) regarding the determinants of EI where SN can play different roles depending on the cultural aspects of the countries. In addition, it extends the traditional Ajzen (1990) model by incorporating the EEP variable and its relationship with EI. The authors point out important theoretical and practical implications.

Unlike the articles by Leiva *et al.* (2021a, b) and López *et al.* (2021), which have regional coverage, the article by Silva *et al.* (2021) focuses on Chile. It measures the influence of EEPs on the EI of university students, using a sample of more than 4,500 observations obtained from GUESSS Chile 2018. The article uses the model of Ajzen (1990) and analyzes the data through structural equations. Their results show the role of the university context and students' entrepreneurial skills on the effect of EEPs. The authors verified, once again, that the variable that best explains the EI is the attitude towards entrepreneurship followed by the control of perceived behavior. In line with Liñan and Chen (2009), they show that, in Chile, the SN indirectly affect EI, playing a mediating role between the attitude towards entrepreneurship and the control of perceived behavior. Their results contribute to a better understanding of Ajzen's (1990) theory of planned behavior in developing economies, such as Latin America, and ratify the findings of López *et al.* (2021), showing evidence for the case of Chile that SN have a mediating role rather than a direct relationship with EI. In addition, the authors make an extension to the referred model by relating variables, such as university environment, skills for entrepreneurship and EEPs, oriented to entrepreneurship with EI.

Conclusion and opportunities for future research

This editorial has shown the importance and potential of GEM and GUESSS projects for research on entrepreneurship and university entrepreneurship dynamics in LAC countries. These two valuable sources of information are a critical resource for Latin American academics and researchers to continue deepening the knowledge and understanding of the development of entrepreneurship in LAC, contributing not only with empirical but also theoretical evidence to the design of public policies more in line with the reality of the region.

There is an expectation of these two projects to increase scientific production on entrepreneurial dynamics and university entrepreneurship.

Considering that GEM database become public with a certain time lag, we invite the Latin American scientific community to join the research effort of this project using this available database.

It is expected that GUESSS project makes public its databases to the scientific community with some time lag that would deepen the knowledge and understanding of university entrepreneurship, particularly in the Latin American region, necessary for the design of university policies aimed at entrepreneurial education.

There are many topics to explore in entrepreneurial dynamics, the entrepreneurial context and university entrepreneurship. To name a few, analyze the aspects that limit or promote the transition of entrepreneurs from one stage to another; this is a little explored and relevant considering that many entrepreneurs start their ventures, but very few manage to advance to the next stage of the entrepreneurial process. Along the same lines, explore the role that gender plays in this transition process. Research on the entrepreneurial environment and comparisons between countries in the region will allow a better understanding of the entrepreneurial dynamics in each country and how one country differs from another. Another interesting topic to be analyzed is financing in the early stages. To what extent are the new financing alternatives that emerged in the last two decades known and used by entrepreneurs, such as crowdfunding. Along the same lines, financing and access needs in Latin American countries are another little-explored issues. The GEM has some indicators that would allow carrying out this type of research besides supplementing information with other sources of information for other needed indicators. That is, there are multiple options to increase scientific productivity in the field of entrepreneurship.

Regarding university entrepreneurship, a minimal addressed issue is family succession, the intention of being a successor in the family business. The GUESSS project has data on university students with a father, mother or both business owners. The analysis of the intention to be a successor and how gender impacts this process in the region's countries can be an exciting line to explore. On the other hand, studies on EI comparing two or more countries are also scarce. Along the same lines, the authors also suggested comparing regions to see the cultural differences and how they affect the students' EI. Gender is a topic that is still absent in university entrepreneurship studies. Also, do not lose sight of the new variables introduced in GUESSS 2021 related to the entrepreneurial orientation and COVID-19. These new variables are available for analysis and will undoubtedly lead to more research in university entrepreneurship.

Note

1. Rodrigo Varela collected information from an interview with Laura Freeborn, Operation Manager, GEM Project.

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Further reading

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