

## Entrepreneurial Intention and Activity of University Students in Chile



# NATIONAL REPORT 2021

Gianni Romaní, Miguel Atienza, Nicolás Rojas, Karen Rodríguez, Pedro Vera







## Entrepreneurial Intention and Activity of University Students in Chile

## National Report 2021

Gianni Romaní, Miguel Atienza, Nicolás Rojas, Karen Rodríguez, Pedro Vera







## **Chile National Report 2021**

#### Gianni Romaní Chocce Miguel Atienza Úbeda Nicolás Rojas Bravo Karen Rodríguez Vera

Centro de Emprendimiento y de la Pyme. (Center for Entrepreneurship and SMEs) Facultad de Economía y Administración. (Faculty of Economics and Administration) Universidad Católica del Norte.

#### Pedro Vera Castillo

Facultad de Ingeniería. (Faculty of Engineering) Universidad de Concepción. This study is possible thanks to support from Escondida BHP. We also appreciate the assistance of all the universities associated with this project and all those who directly and indirectly made this study possible, in particular our research assistant, Araceli Romero.

Although the data utilized in this report has been gathered by the teams at each participating university, the analysis and interpretation are the exclusive responsibility of the authors.

© 2022 Universidad Católica del Norte.

### Global University Entrepreneurial Spirit Student's Survey

#### National Report 2021 for Chile. April 2022.

Publisher: Ediciones Universitarias, Universidad Católica del Norte.

Intellectual Property Registry Registration number: 2022-A-3403 Santiago, Chile.

ISBN: 978-956-287-469-4

The data utilized in this study comes from the Global University Entrepreneurial Spirit Students' Survey (GUESSS) university members, comprised in 2021 of 58 research teams from the following countries: Albania, Australia, Austria, Belgium, Bolivia, Brazil, Bulgaria, Chile, Colombia, Costa Rica, Croatia, Czech Republic, Dominican Republic, Ecuador, El Salvador, England, Estonia, Finland, Germany, Greece, Hungary, Indonesia, Iran, Iraq, Ireland, Italy, Japan, Jordan, Kazakhstan, Lebanon, Liechtenstein, Lithuania, Mexico, Morocco, Nepal, Netherlands, New Zealand, Nigeria, North Macedonia, Norway, Pakistan, Panama, Peru, Poland, Portugal, Qatar, Republic of Korea, Russia, Saudi Arabia, Slovakia, Spain, Sweden, Switzerland, Tunisia, Ukraine, United Arab Emirates, United States of America and Uruguay. The names of the national team members, the global coordinating team and the financial sponsors are published in the GUESSS Project 2021 Global Report, which can be downloaded from www.guesssurvey. org. We thank all the academics and sponsors that made this research possible, especially our research assistant, Araceli Romero.

Design, Layout and Cover Page: Alejandro Pinochet Galleguillos - Origen Visual Original Title: Intención y Actividad Emprendedora de los estudiantes universitarios en Chile. Reporte Nacional 2021. Translation to English: Paulina Smith

## **Presentation of the GUESSS Chile Coordination**

The GUESSS Chile 2021 project has been developed by academics associated with the Centro de Emprendimiento y de la Pyme (CEMP) of the Facultad de Economía y Administración of the Universidad Católica del Norte (UCN).



CEMP was created in August 2007 with the objective of promoting activities to encourage the development of entrepreneurial spirit at the UCN and in the Region of Antofagasta. For this, three pillars have been defined to orient its work:

Teaching: the objective of the CEMP is to contribute to educating professionals with entrepreneurial capacity and to the accreditation of academics from the University for teaching entrepreneurship.

Research: the objective of this pillar is to carry out high-impact applied research in the area of entrepreneurship, the dynamics of SMEs and their relationship with regional development, and to establish cooperation networks with other national and international research centers specialized in studies on entrepreneurship and SMEs.

Outreach: framed within the basic principles of bidirectionality, long-term ties and reportability, highlighting the disclosure of the results of research in the scientific community, among the regional players – businesses, government, foundations and others – in order to contribute to public or private entrepreneurial capacity development initiatives, the creation of businesses and the development of SMEs, and to the formation of an entrepreneurial ecosystem where the University plays an important role in regional development.



## Preface

At BHP, our purpose is to bring people and resources together to build a better world. In order to materialize this intention, we integrate social value into our actions and decisions. One way to enhance this value is by strengthening the role the company plays in the regional innovation and entrepreneurship ecosystem.

In comparative terms, Chile is one of the countries with most entrepreneurial activity worldwide. One of every three Chileans is carrying out a business initiative, although they are mostly nascent businesses that have not yet reached financial sustainability. Although entrepreneurship is positioned as an attainable source of income, the quality and/or planning of the new businesses does not predict solid bases of growth. A large number of businesses begin as an alternative to low job availability. They also tend to be concentrated in trade activities and are more oriented to local market.

Although the creation of businesses will play a preponderant role in the post-COVID-19 economic recovery, specific strategies must be created so that business projects can become sustainable businesses, with high growth perspectives, in order to guarantee a source of progress for communities.

Here is where the role of the universities is crucial. Promotion of entrepreneurship in higher education generates a combination of knowledge and practical experience, which can lead to better businesses, based on innovative models and/or the intensive use of technology.

Collaborative work between the mining industry and universities is key to driving a sustainable economic reactivation. Along these lines, the contribution by the Universidad Católica del Norte through GUESSS is a guide for improving public policies, projects and programs associated with university entrepreneurship. For Escondida, this path began several years ago, driving USQAI-UCN and other emblematic programs, such as AntofaEmprende. In the present day, we continue to be committed, with yet more dedication, through novel initiatives such as the COPPERNICO entrepreneurial capital fund and ASTER, the first regional startup accelerator.

We congratulate and thank Dr. Gianni Romaní Chocce and the Centro de Emprendimiento y de la Pyme (CEMP) for their work, and it is important to emphasize that only through alliances and long-term commitments can we drive a diverse, inclusive and sustainable economy. As a company, we hope to continue to support all initiatives that intend to position Antofagasta as a hub for world-class entrepreneurship and innovation.

#### Abel Benítez Calderón

Corporate Affairs Principal Escondida | BHP



# Indice

Preface		vii
Index		ix
Index	of tables	X
Index	X	
Executive Summary		xiii
Introd	uction	1
1.	The GUESSS project	2
1.1.	The conceptual model	2
2.	Organization of the GUESSS Chile project	3
2.1.	Characteristics of the sample	5
3.	Main results	6
3.1.	Students' career plans	6
3.2.	Factors that influence entrepreneurship	13
3.2.1.	University climate	13
3.2.2.	Skills of students and their environment	18
3.2.3.	The family environment	19
3.3.	Nascent Entrepreneurs	21
3.3.1.	General characteristics	21
3.3.2.	Business planning	23
3.4.	Active Entrepreneurs	29
3.4.1.	General characteristics	
3.4.2.	Characteristics of the business	32
3.4.3.	Motivation of active entrepreneurs	35
3.4.4.	Sector where the business operates	
3.4.5.	Business performance	
Final (	Considerations	40
References		
On the	44	



GUESSS Chile Coordination	45
GUESSS International Coordination	45
Member universities that participated in GUESSS Chile 2021	46
Countries and teams that participated in the GUESSS 2018 project	47
Presentation of the GUESSS Chile Sponsors	49
GUESSS 2021 Project Sponsor	50

## **Index of tables**

Table 1.	Number of completed questionnaires by university
	Number of completed questionnalies by university

# **Index of graphics**

Figure 1.	GUESSS conceptual model
Figure 2.	Participation of students by gender
Figure 3.	Fields of study of students who participated in the survey6
Figure 4.	Career plans of students directly after completing their studies and five years later7
Figure 5.	Career plans of students in Chile and internationally
Figure 6.	Career plans of students in Chile by gender
Figure 7.	Career plans of students in Chile by gender directly after completing their
	studies 2018 - 2021
Figure 8.	Career plans of students in Chile by gender five years after completing their
	studies 2018 - 2021
Figure 9.	Career plans of students in Latin America who have entrepreneurial intention11
Figure 10.	Career plans of students in OECD countries who have entrepreneurial intention12
Figure 11.	University climate
Figure 12.	Courses and seminars in which students participated14
Figure 13.	Statements regarding courses and others



Figure 14.	Thoughts on entrepreneurship	17
Figure 15.	gure 15. Skills of students in performing different tasks	
Figure 16.	Reaction of your environment regarding an entrepreneurial career	19
Figure 17.	Are your parents currently self-employed?	20
Figure 18.	Are your parents majority shareholderes of a business?	20
Figure 19.	Are you currently trying to start your own business?	21
Figure 20. Nascent entrepreneurs by gender		22
Figure 21.	Are your parents currently self-employed?	23
Figure 22.	When do you plan to start your business?	23
Figure 23.	Career plans of nascent entrepreneurs five years after completing their studies	24
Figure 24.	In which sector are you planning to start your business?	25
Figure 25.	In which sector are you planning to start your business? (by gender)	26
Figure 26.	Activities of nascent entrepreneur students	27
Figure 27.	Activities of nascent entrepreneur students	28
Figure 28.	Did you plan to start your business due to the pandemic?	28
Figure 29.	Do you plan on this business becoming your main occupation directly after complete	ing
	your studies?	29
Figure 30.	Are you currently running your own business?	29
Figure 31.	Active entrepreneurs by gender	30
Figure 32.	Fields of study of active entrepreneurs	31
Figure 33.	Are your parents currently self-employed?	32
Figure 34.	Year active entrepreneurs started their business	32
Figure 35.	Percentage ownership of the company capital	33
Figure 36.	igure 36. Did you start your business because of the implications of the pandemic?	
Figure 37.	Do you plan for your business to be your main occupation directly after completing	
	your studies?	34
Figure 38.	Career plans of active entrepreneurs five years after completing their studies	34
Figure 39.	Motivation of active entrepreneurs	35
Figure 40.	Sectors in which students' businesses operate	37
Figure 41.	Sectors in which students' businesses operate, by gender	38
Figure 42.	Business performance with respect to the competition	



## **Executive Summary**

### Students' plans regarding their studies

- In 2021, 17.2% of university students in Chile planned to be entrepreneurs directly after completing their studies, while 64.5% planned to work as employees. Five years after completing their studies, 36.4% plan to be entrepreneurs, while 48.3% plan to work as employees.
- There are gaps in entrepreneurial intention between male and female students directly after completing their studies and five years later: 19.4% of men to 15% of women and 40% to 33.1%, respectively.

# Factors that influence entrepreneurial intention in university students

- University surroundings: 69.8% of students consider that there is a favorable climate in their university to be an entrepreneur and that their university motivates them to become involved in entrepreneurial activities: 63.4% perceive that their university inspires them to develop new business ideas. Despite the pandemic, these percentages are very close to those of 2018.
- Courses and seminars: 55% or more of Chilean students consider that courses and seminars in which they participated contributed to developing different entrepreneurial skills. There are no significant differences with 2018.
- 51.7% of students in Chile still have not attended an entrepreneurship course, while 26.5% have attended at least one elective course. These percentages have decreased with respect to 2018. The pandemic may have had an influence on this result.
- There is a strong orientation towards entrepreneurship among students and a favorable perception of their competencies and control of entrepreneurial behavior. 46.6% or more state that their objective is to be an entrepreneur and that they will make every effort to start and run their own business.
- 84% or more Chilean students consider that their close family, friends and schoolmates would react positively to their career as an entrepreneur.
- The parents (father, mother or both) of 47.1% of students in the country are self-employed.



## **Nascent Entrepreneurs**

- 35.8% of students in Chile are attempting to start their own business, 3.6 percentage points more than in 2018. Of this percentage, 50.1% are women, 49% men and 0.9% do not identify with a binary gender.
- The proportion of nascent female entrepreneurs has increased in Chile from 46.9% in 2018 to 50.1% in 2021, while that of men has decreased from 53.1% to 49%.
- In the group of nascent entrepreneurs, 19.9% of students planned to start their business due to the pandemic, 40.4% plan to do so while they are studying and a similar percentage, 40%, aspire to do so in the Trade sector (wholesale or retail).

## **Active Entrepreneurs**

- The percentage of students who are currently running their own business has increased from 12.1% in 2018 to 14.3% in 2021. In this group, the gender gap in favor of men has disappeared, since 52.1% are women, 46.9% are men and 1% do not identify with a binary gender.
- 76.3% of students started their business in the past three years, with 42.5% of students starting business activities in 2020.
- 46.6% of students in this group started their business due to the pandemic, and only 20.6% consider that the business will be their main occupation when they complete their studies.
- The students' businesses are mainly located in the sectors of Trade (40%) and Others (28.4%). Businesses of female students are more concentrated in Trade and in the sectors related to gender roles. More diversification is seen in the case of male students' businesses, although the sectors of Trade and Others also predominate.



## Introduction

It is recognized that entrepreneurs play an important role in the change and progress of a country's economy. Their contribution to economic development, insofar as job creation, innovation and added value are concerned, has been discussed by several authors, including Acs (2006), Baron and Shane (2008), who named entrepreneurs "the engine for growth and economic development". The contribution by these entrepreneurs has become more important as the world faces the COVID-19 health crisis, and it is expected that entrepreneurship will play an important role in reactivating economies worldwide, in particular in Chile.

Considering that young people, and particularly students, represent the entrepreneurs of the future, it is fundamental to discover those who intend to create a business, those who are making every effort to start their own business, those who are already running their own businesses, and what role universities are playing in this process. This report attempts to answer all these questions.

GUESSS Chile, as part of the international GUESSS project, has the objective of discovering the attitudes, activities, intentions and aspirations of university students, information that is key for better understanding the entrepreneurial intention of students, which will contribute to evaluation by universities of the effectiveness and quality of their programs in the context of entrepreneurship.

In this third version, over 15 universities, with campuses in different regions and cities in the country, participated in the GUESSS Chile project. The information presented was obtained mid-pandemic, between March and June 2021, when most of the students in the country were in online classes, and many cities were in strict lockdowns. Despite this, a sample of over ten thousand students was obtained, through an online questionnaire that was sent to each of the partner universities that participated in this version of the project. The data has been analyzed using simple descriptive statistics and compared to the results obtained in the previous version and to international information.

This report is divided into three parts: the first describes the GUESSS project and its theoretical-conceptual model, the second part explains the organization of GUESSS Chile and describes the sample. The third part presents the main results of the study, beginning with students' career plans and the factors that influence entrepreneurial intention, followed by the characterization of nascent and established student entrepreneurs. To finish, some final considerations are mentioned.



# 1. The GUESSS project

The Global University Entrepreneurial Spirit Students' Survey (GUESSS) project began in 2003, as an initiative of the Swiss Research Institute of Small Business and Entrepreneurship, at the University of Saint Gallen (KMU-HSG). Since 2016, it has been jointly organized by the University of Saint Gallen and the University of Bern, in Switzerland, and is sponsored by Ernst & Young (EY) as a partner of the international project.

Currently, GUESSS is one of the largest studies on university entrepreneurship worldwide (Romaní et al., 2021). Its objective is to analyze the entrepreneurial intention and activity of students through an online survey done every two/three years. With each data collection cycle, GUESSS has grown and become more global, culminating its ninth cycle in 2021 with 58 participating countries and over 267 thousand students answering the complete questionnaire (Sieger et al., 2021).

In each data collection cycle, the global project team prepares a survey that meets the highest academic standards. The link to the online survey is then sent to the country delegate universities, who lead the project in the different participating countries (each participating country is represented by one university). The delegate universities forward the link to the online survey to their students and to the national university partners. Each partner university then forwards the link to its respective students, and this is how the information is collected in each of the project countries. The data is then sent to the delegate university in each country for preparation of the national report, and it then sends the database to the university partners so they can analyze it.

The information obtained provides in-depth understanding of the entrepreneurial attitudes, intentions, activities and aspirations of students, and also evaluates the effectiveness and quality of the programs offered by universities in the context of entrepreneurship. Also, the data is used for numerous studies, reports and academic publications in mainstream journals.

### **1.1. The conceptual model**

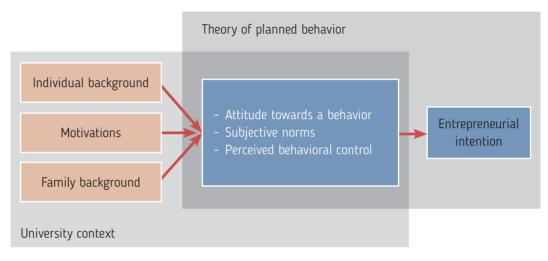
The conceptual model of the GUESSS project is based on the theory of planned behavior by Ajzen (1991), Azjen (2002) and Fishbein and Azjen (1975), which explains that intention towards specific behavior is influenced by different factors.

Figure 1 represents the theoretical model. Students begin their university studies carrying all of their personal and family history, as well as their personal motivations regarding entrepreneurship. Universities provide a specific environment with rules, expectations and behavioral standards that also contribute to developing an attitude towards entrepreneurship in students. Through the courses they offer, universities can also increase the perception of



students on self-efficacy and perceived behavioral control in relation to the entrepreneurial activity. The combination of attitudes towards entrepreneurship, subjective rules and perceived behavioral control lead to students' entrepreneurial intention.

#### Figure 1. GUESSS conceptual model



Source: Sieger, Fueglisteller and Zellweger (2011).

## 2. Organization of the GUESSS Chile project

Chile joined the GUESSS project for the first time in 2011 through the Universidad Adolfo Ibáñez<sup>1</sup>. Beginning in 2016, Universidad Católica del Norte, through the Centro de Emprendimiento y de la Pyme of the Facultad de Economía y Administración, led the project in the country. In this third version of GUESSS Chile, corresponding to 2021, over 15 universities, some with campuses in different regions and cities, participated as project partners. Each partner university distributed the link to the online survey among its faculties and schools that agreed to participate, totaling 10,509 completed questionnaires from students. Despite the pandemic, in Chile the number of answers obtained surpassed the results obtained in 2018 by 36.4% (Romaní et al., 2019). The Concepción campus of the Universidad Católica del Norte, Antofagasta campus, with 13.5% of the total and the Pontificia Universidad Católica de Chile with 8.5% of the sample. Table 1 shows the total questionnaires answered and the number of students that answered by university.

<sup>1</sup> For more information, see Echecopar, Bustamante and Bejares (2011).



GUESSS Chile 2021 participant universities	Number of answered questionnaires	Participation rate (%)
Universidad de Concepción – Concepción	3.212	30,6
Universidad Católica del Norte - Antofagasta	1.421	13,5
Pontificia Universidad Católica de Chile	892	8,5
Universidad Católica del Norte - Coquimbo	887	8,4
Universidad de La Frontera	557	5,3
Universidad Mayor	542	5,2
Pontificia Universidad Católica de Valparaíso	405	3,9
Universidad de Chile	343	3,3
Universidad de Concepción - Chillán	310	2,9
Universidad Técnica Federico Santa María - Valparaíso	245	2,3
Universidad Católica de la Santísima Concepción	224	2,1
Universidad Técnica Federico Santa María - Santiago	223	2,1
Universidad del Desarrollo - Santiago	154	1,5
Universidad Adolfo Ibáñez - Santiago	152	1,4
Universidad de Antofagasta	150	1,4
Universidad de Concepción - Los Ángeles	117	1,1
Universidad de Los Lagos-Osorno	115	1,1
Universidad Arturo Prat - Iquique	97	0,9
Others	463	4,4
Total	10.509	100,0

#### Table 1. Number of completed questionnaires by university

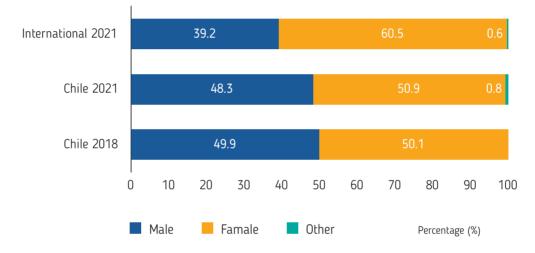
Source: GUESSS Chile 2021 online survey.

The category "others" corresponds to universities that achieved participation of less than one percent, including the Universidad de Las Américas, Universidad del Desarrollo - Concepción, Universidad de La Serena, Universidad de Tarapacá, Universidad Adolfo Ibáñez - Viña del Mar, Universidad Austral de Chile - Valdivia and Puerto Montt, and Universidad de Santiago de Chile.



### 2.1. Characteristics of the sample

In 2021, 10,509 students answered the complete survey in Chile, 36.4% more than in 2018. Of the total, 48.3% were men, 50.9% women, and 0.8% corresponded to 80 students who did not identify with a binary gender. No significant differences were seen in comparison to 2018. Internationally, there was a greater participation of women in comparison to men (Figure 2). The average age of the students in Chile is 23, while the mean is 22. There are no significant differences with the ages of students in other countries (Sieger et al., 2021).



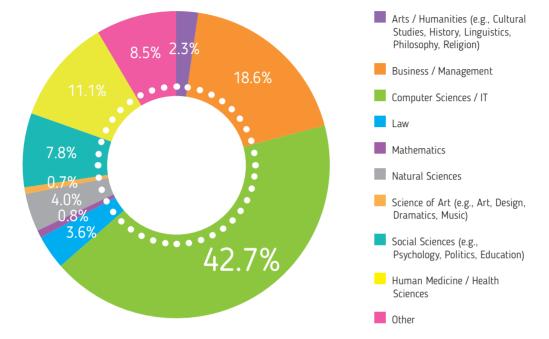
#### Figure 2. Participation of students by gender

96.3% of students who answered the survey are undergraduate students, but postgraduate students also participated, from MSc (1.1%), MBA (2.0%) and PhD (0.5%) programs. Undergraduate students who participated in the 2021 version are studying Engineering, Computer Sciences and IT (including Architecture) (42.7%); Economics and Administration (18.6%), Medicine/Health Sciences (11.1%), Natural Sciences (4%), Humanities (2.3%), Social Sciences (7.8%), Law (3.6%), among others (Figure 3).

5

Source: GUESSS 2021 student survey.





#### Figure 3. Fields of study of students who participated in the survey

Source: GUESSS Chile 2021 student survey.

## 3. Main results

### 3.1. Students' career plans

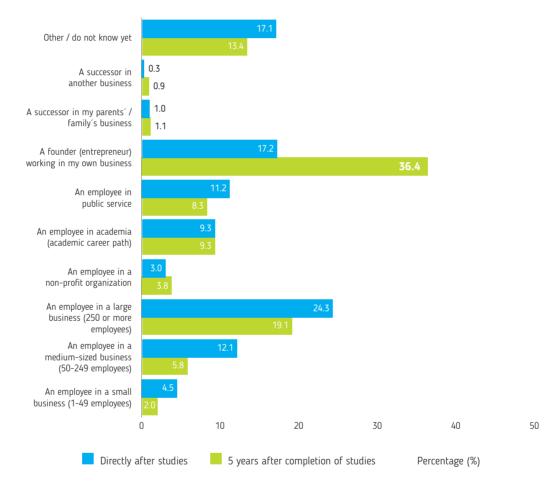
The students' vision of the future is fundamental in this research project, so GUESSS considers students' career plans directly after completing their studies as well as their expectations five years after this. The results show that directly after completing their studies, 40.9% of students plan to seek organizational employment, preferably in a large business (24.3%), followed by medium-size businesses (12.1%) and 4.5% in small businesses (Figure 4). 11.2% plan to join public service, 9.3% are considering academia, and only 3% plan to work in an NGO. 17.2% of students plan to own or manage their own business, and a similar percentage, 17.1%, do not know yet and only 1.3% plan to be a successor (Figure 4).

The results change significantly when dealing with intentions five years after completing their studies. Then, 36.4% of students plan to be entrepreneurs and less than one third (26.9%) plan to seek organizational employment (large, medium or small businesses) (Figure 4). The desire to join academia remains the same (9.3%), while the desire to work in an NGO increases slightly to 3.8%, and the percentage of students who plan to enter public service declines to 8.3%. The percentage of those who do not know yet declines, and the percentage



of those who plan to be successors of their parents' or family's business increases slightly (0.9%) (Figure 4).





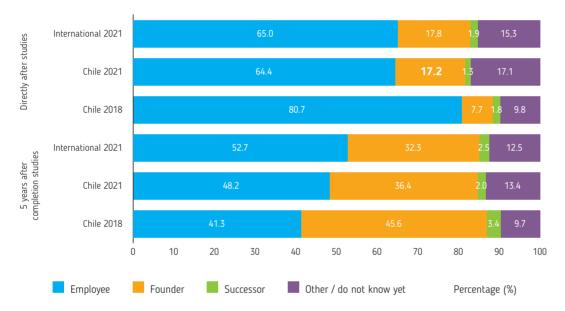
Source: GUESSS Chile 2021 student survey.

It is important to emphasize that entrepreneurial intention increases from 17.2% to 36.4%, (more than double) in university students' career plans, while the desire to work as an organizational employee drops 16.1 percentage points, from 64.4% to 48.3% (Figure 4). Significant variations are seen when the results from Chile in this version are compared to those of 2018, for example in the percentage of students who plan to be employees when they complete their studies, which has decreased from 80.7% to 64.5%, while the percentage of students with entrepreneurial intention has increased from 7.7% to 17.2%, as has the percentage of those who do not know yet, which has gone from 9.8% to 17.1%. These results



show that there is an increasing number of students with entrepreneurial intention directly after completing their studies and fewer students who plan to be employees. However, when their 5-year plans are compared, the proportion of students who plan to be employees increases from 41.3% to 48.2%, while the proportion of students with entrepreneurial intention falls from 45.6% to 36.4% in the same period (Figure 5).

When we compare these results internationally<sup>2</sup>, no significant differences are seen between students in Chile and those in other countries who participated in the study (Figure 5).



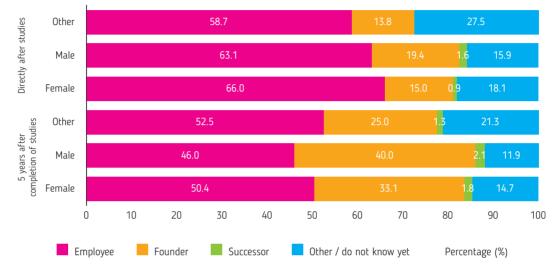
#### Figure 5. Career plans of students in Chile and internationally

Source: GUESSS 2021 student survey.

When this same analysis is done by gender, it is seen that 63% of male students and 66% of female students intend to be employees directly after completing their studies, against 19.4% of men and 15% of women with entrepreneurial intention in the same period. It is noted that a percentage greater or equal to 15.9% in both groups does not know yet. These results change when they are asked about their plans five years after completing their studies, where the percentage of male and female students who state that they plan to be employees decreases and the proportion of students of both sexes who state that they plan to be entrepreneurs increases. In the case of men, it goes from 19.4% to 40%, while it goes from 15% to 33.1% in women (Figure 6). A similar situation is seen with students who do not identify with a binary gender (Figure 6).

<sup>2</sup> More details on the international results are found in Sieger et al. (2021). Global Student Entrepreneurship 2021. Insights from 58 countries. 2021 GUESSS Global Report. St. Gallen/Bern: KMU-HSG/IMU.





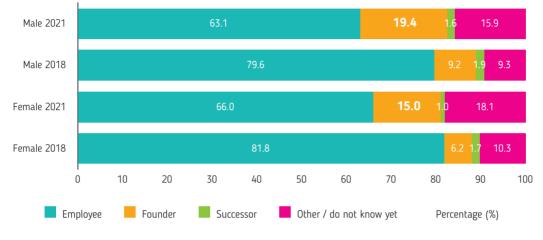
#### Figure 6. Career plans of students in Chile by gender

When these results are compared to those obtained in 2018, a significant reduction is seen in the group of male students who plan to be employees directly after completing their studies, from 79.6% to 63.1%, while the proportion of students with entrepreneurial intention increases significantly, from 9.2% to 19.4%, and the proportion of male students who do not know yet also increases, from 9.3% to 15.9%. There is a similar situation with female students, where the proportion of those who plan to be employees directly after completing their studies goes from 81.8% to 66%, while the proportion of students with entrepreneurial intention has more than doubled between 2018 and 2021, going from 6.2% to 15% (see Figure 7). Clearly, students' intention to be entrepreneurs directly after completing their studies, independently of gender, increased significantly between 2018 and 2021, while the intention to be employees has decreased.

9

Source: GUESSS Chile 2021 student survey.

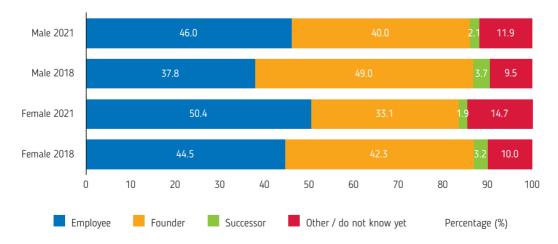




# Figure 7. Career plans of students in Chile by gender directly after completing their studies 2018 - 2021

Source: GUESSS Chile 2021 student survey.

Five years later, as is to be expected, given the significant increase in the percentage of men and women who plan to become entrepreneurs directly after completing their studies, the percentage of sexual minority students who plan to become entrepreneurs decreases, and the percentage of those who plan to be employees increases. However, a percentage greater than or equal to 11.9% state that they do not know yet (Figure 8).



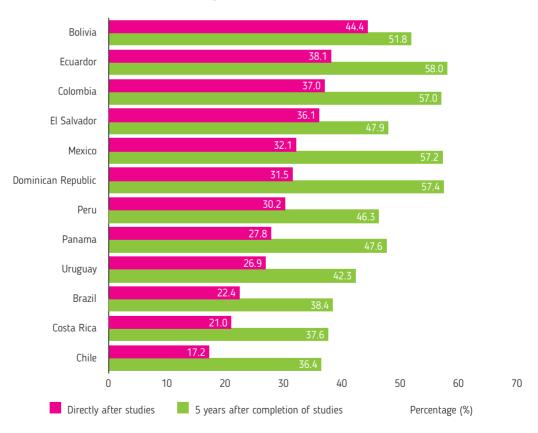
#### Figure 8. Career plans of students in Chile by gender five years after completing their studies 2018 - 2021

Source: GUESSS Chile 2021 student survey.



When comparing the career plans of students from Latin America and the Caribbean, it is seen that 44.4% of Bolivian students plan to be entrepreneurs directly after completing their studies, against 17.2% of Chilean students (Figure 9). Bolivia, Ecuador and Colombia are the countries with the highest rates of students with entrepreneurial intention directly after completing their studies, while Chile is in last place with 17.2%.

When asked about their career plans five years after completing their studies, Ecuador, the Dominican Republic and Mexico are the countries with the highest rates of students planning to be entrepreneurs. In this area, Chile is again in last place, with 36.4%. Various aspects probably affect these results, such as the country's political and economic stability, as well as job opportunities. On the other hand, it is important to note that in all the Latin American countries that participated in the last two versions of GUESSS, that is, in 2018 and 2021, the percentage of students with entrepreneurial intention directly after completing their studies has increased significantly. It must also be indicated that Bolivia, El Salvador and the Dominican Republic are now participating in this latest version.

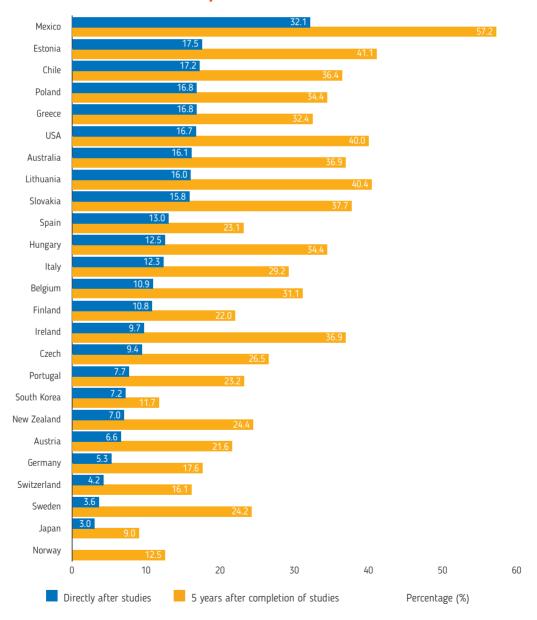


#### Figure 9. Career plans of students in Latin America who have entrepreneurial intention

Source: GUESSS 2021 student survey.



Comparing Chile to the OECD countries, the results show that Mexico leads with 32.1%, when students are asked whether they plan to be entrepreneurs directly after completing their studies, while in Norway, no students were identified with entrepreneurial intention directly after completing their studies. Chile is in third place after Estonia, with 17.2% (Figure 10). The rates increase significantly when they are asked about their intention to



#### Figure 10. Career plans of students in OECD countries who have entrepreneurial intention

Source: GUESSS 2021 student survey.



be entrepreneurs five years after completing their studies. Mexican students continue to lead with 57.2% of replies, while the lowest percentage was obtained in Japan, with 9%. Chile had 36.4% of its answers in this category, and is placed eighth within this group of countries (Figure 10). These results in Latin America as well as in the OECD must be viewed with caution, considering that the country samples differ considerably in terms of size, number and type of participant universities (Sieger et al., 2021). Despite this, the results are those expected considering that the entrepreneurial activity rate in countries based on innovation is lower than in countries based on efficiency, such as the cases of Mexico and Chile, since entrepreneurial activity tends to decline as the level of development of countries increases (Bosma and Kelley, 2019).

## **3.2. Factors that influence entrepreneurship**

## **3.2.1 University climate**

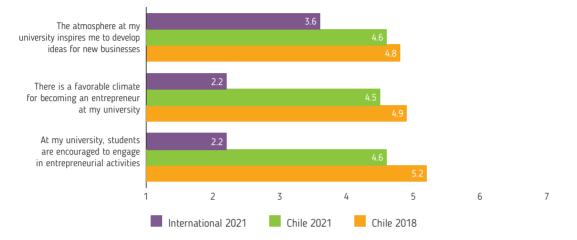
According to the conceptual model on which the GUESSS project is based, university context influences students' entrepreneurial intention. One of the concerns of GUESSS is to know whether universities carry out activities associated with entrepreneurship, so the online questionnaire contains statements to obtain this information, measured using a Likert scale from 1 to 7, where 1 is "strongly disagree" and 7 is "strongly agree".

Figure 11 shows that in 2021, the average perceptions of Chilean students were higher than those of students in the other participating countries in all the dimensions. The highest average in Chile is 4.6 and is linked to university climate as a source of inspiration for developing new business, as well as with the motivation given to students to become involved in entrepreneurial activities. The category linked to the existence of a favorable climate for entrepreneurship reached an average of 4.5. Analyzing the distribution of the percentages of replies and adding the last three ratings (5, 6 and 7), it can be said that 63.4% or more of Chilean students consider that they are motivated to be entrepreneurs at university. Comparing these results to those obtained in the 2018 version, there is a reduction in the answer averages in all categories (Figure 11).

Internationally, the averages in all the dimensions of this category are below Chile, particularly in the existence of a favorable climate for entrepreneurship, and in the motivation of students to become involved in entrepreneurial activities, where the average obtained has been barely 2.2. Analyzing the percentage distribution and adding the last three ratings (5, 6 and 7), it can be stated that 46.7% or more of students internationally consider that their university climate is favorable for entrepreneurship.

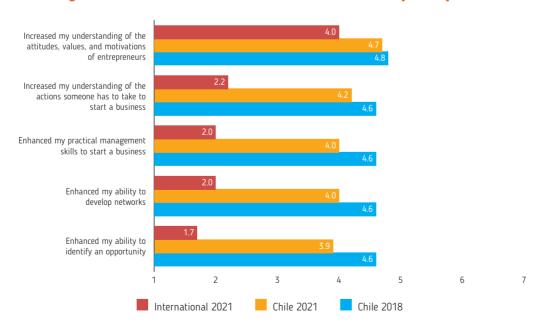


#### Figure 11. University climate



Source: GUESSS 2021 student survey.

Regarding the contribution of courses and seminars to those that attended them, the average of Chilean students' replies is above the international (Figure 12). The averages in this item for Chilean students oscillate between 3.9 and 4.7. Analyzing the percentage





Source: GUESSS 2021 student survey.



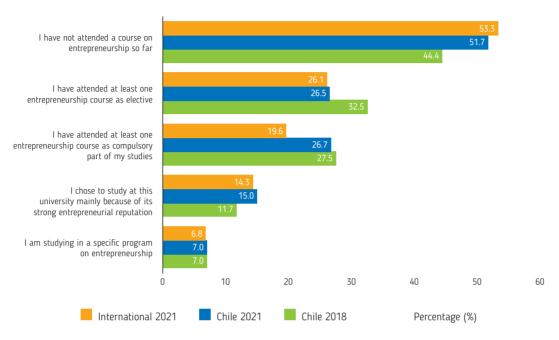
distribution of this reply and adding the last three ratings (5, 6 and 7), it can be said that between 55% and 63.1% of students consider that in general, the courses or seminars are a contribution. When these results are compared to the 2018 version, it is seen that all the averages in this version are less than those of 2018; despite this, the differences are not significant. In all cases, 55% or more of students consider them a contribution.

Internationally, the average answers in each of the dimensions are below those of Chile and oscillate between 1.7 and 4. The lower average corresponds to the contribution of the courses and seminars to identifying business opportunities, and the highest to an increased understanding of the attitudes, values and motivations of entrepreneurs.

Regarding other statements linked to attending entrepreneurship courses, in 2021, the results for Chile show that 51.7% of students state they have not attended an entrepreneurship course to date. This percentage has increased with respect to the 44.4% in 2018. This is a great opportunity for Chilean universities to add entrepreneurship courses transversally in all their degree courses. 26.5% state they have attended at least one elective course, a percentage lower than that obtained in 2018. A similar percentage states they attended at least one compulsory entrepreneurship course. In this aspect, there are no differences with 2018. 15% and 7% of Chilean students state they chose their university for its entrepreneurial reputation and are studying a specific entrepreneurship program, respectively. There are no significant variations in these dimensions with respect to 2018 (Figure 13).

When comparing these results to those obtained internationally, Figure 13 shows that the results for Chile are slightly below the international results in some dimensions, such as not having attended an entrepreneurship course to date, with 53.3%, while in the others they are slightly above (Figure 13).





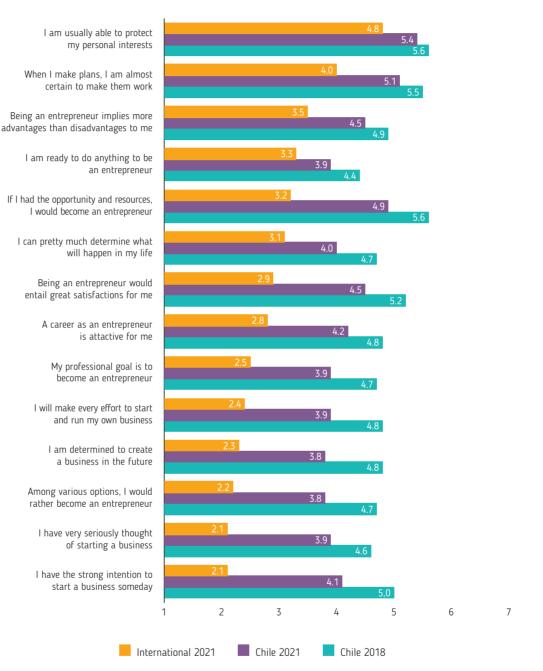
#### Figure 13. Statements regarding courses and others

Source: GUESSS 2021 student survey.

The GUESSS survey also considers thoughts of students regarding entrepreneurship, through statements that they must rate on a scale from 1 to 7, where 1 is "strongly disagree" and 7 is "strongly agree". These statements are part of the control locus of students that also influences entrepreneurial intention. In the case of Chile, the answers are on average within the range of 3.8 to 5.4 (Figure 14). In percentage terms, the 5, 6 and 7 ratings are between 46.5% and 83.1%. The lowest average is linked to thoughts on being an entrepreneur and the decision to start a business, while the highest average is linked to pursuing and defending their own interests. It is important to note that the averages have decreased with respect to 2018 in all the categories of this dimension (Figure 14).

Comparing these results to those obtained internationally, the averages in Chile are higher, and in some dimensions, almost double, as in the case of "I have the strong intention to start a business someday", whose average in Chile is 4.1, while internationally, it is 2.1. These results show that the thoughts of students in Chile on entrepreneurship are on average higher than in the other countries that participated in the GUESSS (Figure 14).





#### Figure 14. Thoughts on entrepreneurship

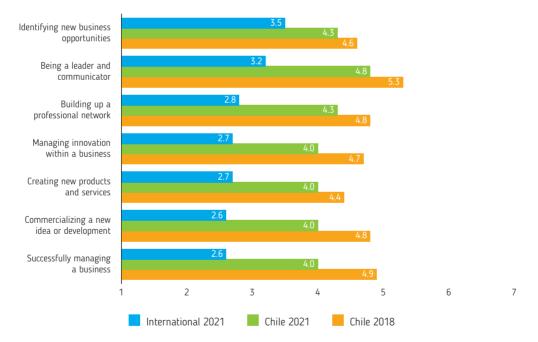
Source: GUESSS 2021 student survey.



### **3.2.2. Skills of students and their environment**

The survey contains questions related to the skills of students in different areas and also the reaction of their environment regarding the choice of an entrepreneurial career. The first case it is measured using a Likert scale of 1 to 7, where 1 is "Very poor skills" and 7 is "Very good skills". For this item, the average replies of students in Chile vary from 4.0 to 4.8, while internationally, the average range is between 2.6 and 3.5. In Chile as well as internationally, the highest averages correspond to leadership and communication skills, while the lowest correspond to the creation and development of new ideas and the successful management of a business (Figure 15). In all the dimensions of this item, the averages of students in Chile exceed the international averages.

Comparing the results obtained in the 2018 version, all the 2021 averages have decreased slightly, although they remain above the international averages (Figure 15).



#### Figure 15. Skills of students in performing different tasks

Source: GUESSS 2021 student survey.

The reaction of their environment to an entrepreneurial career is also measured using a Likert scale, where 1 is "Very negatively" and 7 is "Very positively". Students on average consider that their close family as well as friends and fellow students have a positive influence on their careers as entrepreneurs. In Chile, the average scores are between 5.5



and 6.1 (Figure 16); that is, between 84% and 89.6% of students (adding the replies from the three highest ratings). The highest average refers to support from close family and the lowest to support from their fellow students. In 2021, the averages obtained are again lower than in 2018 in the dimension of friends and fellow students, and slightly higher in that of close family.

Internationally, the pattern is the same, only with different averages that range between 3.8 and 5.3 (Figure 16). In all the dimensions of this category, the averages in Chile are higher than the international averages.

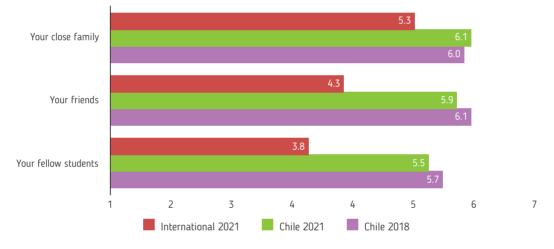


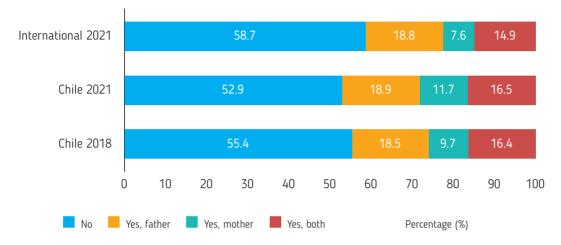
Figure 16. Reaction of your environment regarding an entrepreneurial career

## 3.2.3. The family environment

Just as important as the skills of students and the reaction of their environment, is knowing whether students have entrepreneurs in their close family, whether as owners or majority shareholders. In Chile, 18.9% of students indicate that their father is self-employed, 11.7% state that their mother is, and 16.5% say that both are. However, 52.9% state that they do not have entrepreneur parents. These results are similar to international results, although in this case there is a smaller proportion of students whose both parents are entrepreneurs (Figure 17), while the proportion of students without entrepreneur parents exceeds the results obtained in Chile. When the results of the country are compared to the 2018 version, an increase is seen in the proportion of students with an entrepreneur father, mother or both, in particular of students with entrepreneur mothers, which increased two percentage points with respect to 2018, while the proportion of students without entrepreneur parents decreased from 55.4% to 52.9% (Figure 17).

Source: GUESSS 2021 student survey.

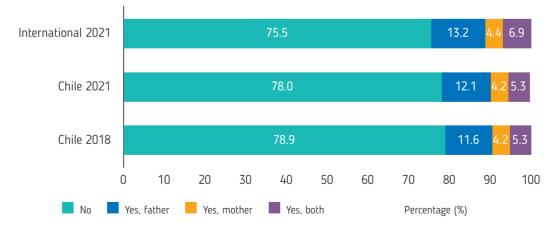




#### Figure 17. Are your parents currently self-employed?

Source: GUESSS 2021 student survey.

The results are accentuated when dealing with parents who are majority shareholders of a business. In 2021, 22% of students in Chile indicated that their father, mother or both are majority shareholders in a business, against 78% who state that their parents are not (Figure 18). More than double the fathers of students are majority shareholders in comparison with the mothers. No significant differences are seen when this result is compared internationally. Nor are there any significant differences when compared with the results obtained in 2018, only that in 2021, more students have been identified with an entrepreneur father, mother or both (Figure 18).



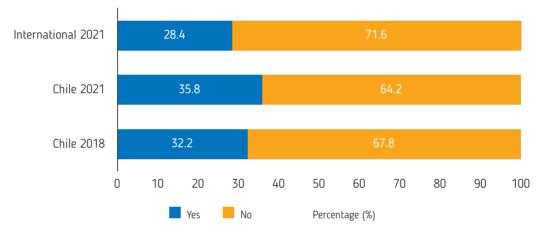
#### Figure 18. Are your parents majority shareholders of a business?

Source: GUESSS 2021 student survey.



## **3.3. Nascent Entrepreneurs**

The GUESSS project considers nascent entrepreneurs to be students who state that they are currently making every effort to start their own business or to become self-employed. In Chile, this percentage is 35.8%, while internationally, it is 28.4% (Figure 19). Compared to the results of the 2018 version, there has been an increase of more than three percentage points, going from 32.2% to 35.8% (Figure 19).



#### Figure 19. Are you currently trying to start your own business?

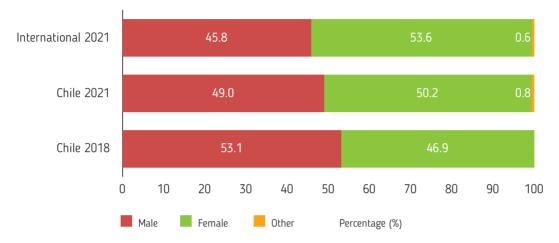
Source: GUESSS 2021 student survey.

## **3.3.1. General characteristics**

The distribution of entrepreneurs by gender has changed in Chile and internationally. For the first time since this survey began, the percentage of women is slightly higher than that of men, and a percentage of less than 1% in both cases does not identify with a binary gender (Figure 20).

The results for Chile in 2021 compared to 2018 show a significant change in distribution by gender. The proportion of male students has fallen from 53.1% to 49%, while that of female students has increased from 46.9% to 50.2%. These results show greater female participation in areas that were predominantly led by men, such as entrepreneurship. It must be noted that the 2018 survey did not include the option of not identifying with a binary gender, and for this reason, that percentage is zero.





### Figure 20. Nascent entrepreneurs by gender

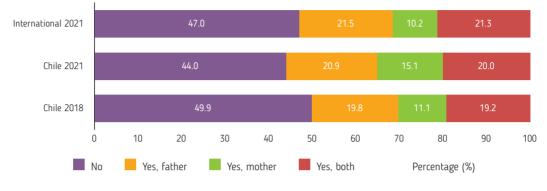
Source: GUESSS 2021 student survey.

Regarding the family environment, over half of university students who are nascent entrepreneurs in Chile as well as internationally have some member of their close family involved in entrepreneurial activities (Figure 21). In the case of Chile, 56% of nascent entrepreneur students have a father (20.9%), mother (15.1%) or both (20%) who are self-employed. These figures are close to those obtained internationally, with the difference that students with an entrepreneur mother are higher in Chile, 15.1% with respect to 10.2% internationally (Figure 21).

When comparing the results in Chile in 2021 with respect to 2018, a reduction of over five percentage points is seen in the group of students whose parents are not entrepreneurs with respect to the group of students with entrepreneur parents. In 2021 there are more students with an entrepreneur father, mother, and both, than in 2018. The greatest increase has occurred in the group of students with an entrepreneur mother, which grew from 11.1% to 15.1% in 2021 (Figure 21).

22



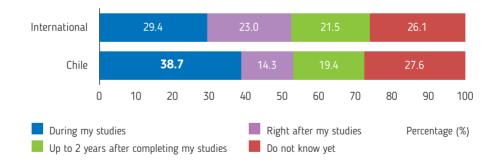


### Figure 21. Are your parents currently self-employed?

Source: GUESSS 2021 student survey.

## **3.3.2. Business planning**

In order to obtain more information on the planning of their businesses, students were also asked about when they will start their business. In Chile, unlike the rest of the countries, over one third of students, 38.7%, intend to start their business while they are studying, while internationally this proportion is 29.4% (Figure 22). The situation changes when there is the option of starting a business directly after completing their studies, where the higher percentage is internationally, 23%, while in Chile it is only 14.3% (Figure 22). In the following options, the percentages in Chile and internationally are fairly similar (Figure 22).



### Figure 22. When do you plan to start your business?

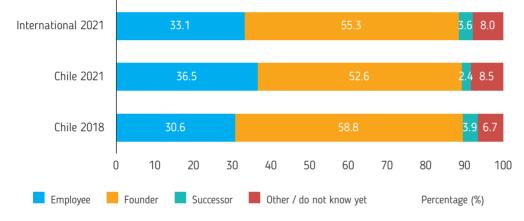
Regarding their career plans five years after completing their studies, over 50% of nascent entrepreneur students plan to be entrepreneurs, while 36.5% plan to be employees, only 2.4% plan to be a successor and 8.5% do not know yet. These results for Chile are close to the international results (Figure 23). When comparing these results to those obtained in 2018, it is seen that the proportion of those planning to be entrepreneurs decreased from

Source: GUESSS 2021 student survey.



58.8% to 52.6%, while the proportion of those planning to be employees increased from 30.6% to 36.5% (Figure 23).

This leads to some questions that cannot be answered with the information collected in this study, related mainly to the reasons why, if they do not plan to be entrepreneurs, they are doing so now. A possible reply can probably be found in that their business ventures (mainly the sale of products) are to cover their university expenses. However, the information collected in this study does not permit conclusions of this nature.

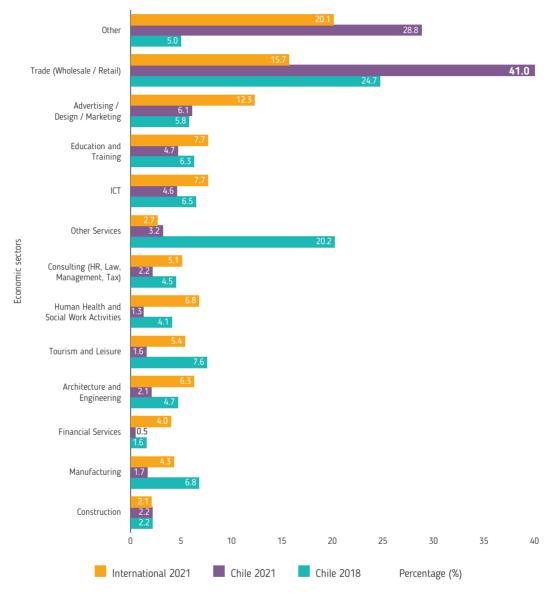


## Figure 23. Career plans of nascent entrepreneurs five years after completing their studies

Source: GUESSS 2021 student survey.

Regarding their planned line of business, the sectors most frequently mentioned are Others, with 28.8% and Trade, whether wholesale or retail, with 41%. Other sectors represent percentages below 7%. (Figure 24). At the international scale, the percentage distribution differs, despite the sector Others predominating with 20.1%, followed by Trade, with 15.7% and Advertising/Marketing/Design with 12.3%. There are other sectors such as Education and Training, ICT, Human health and social work activities, Tourism and leisure, Consulting, among others, which represent percentages above 5%, showing greater sectorial diversification in comparison to the country as a whole. With respect to 2018, in Chile the results show a greater concentration in sectors with low added value such as the sector of Trade and Others sectors, which have gone from 24.7% to 41% in 2021 and from 5% to 28.8% in the same period. These two sectors represent 69.1% of students' answers, while the other sectors only represent percentages less than or equal to 6.1% (Figure 24). This sectorial concentration is a concern while also being a challenge for universities to orient students towards sectors with higher added value and with more innovation.





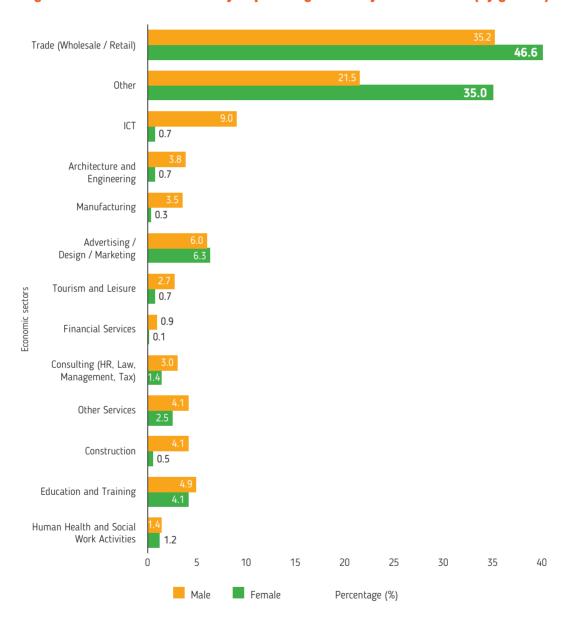
### Figure 24. In which sector are you planning to start your business?

Source: GUESSS 2021 student survey.

When this same variable is analyzed by gender, the results are even more interesting. 81.6% of female students plan to start their business in the Trade sector (46.6%) and in the sector Others (35%), while only 6.3% and 4.1% plan to do so in the sectors of Advertising/ Marketing/Design and Education and training respectively (Figure 25). ICT and Architecture and Engineering represent barely 0.7% of their replies. In the case of male students, although 56% of them plan to start their business in Trade (35.2%) and Others (21.5%), a greater diversification is seen in the other sectors, for example ICT and Advertising represent 9%



and 6% respectively, while Consulting, Education and Training, Construction and Other services, are in the range of 3% to 4.1%. These results are again a challenge for university institutions to orient women towards starting businesses with higher added value.



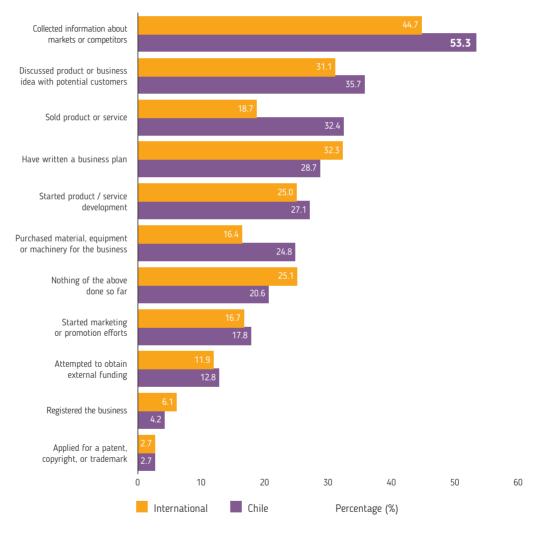


Source: GUESSS Chile 2021 student survey.

Among the activities carried out for starting their business, the most frequent replies in Chile are collecting information on markets or competitors with 53.3%, followed by discussing



the product or business idea with potential customers, mentioned by 35.7%. In third place is the sale of the product or service, mentioned by 32.4%, and in fourth place, writing a business plan, with 28.7% (Figure 26). Internationally, collecting information on markets or competitors is also in first place, with 44.7%, followed by writing a business plan, with 32.3%, and in third place is discussing the product or business idea with customers, with 31.1% (Figure 26).



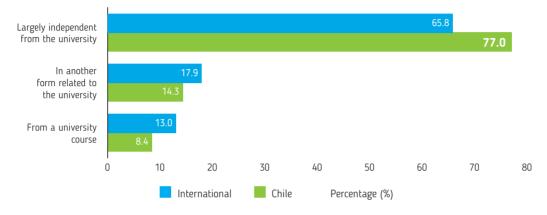
#### Figure 26. Activities of nascent entrepreneur students

Source: GUESSS 2021 student survey.

Also, this group of students was asked about the origin of their business idea. In this regard, in Chile as well as internationally, the answers followed the same pattern. Most of them indicated that the idea came from the university environment, with 77% in Chile and 65.8% internationally (Figure 27). Percentages below 20% indicated that the idea emerged



in another way, but related to the university, with 14.3% and 17.9% respectively, and only 8.4% in Chile and 13% internationally stated that the idea came from a university course (Figure 27).



#### Figure 27. Activities of nascent entrepreneur students

The 2021 questionnaire also included a question about the pandemic, that is, if the business planning was related to the pandemic. In this regard, students in Chile and internationally mostly answered that their planning was not due to the implications of the pandemic. Only 19.9% of students in Chile and 22.1% internationally answered yes (Figure 28).

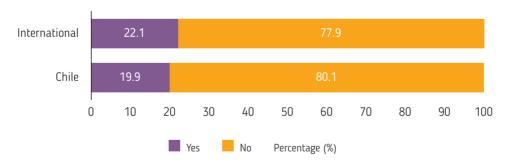


Figure 28. Did you plan to start your business due to the pandemic?

Source: GUESSS 2021 student survey.

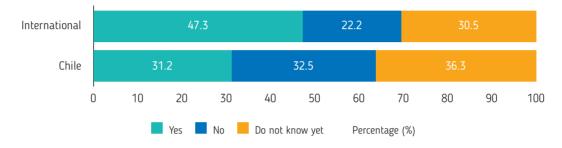
Likewise, this group of students was asked if the business they are planning would be their primary occupation directly after completing their studies. In the case of Chile, more than one third of them did not know yet, while 32.5% answered that it would not be their main occupation, and 31.2% answered yes to this question (Figure 29). Internationally, almost half of students, 47.3%, consider that the planned business would be their main occupation

Source: GUESSS 2021 student survey.



directly after completing their studies, against 22.2% that said it would not, and 30.5% that did not know yet (Figure 29).

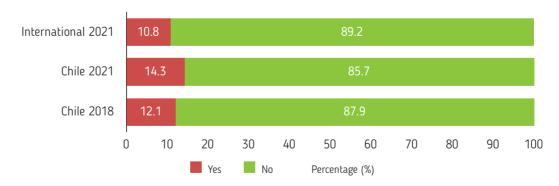
## Figure 29. Do you plan on this business becoming your main occupation directly after completing your studies?



Source: GUESSS 2021 student survey.

### **3.4. Active Entrepreneurs**

The GUESSS project considers active entrepreneurs to be students who are currently running their own business or are self-employed. In Chile, this percentage is 14.3%, while internationally it is slightly lower, 10.8% (Figure 30). It is noted that in these past three years, this rate has increased by over two percentage points in Chile, going from 12.1% in 2018 to 14.3% in 2021.



#### Figure 30. Are you currently running your own business?

Source: GUESSS 2021 student survey.



### **3.4.1. General characteristics**

In Chile, of the total number of students running their own business, 46.9% are men and 52.1% are women and 1% correspond to 15 students who do not identify with a binary gender. These percentages are close or equal to those obtained internationally (Figure 31). Comparing the results for Chile in 2021 to 2018, an increase in the proportion of entrepreneur female students is seen. In 2018, the gender gap had already decreased and in 2021 the gap is now in favor of women. There are increasingly more women who are nascent or active entrepreneurs (Figure 31). The same can be seen internationally. It must be reiterated that in 2018, only the male and female alternatives were used.

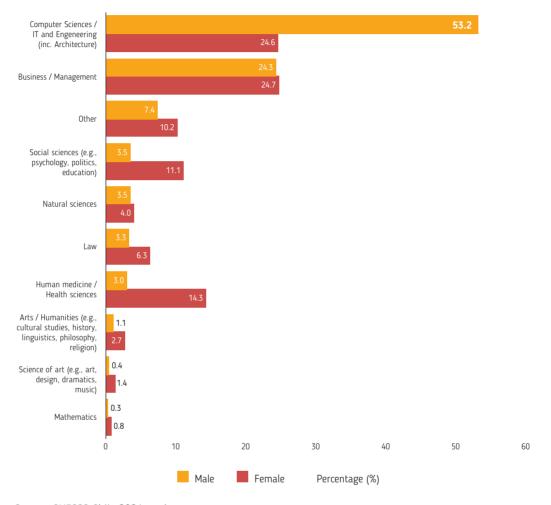


#### Figure 31. Active entrepreneurs by gender

Source: GUESSS 2021 student survey.

When the fields of study of these students are analyzed, 53.2% of men study Engineering and computer sciences, followed by business and economics (24.3%), while in the case of women, the percentages for both degrees are very similar, 24.6% and 24.7% respectively, followed by Medicine and health sciences (14.3%) and social sciences (11.1%) (Figure 32).



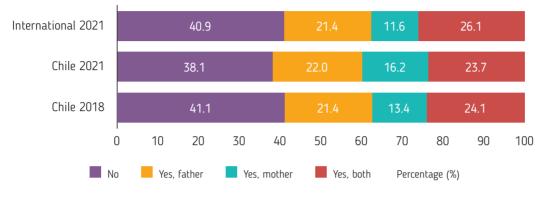


### Figure 32. Fields of study of active entrepreneurs

Source: GUESSS Chile 2021 student survey.

Regarding the family environment of active entrepreneur students, over 50% in Chile as well as internationally have entrepreneur parents (Figure 33). When comparing the results of the 2021 version against that of 2018, the proportion of students with an entrepreneur father, mother or both increased from 58.9% to 62%. The largest increase occurred in the group of students with an entrepreneur mother, which grew from 13.4% to 16.2%.





### Figure 33. Are your parents currently self-employed?

Source: GUESSS 2021 student survey.

## **3.4.2.** Characteristics of the business

Regarding the year of creation of the business, 76.3% of students in Chile started their business in the last three years. 42.5% started their business in 2020 (in the middle of the pandemic) and only 11.5% did so prior to 2016 (Figure 34). This distribution differs from the rest of the countries where, although 55.7% of students started their business in the past three years, a percentage equivalent to 28.1% did so prior to 2016. That is, 28.1% of international students have businesses over five years old, which is very important, since it means that they have lasted over time, one of the critical variables when classifying entrepreneurial quality.



#### Figure 34. Year active entrepreneurs started their business

Source: GUESSS 2021 student survey..



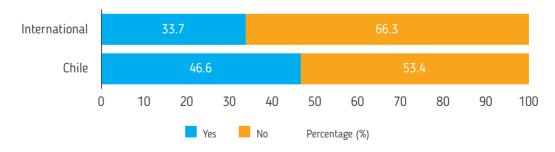
Active entrepreneurs in Chile have an average of 1.5 full-time employees. More frequently, they have one employee and 28.2% are self-employed. Internationally, the average is 10 employees, but the mean is also one person. The rate of self-employment at the international level is very close to that of Chile, 27.6%. Regarding ownership of the company capital, 63.3% of students in Chile state they own over 51% of the company capital. Internationally, this percentage drops to 57.6% (Figure 35).



### Figure 35. Percentage ownership of the company capital

Source: GUESSS 2021 student survey.

When students were asked whether they started their business because of the pandemic, almost half of Chilean students, 46.6%, answered yes, against only 33.7% internationally (Figure 36). Proportionally, the difference is significant, which shows that the pandemic brought opportunities, or generated the need to start a business for a large percentage of Chilean students.

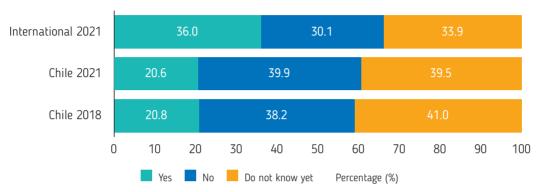


## Figure 36. Did you start your business because of the implications of the pandemic?

Source: GUESSS 2021 student survey ..

Active entrepreneurs were also asked whether their business will be their main occupation directly after completing their studies. It is noteworthy that only 20.6% of Chilean students answered yes, and that 39.5% do not know yet. There are no significant differences with respect to the 2018 results. Internationally, the percentage of positive answers is significantly higher than that obtained in Chile, 36% against 20.6%, and the percentage of students who do not know yet is 33.9% (Figure 37).

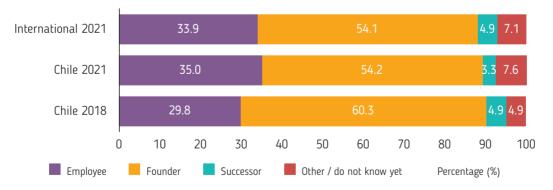




## Figure 37. Do you plan for your business to be your main occupation directly after completing your studies?

Source: GUESSS 2021 student survey.

Regarding their career plans five years after completing their studies, in Chile 54.2% of active entrepreneur students intend to be entrepreneurs, while over one third, 35%, intend to be employees. There are no significant differences internationally with respect to the country's results (Figure 38). When comparing Chile results 2021 to 2018, a decline is seen in the percentage of students who plan to be entrepreneurs and those who plan to be successors, and an increase in those who plan to be entrepreneurs five years after completing their studies; this is also indicated by those who are currently entrepreneurs. These entrepreneurs do not plan to dedicate themselves to their current business directly after completing their studies. The reasons merit future in-depth study.



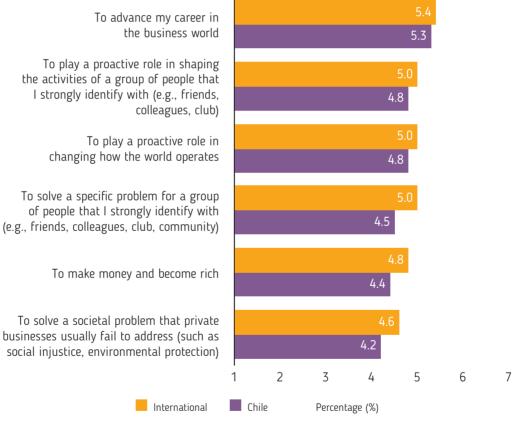
## Figure 38. Career plans of active entrepreneurs five years after completing their studies

Source: GUESSS 2021 student survey.



### 3.4.3. Motivation of active entrepreneurs

The GUESSS survey also includes the motivations of active entrepreneurs regarding their business through statements that they must rate on a scale of 1 to 7 where 1 is "Strongly disagree" and 7 is "Strongly agree". In the case of Chile, the answers are on average within a range of 4.2 to 5.3, where the highest average corresponds to advancing their career in the business world, and the lowest to solving a societal problem (Figure 39). Adding the percentages of ratings 5, 6 and 7, the highest average corresponds to 72.9% of students and the lowest to 49.2% of students. Internationally, the average ranges fluctuate between 4.6 and 5.4 and in all dimensions slightly exceed those obtained in Chile (Figure 39).



### Figure 39. Motivation of active entrepreneurs

Source: GUESSS 2021 student survey.

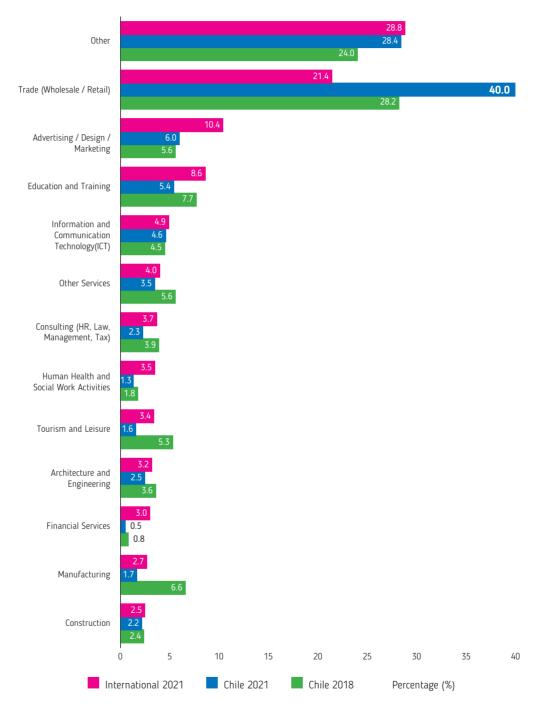


## **3.4.4. Sector where the business operates**

40% of businesses created by students in Chile are concentrated in Trade, wholesale and retail. They are followed by Advertising/Marketing/Design and Education and training, which represent 5.4%. Other sectors have a lower participation and represent 28.4% in total (Figure 40). These results show scant sectorial diversification and are a warning sign for Chilean universities to design pro-entrepreneurship university policies that are focused on sectors with more added value and that last over time. When these results are compared to those obtained in the 2018 version, an increase is seen in the sector of Trade (which generally produces faster profits because they are products with less added value and low barriers to entry) from 28.2% to 40% in 2021, while the proportion of answers oriented to the Fabrication/manufacturing sector has decreased to less than half, from 6.6% to 1.7%, and Tourism and leisure from 5.3% to 1.6% (Figure 40). More diversification is seen internationally, despite the fact that the sector Others and wholesale and retail Trade represent the highest percentages, 28.8% and 21.4%, respectively, followed by Advertising/ Marketing/Design with 10.4%, Education and Training with 8.6% and ICT with 4.9% (Figure 40).

GUESSS also wished to investigate the sectorial distribution of university entrepreneurship by gender. In this regard, Figure 41 shows that 81.1% of female-run businesses are oriented towards the Trade and Others sector. Percentages below 6% are presented by the sectors of Advertising/Marketing/Design, and Education and training, among others. In the case of male students, there is greater diversification despite the highest percentage also being in Trade and Others, 54.9%. Sectors such as ICT, Advertising/Marketing/Design, Education and training, Architecture and engineering, Construction, Fabrication/Manufacture, Tourism and leisure, represent between 2% and 9% of the replies in this group (Figure 41). These results also represent a challenge to implement a policy to develop university entrepreneurship and to encourage female students above all to be open to sectors other than those traditional to their gender roles.

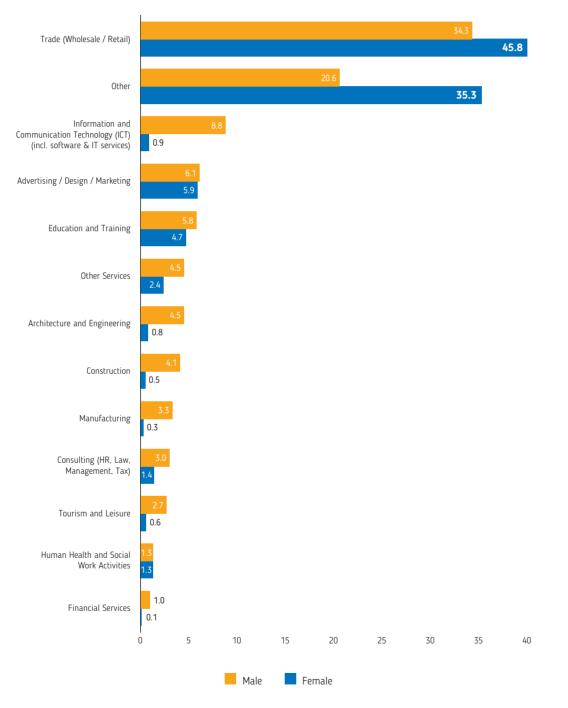




### Figure 40. Sectors in which the students' businesses operate

Source: GUESSS 2021 student survey.





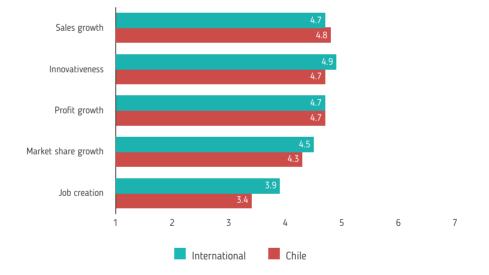
### Figure 41. Sectors in which students' business operate, by gender

Source: GUESSS Chile 2021 student survey.



### 3.4.5. Business performance

The performance of a business with respect to the competition is another important variable studied by the GUESSS project. In this regard, students are presented with statements related to the growth of sales, market share, profit growth, job creation and innovativeness, rated on a Likert scale of 7 points where 1 is "much worse" and 7 is "much better". Chilean students have rated these dimensions in an average range of 3.4 to 4.8 points (Figure 42). The highest ratings are for sales growth, followed by innovativeness and profit growth, while the lowest was job creation. The results for Chile are slightly different from those of international students in three of the five dimensions: innovativeness, market share growth and job creation, where the international averages exceed the country average, while in sales growth, the Chile average is slightly above the international, and there are no differences regarding profit growth (Figure 42).





Source: GUESSS 2021 student survey.



## **Final Considerations**

This third report on the entrepreneurial intention and activities of university students, prepared by the Centro de Emprendimiento y de la Pyme (CEMP) of the Facultad de Economía y Administración of the Universidad Católica del Norte, corresponds to the year 2021 and contains the results obtained by over 15 universities throughout the country, many of which participated with their campuses in other regions, providing a total of 10,509 valid questionnaires, which were worked with in the analysis, 36.4% more than the sample obtained in the 2018 version.

The results of this report again show that the creation of their own business is an important subject for students. Regarding career plans, despite the increase in intention to be an entrepreneur directly after completing their studies, in male as well as female students, the percentage of students who plan to be employees directly after completing their studies continues to predominate, and represents 64.4% of the sample. The situation changes regarding career plans five years after completing their studies, when 48.2% intend to be employees. The "first employee, then entrepreneur" pattern continues to prevail.

Recognition by students in Chile of the existence of a university climate that is favorable to entrepreneurship continues to be favorable, despite averages decreasing with respect to the 2018 measurement. In comparison with the international results, the averages for Chile are much higher in all dimensions. The same occurs with the courses and seminars in which the students participate. 55% or more of students consider that the courses and seminars increased their understanding of the attributes and motivations of entrepreneurs. Despite this, 51.7% state that they have not attended a course on entrepreneurship to date. This result is a great opportunity for Chilean universities that have not yet added a course on entrepreneurship that is transversal to all fields of study to their course lists. The addition of one or more courses on entrepreneurship not only for starting their own business but also as an attitude in their professional education.

In general, students view entrepreneurship favorably. They perceive that their friends, fellow students and especially their families would support them if they decide to start their own business, and they also believe that they have the skills to do so. Also, 47.1% of students come from parents who are involved in entrepreneurship and this percentage increases as the students progress in the entrepreneurial process, that is, when they go from being nascent entrepreneurs to running their own businesses (active). This leads to the assumption that having entrepreneur parents (father, mother or both) influences the entrepreneurial intention of their children. A similar situation occurs internationally, although in different percentages.

Despite the fact that male students continue to predominate in entrepreneurial intention, the situation has changed in the cases of nascent and active entrepreneurs. In this 2021



version, for the first time the percentage of female students that are making every effort to start a business exceeds that of men by 1.1 percentage points, reaching 50.2%. Also, there is 0.8%, equivalent to 28 students, who do not identify with a binary gender and have entrepreneurial intention. A similar situation occurs internationally.

It is also noted that the COVID-19 pandemic has had an impact on nascent as well as active entrepreneurs. 19.9% of nascent entrepreneurs state that they planned their business as a consequence of the pandemic and 46.6% of active entrepreneurs state the same.

The sectors where they plan to operate their businesses are concentrated 40% in Trade, while the rest of the sectors present percentages below 10%. By gender, women present a higher concentration than men fundamentally in the Trade and Others sector, which represents 81.1% of the total, while the other sectors are linked to traditional gender roles. The situation is slightly different with men, where the Trade and Others sector also predominates, with 54.9%, but greater diversification is seen in sectors such as ICT, Architecture/Engineering and others.

Also, the percentage of active female entrepreneur students exceeds that of active male entrepreneur students by almost five percentage points. This situation also occurs internationally, since proportionally there are more female students globally as nascent entrepreneurs and as active entrepreneurs. The sectorial pattern is the same as for nascent entrepreneurs. That is, active female entrepreneurs are concentrated in the sector Trade and Others, while active male entrepreneurs, despite also being oriented towards these sectors, show more diversification.

The results on the sectorial distribution of students who plan to start a business and of those who are already running one, set a challenge for Chilean universities, in the sense of orienting them towards sectors with higher added value and with innovativeness. Above all when dealing with students in the engineering degree courses, who in this version represent 42.7% of the sample. Also, it is a great opportunity to encourage STEM<sup>3</sup> students to be entrepreneurs in sectors with higher added value, incorporating innovativeness and the knowledge acquired in their studies.

Another interesting result is the career plans of nascent as well as active entrepreneurs regarding their businesses, where in the first case less than one third and in the second, one fifth, of students intend their business to be their primary occupation directly after completing their studies. It seems that most students plan to start their business or are running one to obtain extra income, but do not see it as something that they would continue once they complete their studies. This last inference requires corroboration and more indepth study. In any case, these results represent a great challenge for Chilean universities, not only for the creation of businesses with higher added value, but also for generating awareness in active entrepreneur students to see their businesses as an opportunity to create employment and wealth for the region.

<sup>3</sup> Science, Technology, Engineering and Mathematics.



This report has provided an overview of the intentions, attitudes and activities of university students in Chile in 2021 and their evolution with respect to 2018. We expect to continue to improve and go into more depth in this report in upcoming versions, and expect each university participating in this project to conduct their own analysis, which will allow them to improve and redesign their degree courses in favor of entrepreneurial education.



### References

- Acs, Z. (2006). How is Entrepreneurship good for Economic Growth? Innovations, 1, 97-107.
- Ajzen, I. (1991). The theory of planned behavior. Organizational and Human Decision Processes, 50, 179-211.
- Ajzen, I. (2002). Perceived Behavioral Control, Self- Efficacy, Locus of Control, and the Theory of Planned Behavior, Journal of Applied Social Psychology, 32(1), 1-20.
- Baron, R.A. and Shane, S.A. (2008), Entrepreneurship: A Process Perspective, 2 Ed., Mason, OH: Thomson South-Western.
- Bosma, N. and Kelley, D. (2019). Global Entrepreneurship Monitor. 2018-2019 Global Report. Babson College, Universidad del Desarrollo, Korea Entrepreneurship Foundation. Available at: www.gemconsortium.org.
- Echecopar, G., Bustamante, C. and Bejares, C. (2011). Entrepreneurial Intentions and Activities of Students in Chile. GUESSS 2011. National Report for Chile. Santiago, Chile. Universidad Adolfo Ibañez.
- Fishbein, M. and Ajzen, I. (1975). Belief, attitude, intention, and behavior: An introduction to theory and research. Reading, M.A.: Addison-Wesley.
- Romaní, G., Atienza, M. and Rojas, N. (2019). Global University Entrepreneurial Spirit Student's Survey – GUESSS Informe Nacional Chile 2018. CEMP/FACEA/UCN, Antofagasta, Chile: Ediciones Universitarias Universidad Católica del Norte.
- Romaní, G., Martins, I., Varela, R. and Pombo, C. (2021). New Trends in Entrepreneurship Research in Latin America and Caribbean Countries: Evidence from GEM and GUESSS projects – an analytical editorial. Academia Revista Latinoamericana de Administración – ARLA, 34 (3): 329–342.
- Sieger, P., Fueglistaller, U., and Zellweger, T. (2011). Entrepreneurial Intentions and Activities of Students across the world: International report of GUESSS 2011. KMU-HSG.
- Sieger, P., Raemy, L., Zellweger, T., Fueglistaller, U., and Hatak, I. (2021). Global Student Entrepreneurship 2021: Insights from 58 Countries. 2018. Saint Gallen/Bern: KMU-HSG/IMU-U.



## **On the Authors**

Gianni Romaní Chocce	PhD and MBA, specializing in Finance, Universidad de Sao Paulo, Brazil. Centro de Emprendimiento y de la Pyme, CEMP. Professor/researcher at the Department of Administration of the Facultad de Economía y Administración of the Universidad Católica del Norte. Her areas of research are SME Financing, Formal and Informal Risk Capital and Entrepreneurship. Contact: gachocce@ucn.cl	
Miguel Atienza Úbeda	MPhil in Economy of Development and PhD in Economics, Universidad Autónoma de Madrid, Professor/researcher at the Department of Economics of the Facultad de Economía y Administración of the Universidad Católica del Norte. His research areas are Regional Development, Localization and Entrepreneurship and SME Economics.	
	Contact: miatien@ucn.cl	
Nicolás Rojas Bravo	MBA, Universidad Católica del Norte, UCN. USQAI /UCN Laboratory Director and CEMP Researcher. Part-time professor at the Department of Administration of the Facultad de Economía y Administración at the UCN.	
	Contact: nrojas04@ucn.cl	
Karen Rodríguez Vera	Master's degree in Integral Project Management, Universidad Católica del Norte. Professor/researcher at the Department of Auditing, Accounting and Management Control. Her areas of research are: SMEs, Entrepreneurship and innovation in education. Contact: krodriguez@ucn.cl	
Pedro Vera Castillo	Academic at the Department of Materials Engineering, Universidad de Concepción. BA-PhD in Metallurgical Engineering, École Nationale Supérieure de Mines, Paris, France. President of the Red Emprendedorismo e Innovación en América Latina (EmprendeSUR) (Latin American Entrepreneurship and Innovation Network). Official member of the World Entrepreneurship Forum, WEF. Contact: pvera@udec.cl	



## **GUESSS Chile Coordination**

Centro de Emprendimiento y de la Pyme (CEMP) Facultad de Economía y Administración Universidad Católica del Norte Av. Angamos 0610, Antofagasta www.cempucn.cl

> Contact: Gianni Romaní Director gachocce@ucn.cl Tel.: 56-55-2355769/2355746

## **GUESSS International Coordination**

Philipp Sieger GUESSS CEO University of Bern, Switzerland Philipp.sieger@imu.unibe.ch

45



# Member universities that participated in GUESSS Chile 2021

Name	Teams	Unit
Pontificia Universidad Católica de Chile	Constance Fleet / Valentina Lagos / Paola Wuth	Escuela de Ingeniería Centro de Innovación Escuela de Diseño
Pontificia Universidad Católica de Valparaíso	Carolina Silva Edwarsen Daniel Goya	Innovación y Emprendimiento
Universidad Adolfo Ibáñez Santiago y Valparaíso	Sebastián Uriarte	Facultad de Negocios
Universidad Arturo Prat Iquique	Evadil Ayala	Facultad de Ingeniería y Arquitectura
Universidad Austral de Chile Valdivia	Ester Fecci Gabriela González	Programa Centro de Emprendizaje, Campus Valdivia Instituto de Administración.
Universidad Católica de la Santísima Concepción	Hugo Bier Claudia Carrasco	Facultad de Ciencias Económicas y Administrativas Facultad de Ingeniería Industrial
Universidad Católica del Norte Antofagasta	Gianni Romaní / Miguel Atienza / Nicolás Rojas	Centro de Emprendimiento y de la Pyme / FACEA
Universidad Católica del Norte Coquimbo	Karla Soria	Núcleo de Emprendimiento y Alternativas de Financiamiento y Escuela de Ciencias Empresariales / ECIEM
Universidad de Antofagasta	Gonzalo Flores	Centro de Estudios y Desarrollo del Emprendimiento / CEDEUA
Universidad de Chile	Christian Cancino Soledad Etchebarne Felipe Ñancupil	Facultad de Economía y Negocios Aceleración OpenBeauchef
Universidad de Concepción - Chillán, Concepción y Los Ángeles	Pedro Vera Castillo	Facultad de Ingeniería
Universidad de La Frontera	Magaly Andrea Sandoval Díaz	Facultad de Ingeniería y Ciencias
Universidad de la Serena	Luperfina Rojas Karin Ortloff Nuñez	Facultad de Ciencias Sociales y Economicas / FCSE Carrera Ingeniería Comercial / FCSE
Universidad de las Américas	Gustavo Barrera	Facultad de Ingeniería y Negocios
Universidad de los Lagos Osorno y Puerto Montt	Claudio Mancilla Marcos Hernández	Departamento de Ciencias Administrativas y Económicas / Departamento Ciencias de la Ingeniería
Universidad de Tarapacá	Raúl Herrera	Facultad de Ingeniería, Departamento de Computación e Informática
Universidad del Desarrollo Santiago y Concepción	Carlos Poblete	Facultad de Economía y Negocios
Universidad Mayor	Ismael Espinoza / Claudio Pavez / Oliver Zamora	Dirección General Estudiantil / La Fábrica
Universidad Técnica Federico Santa María - Valparaíso y Santiago	Cristóbal Fernández Robin	Centro de Ingeniería de Mercado



# Countries and teams that participated in the GUESSS 2021 project

	Country	Primary Researcher	University
1	Albania (ALB)	Prof. Ermira Qosja	European University of Tirana
2	Australia (AUS)	Dr. Louis Geneste	Curtin University
3	Austria (AUT)	Prof. Alfred Gutschelhofer	University of Graz
4	Belgium (BEL)	Prof. Johanna Vanderstraeten Dr. Fréderic Ooms	University of Antwerp HEC Liège
5	Bolivia (BOL)	Prof. Rafael Velasquez Ramirez	NUR University
6	Brazil (BRA)	Prof. Edmilson Lima	UNINOVE - Universidade Nove de Julho
7	Bulgaria (BUL)	Dra. Juliana Hadjitchoneva	New Bulgarian University
8	Chile (CHI)	Prof. Gianni Romaní	Universidad Católica del Norte
9	Colombia (COL)	Prof. Izaias Martins / Tatiana López	Universidad EAFIT
10	Costa Rica (CRC)	Dr. Juan Carlos Leiva	Instituto Tecnológico de Costa Rica
11	Croatia (CRO)	Gabrijela Vidic / Borna Buljan	University of Zadar
12	Czech Republic (CZE)	Prof. Klara Antlova	Technical University of Liberec
13	Dominican Republic (DOM)	Prof. Guillermo Van der Linde	Pontificia Universidad Católica Madre y Maestra
14	Ecuador (ECU)	Prof. Mariella Jácome Ortega	Universidad Católica de Cuenca
15	El Salvador (ESA)	Prof. Manuel Sifontes	Universidad Dr. Jose Matias Delgado
16	England (ENG)	Prof. Audley Genus	Kingston University London
17	Estonia (EST)	Prof. Susanne Durst / Velli Parts	Tallinn University of Technology
18	Finland (FIN)	Dr. Katja Lahikainen Prof. Timo Pihkala	LUT University
19	Germany (GER)	Prof. Stephan Golla	Fulda University of Applied Sciences
20	Greece (GRE)	Prof. Katerina Sarri	University of Macedonia
21	Hungary (HUN)	Dr. Andrea S. Gubik Dr. Szilveszter Farkas	University of Mikolc / Budapest Business School
22	Indonesia (IND)	Dr. Eko Suhartanto	Universitas Prasetiya Mulya
23	Iran (IRI)	Ehsan Salari	Ferdowsi University of Mashhad
24	Iraq (IRQ)	Dr. Shivan Ahmed Mohammad Dr. Rebean Al-Silefanee	Nawroz University
25	Ireland (IRL)	Dr. Roisin Lyons	Dublin City University
26	Italy (ITA)	Prof. Tommaso Minola Dr. Davide Hahn	University of Bergamo
27	Japan (JAP)	Prof. Noriko Taji	Hosei University
28	Jordan (JOR)	Dr. Omar Shubailat / Dr. Aziz Madi	German Jordanian University
29	Kazakhstan (KAZ)	Dr. Gulzhanat Tayauova Prof. Saltanat Tamenova	Turan University



30	Lebanon (LBN)	Lara Al Arab	Lebanese University
31	Liechtenstein (LIE)	Prof. Marco Furtner	University of Liechtenstein
32	Lithuania (LTU)	Dr. Irina Liuberté	ISM University of Management and Ecomomics
33	Mexico (MEX)	Prof. José Ernesto Amorós	EGADE Business School
34	Morocco (MAR)	Dr. José M. Sánchez / José M. Biedma	University of Cadiz
35	Nepal (NEP)	Samundra Paudel	Pokhara University
36	Netherlands (NED)	Dr. Rainer Harms Prof. Petra de Weerd-Nederhof	University of Twente
37	New Zealan (NZL)	Prof. Rod McNaughton	University of Auckland
38	Nigeria (NGR)	Prof. Isaac Oluwajoba Abereijo	Obafemi Awolowo University
39	North Macedonia (MKD)	Dr. Ana Tomovska Misoska	University American College Skopje
40	Norway (NOR)	Prof. Marina Solesvik	Western Norway University of Applied Sciences
41	Pakistan (PAK)	Dr. Altaf Hussain Samo	Sukkur IBA University
42	Panama (PAN)	Dr. Maria do les Angeles Frende Vega Omaris Vergara de Henriquez	Universidad de Panama
43	Peru (PER)	Prof. Jaime Serida / Jessica Alzamora Carlos Guerrrero	Universidad Esan
44	Poland (POL)	Dr. Joanna Kosmaczewska	Poznan University of Life Sciences
45	Portugal (POR)	Prof. Rui Quaresma	University of Évora
46	Qatar (QAT)	Dr. Allan Villegas-Mateos Dr. Pablo Martin de Holan	HEC Paris in Qatar
47	Republic of Korea (KOR)	Yeong Soo Kim	Korea Entrepreneurship Foundation
48	Russia (RUS)	Prof. Galina Shirokova	HSE University
49	Saudita Arabia (KSA)	Dr. Ghadah Alarifi	Princess Nourah bint Abdulrahman University
50	Slovakia (SVK)	Prof. Marian Holienka	Comenius University in Bratislava
51	Spain (ESP)	Prof. Antonio R. Ramos Prof. José Ruiz-Navarro	Universidad de Cádiz
52	Sweden (SWE)	Prof. Massimo Baù Dr. Johan Karlsson	Jönköping International Business School
53	Switzerland (SUI)	Prof. Philipp Sieger Prof. Rico Baldegger	Universities of Bern & St. Gallen HEG Fribourg
54	Tunisia (TUN)	Siwar Youssef Dr. Henda El Gharbi	Corvinus University of Budapest University of Sousse
55	Ukrania (UKR)	Prof. Marina Solesvik	Western Norway University of Applied Sciences (NOR)
56	United Arab Emiratos (UAE)	Prof. Rodrigo Basco	American University of Sharjah
57	United States of America (USA)	Prof. Isabel Botero	University of Louisville
58	Uruguay (URY)	Dr. Catherine Krauss-Delorme DEA Adriana Bonomo-Odizzio	Universidad Católica del Uruguay



### **Presentation of the GUESSS Chile Sponsors**

## ESCONDIDA | BHP

Escondida | BHP has been promoting a virtuous relationship with the Region of Antofagasta for 30 years, which is reflected in the development of various initiatives and programs that have allowed us to materialize our Social Value strategy and give life to our purpose of "bringing people and resources together to build a better world".

From this vision, we seek to contribute in various areas, and supporting entrepreneurship and education are two very important areas for us. We believe that great ideas and innovations require great drive, even more so when they come from university students. Therefore, knowing their aspirations and intentions is very important.

This report will not only serve as a guide for better understanding these aspects but will also measure the effectiveness and quality of the programs taught in the various educational institutions, and is a benchmark for identifying opportunities for improvement and therefore, for increasing the scientific productivity of our country.



Universidad Católica del Norte, founded in 1956 and inspired on the principles of Christian Humanism, creates and disseminates knowledge through teaching, research and community outreach, contributing to the integral education of people, the preservation of cultural heritage and the sustainable development of society from the north of Chile". It is a Catholic, regional university, a benchmark in priority areas of knowledge and an agent of change with regard to the social, economic and environmental challenges of the north of Chile, and has incorporated entrepreneurship as one of the competencies to develop, encouraging creativity, efficiency and co-responsibility in the perspective of the concepts of sustainability, solidarity and the common good.



## **GUESSS Project Sponsor**





www.cempucn.cl

Ediciones Universitarias Universidad Católica del Norte