





# An insight to the entrepreneurial spirit of Greek students

**Greek Report of the GUESSS Project 2016** 

Katerina Sarri, Stavroula Laspita



Department of Balkan, Slavic and Oriental Studies

School of Economic and Regional Studies

University of Macedonia, Greece

Katerina Sarri is a Professor for Management and Entrepreneurship at the University of Macedonia in Thessaloniki, Greece

Stavroula Laspita is a Post-doc Researcher in the field of Entrepreneurship at the University of Macedonia in Thessaloniki, Greece



University of Macedonia, Greece Department of Balkan, Slavic & Oriental studies School of Economics & Peripheral studies

## Citation:

Sarri, K. & Laspita, S. (2016). An insight to the entrepreneurial spirit of Greek students. Greek Report of the GUESSS Project 2016. Thessaloniki: University of Macedonia, Greece.



## Preface

During the last years, Greece is undergoing a major economic crisis, which is associated with a deep and prolonged depression, both in economic and social terms. According to the OECD, the GDP has fallen significantly, public debt has increased, poverty and especially youth poverty has risen, life satisfaction has dropped and unemployment and income inequality have increased. Entrepreneurship has also been affected in multiple ways in the country, by the current economic crisis. According to GEM, Greeks show low intentions to start a business compared to other European countries, which can partly be explained by the fact that few people see good opportunities for starting businesses.

A widely accepted opinion expressed by politicians, policy makers and academics is that in order to succeed in growth and in the economic revival of the country, entrepreneurship, in the country both as an activity and as an attitude, should prevail. There is a need for the establishment of an entrepreneurial culture, which does not only include the creation of a new business but encompasses the internalisation of entrepreneurial values and characteristics such as risk taking, independence, creativity and innovation. The cultivation of such characteristics in students, may also help them to be creative and innovative in the context of an established firm and in their lives in general. Entrepreneurship education is considered essential, because it provides the necessary skills and the necessary knowledge for the development of an entrepreneurial culture.

Students in Greece, but also in general, represent to a great extent the entrepreneurs of tomorrow and they can serve as a constant source of creativity and innovation. The knowledge that students acquire in universities can be a source of new business opportunities and may lead to the creation of innovative businesses. Generally, there is growing interest among students about entrepreneurship as a career option and particularly in times of economic crisis, since the advantages offered in the past by large and established businesses or by the employment in the public sector, such as job security and stability are lost. The entrepreneurial plans of students will shape Greek society but will also influence the overall prosperity and revival of the country in the future.

We thank all students that participated in the study.

Yours sincerely,

Prof. Katerina Sarri and Dr. Stavroula Laspita



# Table of contents

| Preface |   |   | 3  |
|---------|---|---|----|
| 1.      | Introduction  |   | 7  |
|         | 1.1. Starting point and aims of GUESSS                        |   | 7  |
|         | 1.2. GUESSS Research Goals                                    |   | 7  |
|         | 1.3. Project o  | rganization and data collection procedure       | 8  |
|         | 1.4. The 2016   | GUESSS International Project in numbers         | 8  |
| 2.      | GUESSS in G   | reece   | 10 |
|         | 2.1. Particip   | ating Universities                              | 10 |
|         | 2.2. Sample   | characteristics                                 | 11 |
|         | 2.2.1. L  | evel of study                                   | 11 |
|         | 2.2.2. F  | ield of study                                   | 11 |
| 3.      | Results   |   | 13 |
|         | 3.1. Career c   | hoice intentions and entrepreneurial intentions | 13 |
|         | 3.1.1.Care  | er Choice Intentions                            | 13 |
|         | 3.1.2. Entr   | epreneurial intentions                          | 19 |
|         | 3.1.3. Shar   | e of nascent and active entrepreneurs           | 21 |
|         | 3.2. Drivers  | of entrepreneurial intentions                   | 22 |
|         | 3.2.1.The   | 23  |    |
|         | 3.2.2. Locus of control and attitude towards entrepreneurship |   | 25 |
|         | 3.2.3.Fam   | ily background                                  | 27 |
|         | 3.2.4. The  | society as a whole                              | 28 |
|         | 3.3. Nascent  | entrepreneurs                                   | 29 |
|         | 3.3.1. G  | eneral information                              | 29 |
|         | 3.3.2. F  | oundation partners                              | 30 |
|         | 3.3.3. P  | referred sector                                 | 31 |
|         | 3.3.4. G  | estation activities                             | 31 |
|         | 3.3.5. E  | quity share                                     | 33 |
|         | 3.4. Active entrepreneurs                                     |   | 34 |
|         | 3.4.1. G  | eneral information                              | 34 |
|         | 3.4.2. P  | referred industry sector                        | 34 |
|         | 3.4.3. F  | oundation year                                  | 35 |
|         | 3.4.4. E  | quity share                                     | 35 |
|         | 3.4.5. S  | atisfaction with self-employment                | 36 |
|         | 3.5. Compari  | sons between nascent and active entrepreneurs   | 36 |
|         | 3.5.1. N  | lotivation and goals                            | 36 |
| 4.      | Summary   |   | 39 |
|         | 4.1. Summar   | y of the findings                               | 39 |
| Re      | ferences  |   | 41 |



# List of Figures

| Figure 1: Participating Universities  | 10 |
|---|----|
| Figure 2: Level of study  | 11 |
| Figure 3: Field of study  | 11 |
| Figure 4: Career Choice Intentions directly after the studies and five years after graduation   | 13 |
| Figure 5: Career choices directly after studies and five years after graduation (Greece)        | 15 |
| Figure 6: Career choices directly after studies and five years after graduation (international) | 15 |
| Figure 7: Career choice intentions by gender directly after studies                             | 16 |
| Figure 8: Career choice intentions by gender five years after graduation                        | 17 |
| Figure 9: Career choice intentions by field of study directly after studies                     | 18 |
| Figure 10: Career choice intentions by field of study five years after graduation               | 18 |
| Figure 11: Strength of entrepreneurial intentions across gender                                 | 21 |
| Figure 12: Share of nascent entrepreneurs   | 22 |
| Figure 13: Share of active entrepreneurs  | 22 |
| Figure 14: Attendance of entrepreneurship courses   | 23 |
| Figure 15: Entrepreneurial learning assessment  | 25 |
| Figure 16: Existence of self-employed parents   | 27 |
| Figure 17: Career choice intentions by family background directly after studies                 | 28 |
| Figure 18: Career choice intentions by family background 5 years after graduation               | 28 |
| Figure 19: Subjective norms   | 29 |
| Figure 20: Time horizon of completing business creation (in months)                             | 29 |
| Figure 21: Number of Co-Founders of nascent entrepreneurs depending on gender                   | 30 |
| Figure 22: Activities already conducted by nascent entrepreneurs                                | 32 |
| Figure 23: Source of the business idea  | 33 |
| Figure 24: Foundation year  | 35 |
| Figure 25: Motivation of nascent and active entrepreneurs                                       | 37 |
| Figure 26: Motivation of nascent and active entrepreneurs                                       | 37 |



# List of tables

| Table 1: Universities, students and response rate of the participating countries | 9  |
|--|----|
| Table 2: Strength of entrepreneurial intentions                                  | 20 |
| Table 3: Items to assess the entrepreneurial climate in universities             | 24 |
| Table 4: Entrepreneurial climate assessment                                      | 24 |
| Table 5: Items used to assess entrepreneurial learning                           | 25 |
| Table 6: Items used to assess locus of control                                   | 26 |
| Table 7: Items used to assess the attitude towards entrepreneurship              | 26 |
| Table 8: Number of co-founders for nascent entrepreneurs                         | 30 |
| Table 9: Preferred industry sector for nascent entrepreneurs                     | 31 |
| Table 10: Nascent entrepreneurs' equity share in the planned firm                | 33 |
| Table 11: Preferred industry sector for active entrepreneurs                     | 34 |
| Table 12: Active entrepreneurs' equity share in their firm                       | 36 |
| Table 13: Self-employment satisfaction   | 36 |



## 1. Introduction

## 1.1. Starting point and aims of GUESSS

The international research project GUESSS stands for "Global University Entrepreneurial Spirit Students' Survey" and has been founded at the Swiss Research Institute of Small Business and Entrepreneurship at the University of St.Gallen (KMU-HSG) in 2003. Its research focus is on students' entrepreneurial intentions and activities around the globe, as entrepreneurship is one of the most powerful economic forces in modern societies.

With every data collection wave, GUESSS has grown and has become more internationally, culminating in the 7th edition in 2016 with 50 participating countries.

## **1.2. GUESSS Research Goals**

The aims of GUESSS can be summarized as follows:

- Systematic and long-term observation of entrepreneurial intentions and activities of students
- Identification of antecedents and boundary conditions in the context of new venture creation and entrepreneurial careers in general
- Observation and evaluation of Universities' activities and offerings related to the entrepreneurial education of their students

GUESSS intends to create value for different stakeholders:

- Participating countries generate insights on their respective basic conditions for entrepreneurship in general
- Participating countries also learn more about the entrepreneurial power of their students
- Participating Universities are enabled to assess their entrepreneurial climate
- The public is sensitized for entrepreneurship in general and new venture creation in particular
- Students can benefit from the implementation of respective actions in the long term



#### 1.3. Project organization and data collection procedure

Since 2016, the GUESSS project is jointly organized by the University of St.Gallen (Switzerland, KMU-HSG/CFB-HSG) and the University of Bern (Switzerland, IMU). The GUESSS Project Manager is Prof. Dr. Philipp Sieger (University of Bern). The supervisory board consists of Prof. Urs Fueglistaller (University of St.Gallen), Prof. Thomas Zellweger (University of St.Gallen), Prof. Norris Krueger, and Dr. Frank Halter (University of St.Gallen).

Every participating country is represented by one main team, responsible for the recruitment of a large number of other universities in the specific country. Each country representative is also responsible for writing the national reports (a list is provided in the Appendix).

For each data collection wave since 2003, the project's core team at the University of St.Gallen has been developing a comprehensive questionnaire. The link to the online survey is sent out to the different country teams who then forward it to their own students and to their university partners (who then also forward it to their respective students). It is of great importance to notice that the number of students that actually receive a personal invitation to take part in the survey is sometimes relatively difficult to estimate. The reason is that not all universities that take part in GUESSS sent out personal emails to students or that they send out those emails to the total student population, but only to a subgroup of students. In many cases, the GUESSS survey is announced in newsletters, on websites, or on Facebook pages.

## 1.4. The 2016 GUESSS International Project in numbers

In the 2016 survey more than 122.000 students from 50 countries participated in the study. The respondents' mean age is 24 years and 58.5% of them are female. 79.2% of all students are undergraduate (Bachelor) students, with 19.9% being graduate (Master) students. 32.8% of all students are studying in the field of "Law and Business" and 25.4% Engineering.

The following table lists response rates in all participating countries. However the overall response rate may be an underestimation of the response rate in terms of students invited because we do not have information at the university level in terms of exactly how many students were invited to participate, which diminishes our ability to calculate exact response rates at the university or country level.



## Table 1: Universities, students and response rate of the participating countries

|      | Country (code)         | Number of universities | Completed responses | # of universities |
|------|------------------------|------------------------|---------------------|-------------------|
| 1    | Albania / Kosovo (ALB) | 6                      | 70                  | 0.1               |
| 2    | Argentina (ARG)        | 45                     | 2625                | 2.1               |
| 3    | Australia (AUS)        | 18                     | 2359                | 1.9               |
| 3    | Austria (AUT)          | 51                     | 3755                | 3.1               |
| 5    | Belgium (BEL)          | 16                     | 716                 | 0.6               |
| 5    | Belarus (BLR)          | 6                      | 771                 | 0.6               |
|      | Brazil (BRA)           | 83                     | 7417                | 6.1               |
| /Q   | Canada (CAN)           | 2                      | 297                 | 0.2               |
| 0    | Chile (CHI)            | 32                     | 6077                | 5.0               |
| 10   | China (CHN)            | 97                     | 3274                | 2.7               |
| 1011 | Colombia (COL)         | 13                     | 3832                | 3.1               |
| 11   | Croatia (CRO)          | 26                     | 1555                | 1.3               |
| 12   | Czech Republic (CZE)   | 10                     | 1135                | 0.9               |
| 13   | Ecuador (ECII)         | 5                      | 8211                | 67                |
| 14   | Fl Salvador (FSA)      | 14                     | 4653                | 3.8               |
| 15_  | England (FNG)          | 16                     | 1074                | 0.9               |
| 16_  | Estonia (EST)          | 25                     | 811                 | 0.7               |
| 17_  | Finland (FIN)          | 16                     | 532                 | 0.4               |
| 18_  |                        | 16                     | 552                 | 0.4               |
| 19_  | Commony (CED)          | 50                     | /14                 | 12.0              |
| 20   | Germany (GER)          | 50                     | 15984               | 13.0              |
| 21_  |                        | 12                     | 049<br>5192         | 0.5               |
| 22_  | Hungary (HUN)          | 25                     | 5182                | 4.2               |
| 23   | India (IND)            | 11                     | 3/                  | 0.0               |
| 24   | Ireland (IRL)          | 17                     | 807                 | 0.7               |
| 25   | Italy (ITA)            | 39                     | 4446                | 3.6               |
| 26_  | Japan (JAP)            | 25                     | 1490                | 1.2               |
| 27_  | Kazakhstan (KAZ)       | 22                     | 253                 | 0.2               |
| 28_  | Korea (KOR)            | 52                     | 2603                | 2.1               |
| 29   | Liechtenstein (LIE)    | 2                      | 159                 | 0.1               |
| 30_  | Lithuania (LTU)        | 36                     | 426                 | 0.3               |
| 31   | Luxembourg (LUX)       | 5                      | 82                  | 0.1               |
| 32   | Malaysia (MAL)         | 3                      | 124                 | 0.1               |
| 33   | FYROM (MAC)            | 20                     | 137                 | 0.1               |
| 34   | Mexico (MEX)           | 4                      | 1207                | 1.0               |
| 35   | Morocco (MAR)          | 11                     | 2044                | 1.7               |
| 36   | Norway (NOR)           | 4                      | 41                  | 0.0               |
| 37   | Pakistan (PAK)         | 12                     | 580                 | 0.5               |
| 38   | Panama (PAN)           | 5                      | 3273                | 2.7               |
| 39   | Peru (PER)             | 12                     | 1297                | 1.1               |
| 40   | Poland (POL)           | 58                     | 6388                | 5.2               |
| 41   | Portugal (POR)         | 11                     | 4685                | 3.8               |
| 42   | Russia (RUS)           | 34                     | 4152                | 3.4               |
| 43   | Slovakia (SVK)         | 17                     | 3266                | 2.7               |
| 44   | Slovenia (SLO)         | 5                      | 575                 | 0.5               |
| 45   | Spain (ESP)            | 19                     | 7373                | 6.0               |
| 46   | Sweden (SWE)           | 10                     | 606                 | 0.5               |
| 47   | Switzerland (SUI)      | 40                     | 2943                | 2.4               |
| 48   | Ukraine (UKR)          | 4                      | 73                  | 0.1               |
| 49   | Uruguay (URY)          | 7                      | 1396                | 1.1               |
| 50   | USA                    | 15                     | 353                 | 0.3               |
|      | Total                  | 1082                   | 122509              | 100               |

Source: Sieger, Fueglistaller, & Zellweger 2016



## 2. GUESSS in Greece

Greece is participating in the survey since 2008 and is represented by the University of Macedonia and Professor Katerina Sarri. A total of 649 students from 11 universities participated in the 2016 study. The first indication was that the questionnaire was answered by 1426 students. Unfortunately there was a great amount of students that started answering the questionnaire but did not go through it until the end. One explanation is that these students tried to participate through mobile devices, however the interface made it hard for them to see the questions and the possible answers.

## 2.1. Participating Universities

In 2016, students mainly from 11 universities participated in the study and the majority of them come from the University of Macedonia  $(58.2\%)^1$  followed by students from the Panteion University of Political and Social Sciences (7.2%). The exact distribution can be found in the Figure 1.

## **Figure 1: Participating Universities**



<sup>1</sup> This result can be explained by the fact that the Professor who is responsible for GUESSS project in Greece is affiliated with the University of Macedonia.



#### **2.2. Sample characteristics**

The respondents' mean age is 23.2 years and 59.1% of them are female. 96.6% of the students had the Greek nationality and others were Albanian, Cypriots, etc.. Only a small minority were international exchange students (4.2%). More information about the level and the field of study of the respondents can be found in the following figures.

### 2.2.1. Level of study

Most of the students (48.7%) started their studies in 2013, 15.6% in 2014, 32.9% in 2015 and 2.8% in 2016. The great majority of students (80.7%) are undergraduate (Bachelor) students, with 12.8% being graduate (Master) students. The share of students on other levels like PhD students and MBA students is smaller (6.5%). The results are also shown in the figure below.

#### Figure 2: Level of study



## 2.2.2. Field of study

The majority of the Greek students in our sample are studying law and economics (incl. business sciences) followed by social sciences (e.g., psychology, politics, educational science) and engineering (incl. computer sciences and architecture). Less students in our sample study science of art (e.g., art, design, dramatics, music) medicine and health sciences. The exact results are shown in the figure below.

#### **Figure 3: Field of study**







## 3. Results

## 3.1. Career choice intentions and entrepreneurial intentions

## **3.1.1.**Career Choice Intentions

One of the central aims of GUESSS is to capture students' career choices in the near future but also in the long-term. The following figure reports students' occupation preference right after the completion of their studies and five years after graduation.

Figure 4: Career Choice Intentions directly after the studies and five years after graduation



The first six options illustrate career paths as an employee, either in the private sector, or in the public sector, or in a non-profit organisation. The first three options, namely being employed in a small, medium-sized, or large firm, are clearly the most preferable ones directly after studies, which a stable choice throughout the years for the Greek sample. Referring to five years later, we see that the attractiveness for working as an employee in a small and in a medium-sized firm decreases significantly, but increases for working in a large firm (similar as in the last years for the greek sample). This may be partly due to the economic crisis as large companies may provide a more secure and stable working environment compared to smaller ones.

The figure also shows, that preference for entrepreneurial activities of any kind immediately after graduation is rather low. Five years after graduation the picture changes to a great extent. The



percentage of students that would like to work as a founder in their own company increases to a large extent from 4% to 32,7% (compared to 7.1% and 27.0% respectively in 2014). Also in the international dataset, almost 40% of all students want to be an entrepreneur five years after completion of studies. It seems as though students would initially like to gain working experience so as to gain knowledge in various field such as management, finance, marketing, etc. through paid employment and then take the risks of becoming self-employed. In addition, previous research has shown that entrepreneurship education may influence students' entrepreneurial intentions but the effect differs with respect to short- and long-term intentions. While students that have taken entrepreneurship courses show low entrepreneurial intention in the short-run (directly after graduation), there is a strong effect of entrepreneurship education on the long run (Slavtchev et al., 2012)

While in the first year (2008) that Greece participated in GUESSS, the public sector was a very attractive career path (especially for female students) in the Greek sample both directly after the studies, but also five years after graduation, we see that this picture changed in the 2014 and 2016 data. For example in 2008 that is before the outbreak of the Greek economic crisis, 20.8% of the students wanted to work in public sector, directly after the studies and 27.5%, five years after graduation. In 2013, the percentage for both timespans is around 7, which shows that working at the public sector directly after the studies and this percentage drops to 4.3% five years after graduation. The employment conditions in the public sector after the reforms that happened the years during the crisis no longer provide job security, uncertainty avoidance and a structured career progression, as they used to do in the past.

Very interesting is the fact that there is a great amount of students that would like to follow an academic career path not directly after their studies but five years after graduation (11.9% compared to 5.7% directly after the studies). This is probably because they would like to continue with Postgraduate studies and a PhD and thus postponing the employment date or gaining more qualifications in order to obtain a competitive advantage in the job market. The number of people that are undecided as far as their career path is concerned is quite high in both time spans (around 8%). These may be undergraduate students in the first years of their studies.

To illustrate the relevance of different types of occupations and the respective shifts depending on the time horizon, we group the different career options into "Employee", "Founder", and "Successor". The results are shown in figure below.





Figure 5: Career choices directly after studies and five years after graduation (Greece)

Figure 6: Career choices directly after studies and five years after graduation (international)



Source: Sieger, Fueglistaller, & Zellweger 2016

Figures 5 and 6 illustrate students' clear preference for paid-employment directly after the studies and a shift towards self-employment five years after graduation both in the Greek and the international sample. The amount of successors slightly increases five years after graduation, however it is much lower than people who would like to found their own company and this shows that people mostly prefer to start their business from scratch than to take over an existing one.



In recent years, the interest of scholars and practitioners in gender aspects of entrepreneurship has been increasing significantly (Sarri & Trihopoulou, 2012) as female entrepreneurship is considered to be an important source of growth, employment, and innovation (Piacentini, 2013). Whereas women entrepreneurs make an important contribution to the development of the world economy, there is a gender gap in entrepreneurial activity (Kelley et al. 2016).

We take a closer look at male and female students future career choices, directly after their graduation and five years after graduation. The figures below (figures 7 & 8) show that directly after the studies both gender (and especially female students) have a clear preference towards paid-employment, whereas five years after graduation this interest decreases. Five years after graduation the share of intentional founders among males is higher than among females (34.5% versus 31.8%). This fact may be related with social prejudices about the role of women or other obstacles that are associated with the creation of businesses by women (Sarri and Trichopoulou, 2012). We see that the preference of a career path as a successor, be it in the family firm or in a firm not owned by one's parents, stays the same for the male sample but increases for the female sample. The amount of undecided students is quite large for both gender in both time spans.



Figure 7: Career choice intentions by gender directly after studies





Figure 8: Career choice intentions by gender five years after graduation

Also in the international sample, both directly after studies and five years later, the share of intentional founders is considerably smaller among females than among males. Directly after the studies 11.2% of the male students are intentional entrepreneurs, compared to 7.1% of the female students. Five years after graduation 40.8% of the male students are intentional entrepreneurs, compared to 36.4% of the female students.

Entrepreneurial intentions and future career choices of individuals have been found to differ across educational specialisations (e.g., Kristiansen and Indarti, 2004). Hence, we split our analysis of career choice groups depending on the field of study<sup>2</sup>.

<sup>&</sup>lt;sup>2</sup> BECL includes "Law and Economics" (incl. business sciences); NSM includes "Engineering (incl. computer sciences and architecture) "Human medicine / health sciences", "Mathematics and natural sciences"; and SSC comprises "Arts / Humanities (e.g., linguistics, cultural studies, religion, philosophy, history)" as well as "Social sciences (e.g., psychology, politics, educational science)" and Science of art (e.g. art, design, dramatics, music).





Figure 9: Career choice intentions by field of study directly after studies

Figure 10: Career choice intentions by field of study five years after graduation



Right after studies, students of all disciplines prefer a career path as an employee. The share of intentional founders is larger (7.8%) for NSM students than the other two categories. This can be partially explained by the fact that the training of engineering students for example, provides them



with necessary skills and potential to start high-growth technology companies (Papayannakis et al., 2008). The percentage of SSC students who is undecided is quite high (10%).

Five years after graduation interest towards entrepreneurship increases for students of all disciplines and is equal for BECL and for NSM students. A quite large percentage of students of all fields of study remain indecisive for their future plans.

#### **3.1.2.** Entrepreneurial intentions

A large part of what is called entrepreneurial activity is a direct outcome of repeated attempts to exercise control over the entrepreneurial process, in order to achieve in creating a business. There are several obstacles that must be overcome so as to succeed in this process and therefore there is a need for subsequent actions over a considerable period of time, actions that are clearly intentional (Shaver et al. 2001). Scholars argue that entrepreneurship is exactly the type of planned behaviour for which intention models are ideally suitable (Bird 1988), because intentions have a profound effect and are usually determinants of most entrepreneurial behaviour (Krueger and Carsrud 1993). Meta-analyses on the intentions-behaviour/action gap confirm this, as up to 39% of the variance in actual behaviour can be explained by intentions (Bullough 2014). Therefore, entrepreneurial intentions are one of the best predictors of planned behaviour (Krueger and Carsrud 1993).

In order to capture the extent of students entrepreneurial intentions, students were asked to indicate their level of agreement to a number of statements from 1 (strongly disagree) to 7 (strongly agree) that show their general intention to become an entrepreneur in the future (Linan & Chen, 2009). This approach allows for a more accurate presentation of students' entrepreneurial intentions and a more precise evaluation of the entrepreneurial spirit of students that shift away from a simple 'yes' or 'no' response to the question whether they are going to become entrepreneurs some time in the future. The results are presented in the following table.



|  | 2014 |      |       | 2016 |      |       |
|--|------|------|-------|------|------|-------|
|  | N    | Mean | SD    | N    | Mean | SD    |
| I am ready to do anything to be an entrepreneur.       | 379  | 3.39 | 1.651 | 603  | 3.61 | 1.654 |
| My professional goal is to become<br>an entrepreneur.  | 379  | 3.69 | 1.704 | 597  | 4.06 | 1.774 |
| I will make every effort to start and run my own firm. | 376  | 3.85 | 1.783 | 599  | 4.11 | 1.745 |
| I am determined to create a firm in the future.        | 380  | 3.93 | 1.825 | 598  | 4.20 | 1.761 |
| I have very seriously thought of starting a firm.      | 383  | 3.92 | 1.943 | 601  | 4.19 | 1.793 |
| I have the strong intention to start a firm someday.   | 381  | 4.23 | 1.931 | 597  | 4.35 | 1.820 |

## **Table 2: Strength of entrepreneurial intentions**

Furthermore an aggregated entrepreneurial intention index was generated by calculating the mean of all six answers/variables from Table 2. The average value of this variable is 4.1 (compared to 3.82 in the previous report) for Greece.

Furthermore, we tested for gender differences and found that male students' interest towards entrepreneurship is higher than female students' interest, which in accordance with previous studies (e.g. Kelley et al, 2015). We also tested for gender differences in the aggregated entrepreneurial intention index. The entrepreneurial intention for male respondents (M=4.31, SD=1.534) is significant higher than that for female respondents (M=3.96, SD=1.541). (t(602)=-2.729, p<0.007). The following figure provides a more detailed picture of the results.





## Figure 11: Strength of entrepreneurial intentions across gender

### **3.1.3. Share of nascent and active entrepreneurs**

A lot of research in entrepreneurship has been concentrated on existing entrepreneurs with the associated problems of hindsight bias and memory decay resulting from retrospective studies (Davidsson & Honig, 2003). Therefore it is of great importance to look at nascent entrepreneurs i.e. individuals who are actively involved in setting up a business, which however is not officially established (Davidsson & Gordon, 2012).

To identify nascent entrepreneurs, all students were asked: "Are you currently trying to start your own business / to become self-employed?". As results (see Figure 12) the vast majority of the students are not nascent entrepreneurs which is in accordance with the fact that they would like to work as employees right after their studies. In our sample 105 students are nascent entrepreneurs (16,2% of the sample). As far as the international sample is concerned 26.807 students answered with "yes" (21.9%). Countries with the highest percentages of nascent entrepreneurs include India (59.5%) and Malaysia (56.9%) and countries with the lowest percentages of nascent entrepreneurs include Sweden (6.3%) and Germany (6.9%).



### Figure 12: Share of nascent entrepreneurs



Besides nascent entrepreneurs, GUESSS also observes the entrepreneurial activities of students and the quality and performance of start-ups created by students. Therefore, students who are already running their own business were identified. In Greece 6.2% (40 students) stated that they are active entrepreneurs, which is below the international average of 8.8%. Counties with the highest percentages of active entrepreneurs include Malaysia (35.0%) and China (30.5%) and countries with the lowest percentages of active entrepreneurs include Japan (1.3%) and Belgium (3.0%).

Figure 13: Share of active entrepreneurs



## 3.2. Drivers of entrepreneurial intentions

There is need to identify factors that precede intentions, so as to have a better understanding of the entrepreneurial process (Krueger et al. 2000). There are a number of antecedents of entrepreneurial intentions that could be taken into consideration and that are related for example with the person (e.g. demographics, personality, personal factors, etc.), the micro-social environment (e.g. family, etc.) and the macro-social environment (e.g. university context, etc.).



#### **3.2.1.** The university context

The role of Higher Education is very important in creating entrepreneurial mindsets, since students are one step before entering the work environment and some have already during their studies have set up their own business (Bergmann et al, 2016). Higher education can provide the necessary knowledge and skills needed for establishing a business and can also provide the development of entrepreneurial skills needed to identify and exploit business opportunities (Souitaris et al. 2007; Pittaway and Cope 2007).

Hence, we asked the students to what extent they have been attending entrepreneurship related courses and offerings. As figure 14 shows, 8.8% of all students are studying in a specific program on entrepreneurship. 34.6% of respondents did not attend any entrepreneurship-related course at all. More than 60% of the students have attended an entrepreneurship course either as a compulsory or as an elective course (multiple answers were possible). More than half of all students in the international sample have not attended any course on entrepreneurship yet.



#### Figure 14: Attendance of entrepreneurship courses



GUESSS aims to examine not only the entrepreneurial spirit of students but also the entrepreneurial spirit of universities. Therefore, students were asked to indicate the extent to which they agree to the following statements. Answers ranged from 1 (not at all) to 7 (very much).

Table 3: Items to assess the entrepreneurial climate in universities

| ltem | Item text  |
|------|--|
| 1    | The atmosphere at my university inspires me to develop ideas for new businesses.   |
| 2    | There is a favorable climate for becoming an entrepreneur at my university.        |
| 3    | At my university, students are encouraged to engage in entrepreneurial activities. |

The average importance of the different factors is illustrated in the next table and results reveal that universities have still a lot of work to do in order to be regarded as entrepreneurial as students assess the entrepreneurial climate in their universities quite neutrally.

## Table 4: Entrepreneurial climate assessment

|                    | Item text  | Greek sample<br>2014 | Greek sample<br>2016 |
|--------------------|--|----------------------|----------------------|
| 1 The atrideas for | nosphere at my university inspires me to develop<br>or new businesses. | 4.12                 | 4.04                 |
| 2 There i entrepr  | s a favorable climate for becoming an eneur at my university.          | 3.97                 | 3.88                 |
| 3 At my<br>entrepr | university, students are encouraged to engage in eneurial activities.  | 4.22                 | 4.15                 |

The knowledge about entrepreneurship that students acquire when attending an entrepreneurship course or programme is very important as knowledge may lead to an increased opportunity identification ability that could raise students' entrepreneurial attitudes and intentions (Souitaris et al., 2007). We thus asked them to indicate the extent to which they agree to five statements about their learning progress during their studies (answers ranged from 1=not at all to 7=very much). The question started with "The courses and offerings I attended..." (cf. Souitaris et al. 2007):



#### Table 5: Items used to assess entrepreneurial learning

| ltem | Item text   |
|------|---|
| 1    | increased my understanding of the attitudes, values and motivations of entrepreneurs. |
| 2    | increased my understanding of the actions someone has to take to start a business.    |
| 3    | enhanced my practical management skills in order to start a business.                 |
| 4    | enhanced my ability to develop networks.  |
| 5    | enhanced my ability to identify an opportunity.                                       |

The results in the following figure show that there is clearly room for improvement. It seems that courses and other offerings enhance students' ability to identify an opportunity and enhance their understanding of entrepreneurial attitudes, values and motivations. Still steps have to be taken in order to enhance the ability to develop networks and to gain practical management skills.

## Figure 15: Entrepreneurial learning assessment



## 3.2.2. Locus of control and attitude towards entrepreneurship

The locus of control, "*measures subjects*' perceived ability to influence events in their lives" (Begley and Boyd 1987) and has been one of the most studied psychological traits in entrepreneurship research. People with an internal locus of control believe that events in their life derive primarily from their own actions whereas people with and external locus of control tend to



believe that external factors are responsible for what is happening in their lives and that they personally have little or no control over such things. Entrepreneurs have been found to be people with an internal locus of control as they are initiators, they depend more on their skills and not on others and they take responsibility for their actions (Mueller and Thomas 2001). In this study the locus of control was measured using the Levenson (1973) scale.

## Table 6: Items used to assess locus of control

| ltem | Item text   |
|------|---|
| 1    | I am usually able to protect my personal interests.       |
| 2    | When I make plans, I am almost certain to make them work. |
| 3    | I can pretty much determine what will happen in my life.  |

The overall result for the locus of control variable is 4.95 (SD=1.006) which shows a rather internal locus of control. Furthermore, we tested for gender differences and found that male students (AM= 5.01, SD=1.021) have a higher internal locus of control compared to women (AM=4.91, SD=0.997), however the difference is very small and not significant. Lastly we conducted a correlation analysis between entrepreneurial intention and locus of control. The correlation is positive (0,280) and it is significant at the 0.01 level, confirming previous research that the higher the entrepreneurial intentions the higher the internal locus of control.

Attitude towards behaviour refers to the "the degree to which a person has a favourable or unfavourable evaluation or appraisal of the behaviour in question" (Ajzen 1991, p. 188). In this study the attitude towards entrepreneurship was measured using the Linan and Shane (2009) scale.

| Table 7: Items used to assess the attitude towards entrepreneurs | hip |
|--|-----|
|--|-----|

| ltem | Item text   |
|------|---|
| 1    | Being an entrepreneur implies more advantages than disadvantages to me. |
| 2    | A career as entrepreneur is attractive for me.                          |
| 3    | If I had the opportunity and resources, I would become an entrepreneur. |
| 4    | Being an entrepreneur would entail great satisfactions for me.          |
| 5    | Among various options, I would rather become an entrepreneur.           |

The overall result for the attitude towards entrepreneurship is 4.71 (SD=1.430), which shows a rather moderate positive attitude. Furthermore, we tested for gender differences and found that male students (AM= 4.92, SD=1.402) have a more positive attitude towards entrepreneurship compared



to female students (AM=4.56, SD=1.435) and the difference is significant (p<0.05). Lastly we conducted a correlation analysis between entrepreneurial intention and locus of control. The correlation is very strong and positive (0.820) and it is significant at the 0.01 level, confirming previous research that the more positive the attitude towards entrepreneurship, the higher the intention to become self-employed.

## 3.2.3. Family background

Previous research showed that children of entrepreneurial parents are more likely to become entrepreneurs themselves (Laspita et al. 2012). In order to explore students' entrepreneurial family background, they were asked if their father, their mother, or both of them are currently self-employed.

Almost 59% of the students report that none of them is self-employed. 13,7% of the respondents indicate that both of their parents are self-employed. The results are presented in the figure below.



Figure 16: Existence of self-employed parents

We split our sample into students with and without entrepreneurial parents and examined their career choice intentions directly after the studies and five years after graduation. The results can be found in figures 17 and 18.





Figure 17: Career choice intentions by family background directly after studies





Students with and without entrepreneurial parents in the Greek sample do not differ to a great extent in their future career choices. We see some differences in the percentage of people that would like to become a successor but this can be explained by the fact that students without entrepreneurial parents do not have the option to take over their parents' firm one day.

## 3.2.4. The society as a whole

According to Ajzen's (1991) theory of planned behaviour, an individual's intention is shaped by three attitudinal antecedents: attitudes toward behaviour, subjective norms, and perceived behavioural control. Specifically, subjective norms capture the reaction that individuals expect from close peers if a certain behaviour is executed. The more positive the expected reaction, the more likely it is that actual intentions to perform the behaviour are formed.

Therefore participants were asked how different people in their environment would react if they decided to become entrepreneurs. Responses ranged from 1 ="very negative" to 7= "very positive". (Linan & Chen, 2009). Results suggest that the majority of participants believe that their social environment would react rather positively to the decision to become entrepreneurs. Interestingly the least positive reaction comes from fellow students.



## **Figure 19: Subjective norms**



## **3.3.** Nascent entrepreneurs

## **3.3.1.** General information

The nascent entrepreneurs in our sample have a mean age of 23.1 and are female (54.3%) in their majority. Most of them are undergraduate students (81.9 %) and study law and economics (49.5%) or engineering (15.2%). 58% of the nascent entrepreneurs would like this business to become their main occupation after graduation and for a small percentage (11.1%) this is not their first business.

Respondents were asked in how many months they plan to found their business. Almost half of the nascent entrepreneurs would like to start their business within period of 19 months to two years both in the Greek and the international sample. The results can be found in the figure below.







## **3.3.2.** Foundation partners

Only 13.6% of the nascent entrepreneurs intend to found their company alone. The table below, gives a better overview of the number of the partners. The majority of the students would like to found their company with one or two co-founders. Similar results can be found for the international sample. 48.6% of the nascent entrepreneurs in the Greek sample, are planning to found the company with at least one member of their family and the same percentage is planning to found the company with a fellow student.

| With how many co-founders do you plan to found your firm? | Greek<br>sample | International sample | Greek<br>sample | International sample |
|---|-----------------|----------------------|-----------------|----------------------|
|   | 2014            | 2014                 | 2016            | 2016                 |
| No Co-founders  | 17.6            | 27.3                 | 13.6            | 18.6                 |
| 1 Co- founder   | 29.4            | 35.8                 | 37.0            | 27.8                 |
| 2 Co- founders  | 28.2            | 24.0                 | 29.6            | 28.0                 |
| 3 Co- founders  | 15.3            | 7.9                  | 11.1            | 15.9                 |
| > 3 Co- founders  | 9.4             | 5.0                  | 8.6             | 9.6                  |

The distinction between male and female nascent founders exhibits some differences in the propensity to found their company in a team. Figure 21 shows that 21.7% of the nascent female entrepreneurs intend to start their business alone, compared to 2.9% of their male counterparts. Both the majority of female and male nascent entrepreneurs are planning to found the company with one partner.





## **3.3.3.** Preferred sector

Nascent entrepreneurs were also asked about the sector in which their company would be active. The most preferred industry sectors of the nascent founders among students for their start-up are tourism and leisure (20.0%) and the advertising/marketing and design sector (16.3%). The least preferred industry sectors are manufacturing and health services and social work activities. This study confirms the devastating role that the current economic crisis has on the construction industry in the country, as none of the nascent entrepreneurs in our sample prefers this sector. Looking at the international sample the picture is quite fragmented. Wholesale/ retail trade seems to be most attractive industry sector. More details are given in the table below.

| Economic sector  | Greek<br>sample | International sample |
|--|-----------------|----------------------|
| Advertising / Design / Marketing   | 16.3            | 11.3                 |
| Architecture and Engineering   | 3.8             | 7.1                  |
| Consulting (HR, law, management, tax)  | 5.0             | 7.5                  |
| Education and training   | 8.8             | 5.8                  |
| Financial services (incl. banking, insurance, investment, real estate)       | 10.0            | 5.1                  |
| Human health and social work activities                                      | 3.8             | 6.2                  |
| Information technology (IT) and communication (incl. software & IT services) | 7.5             | 10.2                 |
| Manufacturing  | 3.8             | 6.5                  |
| Tourism and leisure  | 20.0            | 8.5                  |
| Trade (wholesale/retail)   | 6.3             | 13.7                 |
| Other services (eg. transportation)  | 1.3             | 3.8                  |
| Other  | 13.8            | 11.4                 |
| Construction   | 0               | 2.8                  |

| Table 9: Preferred | l industry | sector f | or nascent | entrepreneurs |
|--------------------|------------|----------|------------|---------------|
|--------------------|------------|----------|------------|---------------|

## **3.3.4.** Gestation activities

In order to gain more detailed information about how far the nascent entrepreneurs have already proceeded in the founding process, they were asked which activities they have already completed (multiple answers possible). The majority of nascent entrepreneurs have collected information



about markets or competitors (43.2%), wrote a business plan (38.3%) and discussed their business idea with potential customers (33.3%). Details are given in the figure below.



Figure 22: Activities already conducted by nascent entrepreneurs

As far as the international sample is concerned students seem to be in early stages of the founding process. Nascent entrepreneurs have collected information about markets or competitors (51.3%), and discussed their business idea with potential customers (35.4%). The activities that are less conducted are an application for a patent, copyright or trademark (5.3%) and the registration of the business (6.6%)

Nascent entrepreneurs were asked about the source of their business idea. University studies and hobbies seem to be the most popular sources of business ideas in both samples. Detailed results can be found below (multiple answers possible).



## Figure 23: Source of the business idea



## 3.3.5. Equity share

When asked how much equity they expected to have in their new business, the vast majority of nascent entrepreneurs prefers a majority ownership. Having a closer look reveals that 32.1% will own 50% or less of the firm's equity. 56.7% of nascent entrepreneurs will own between 51% and 99%, and 11.1% of nascent entrepreneurs will own all the firm's equity.

## Table 10: Nascent entrepreneurs' equity share in the planned firm

| Equity share | Percent |
|--------------|---------|
| 0-25%        | 6.2     |
| 26-50%       | 25.9    |
| 51-75%       | 40.7    |
| 76-99%       | 16.0    |
| 100%         | 11.1    |



#### 3.4. Active entrepreneurs

## 3.4.1. General information

The active entrepreneurs in our sample have a mean age of 25.7 (30.3 in 2014) which is higher than the mean age of nascent entrepreneurs. Most active entrepreneurs are male (60.0%) and the majority is undergraduate students (69.2%), followed by graduate students (17.9%) studying law and economics (52.5%), followed by engineering (15.0%) and social sciences (10.0%). 60% of the students would like this business to become their main occupation after graduation.

Start ups are regarded to be job creators, which is very important especially in periods of an economic crisis. The mean number of employees of active entrepreneurs in our sample is 4.03 (the median is 2.0). 20% of the entrepreneurs do not have any employees. Data from the international sample show that on average the firms have 6.3 employees (full-time equivalents) and only 26.9% do not have any employees at all.

## **3.4.2.** Preferred industry sector

Entrepreneurs were also asked about the industry sector in which their company is mainly active. In Greece consulting comes first (21.6%), followed by information technology and communication (16.2%) and the least preferred industry sector is health services. The picture for the international sample is quite fragmented. More details about the Greek and the international sample are given in the table below.

| Economic sector  | Greek<br>sample | International sample |
|--|-----------------|----------------------|
| Advertising / Design / Marketing   | 25.0            | 12.0                 |
| Architecture and Engineering   | 2.5             | 4.7                  |
| Construction   | 7.5             | 4.0                  |
| Consulting (HR, law, management, tax)  | 2.5             | 6.3                  |
| Education and training   | 5.0             | 5.8                  |
| Financial services (incl. banking, insurance, investment, real               | 7.5             | 3.8                  |
| Human health and social work activities                                      | 2.5             | 4.0                  |
| Information technology (IT) and communication (incl. software & IT services) | 5.0             | 8.3                  |
| Manufacturing  | 5.0             | 5.5                  |

 Table 11: Preferred industry sector for active entrepreneurs



| Economic sector                       | Greek<br>sample | International sample |
|---------------------------------------|-----------------|----------------------|
| Tourism and leisure                   | 10.0            | 4.6                  |
| Trade (wholesale/retail)              | 10.0            | 17.8                 |
| Other services (e.g., transportation) | 17.5            | 4.5                  |
| Other                                 | 13.8            | 18.7                 |

## 3.4.3. Foundation year

In order to see whether the economic crisis has affected actual entrepreneurial activities students were asked about the year in which they founded their business. As the following figure shows, most of the firms in our sample have been created after the outbreak of the economic crisis. This confirms results from other studies that show that the Greek population reacted against the economic crisis by engaging in entrepreneurial activities. Looking at the international data, the average age of the existing ventures is around 4 years and most of the businesses have been created in 2016.

## Figure 24: Foundation year



## 3.4.4. Equity share

When asked about the ownership share in the business, active entrepreneurs clearly point towards a majority ownership as more than 60% percent of the respondents have more than 51% equity in their business. More accurate results are provided below.



## Table 12: Active entrepreneurs' equity share in their firm

| Equity share | Percent |
|--------------|---------|
| 0-25%        | 15.8    |
| 26-50%       | 23.7    |
| 51-75%       | 18.4    |
| 76-99%       | 10.5    |
| 100%         | 31.6    |

## 3.4.5. Satisfaction with self-employment

Active entrepreneurs were asked about their level of satisfaction with self-employment. We created an aggregated satisfaction index by calculating the mean of the 4 items from Table 13. The average value of this variable is 4.81, which shows a rather modest satisfaction. As far as the international sample is concerned, the average value is 5.28, which indicates a considerable level of satisfaction. The exact results for the Greek sample can be found in the table below.

## Table 13: Self-employment satisfaction

| Satisfaction with self-employment                                      | АМ   |
|--|------|
| I am satisfied with my entrepreneurial career.                         | 4.57 |
| Overall, I am very satisfied with my business.                         | 4.95 |
| I would be willing to start the same business again.                   | 4.75 |
| All things considered, I am satisfied with my life as an entrepreneur. | 4.94 |

## 3.5. Comparisons between nascent and active entrepreneurs

## 3.5.1. Motivation and goals

Nascent and active entrepreneurs were specifically asked about their motivation towards creating their company (responses ranging from 1= strongly disagree to 7= strongly agree). For nascent entrepreneurs personal motives like "to do something that allows me to enact values which are core to who I am", "to play a proactive role in changing how the world operates" seem to be very important but also motives that are associated with the society like "to solve a societal problem that private businesses usually fail to address (such as social injustice, environmental protection)" and "to solve a specific problem for a group of people that I strongly identify with". Motives that have



to do with money seem to be less important. For active entrepreneurs the personal motives "to do something that allows me to enact values which are core to who I am" and "to advance my career in the business world" seem to be the most important. Motives that have to do with the society as a whole seem to be less important.



#### **Figure 25: Motivation of nascent and active entrepreneurs**

In order to assess how important active and nascent founders perceive different activities, abilities and attitudes in relation to their start-up and the world in general they were asked to express their level of agreement or disagreement to various statements (The question for nascent entrepreneurs was: As a firm founder, it will be very important to me... and for founders it was: As a firm founder, it is very important to me...). The results can be found in the figure below.

## Figure 26: Motivation of nascent and active entrepreneurs



Both for the active and nascent entrepreneurs it is very important to convey to their customers that they want to satisfy their needs rather than just to do business.. For nascent entrepreneurs it is less important to operate their firm on the basis of solid management practices, maybe because they haven't started this business yet. For active entrepreneurs it is less important to make the world a "better place" (e.g., by pursuing social justice, protecting the environment).



## 4. Summary

In 2016, 50 countries participated in GUESSS with more than 122.000 students and 1000 Universities. In Greece a total of 649 students from 11 universities participated in the study.

## **4.1.** Summary of the findings

The main findings of this report can be summarised in the following:

## • Career intentions

- \* Directly after their studies almost 83% (compared to 77% in 2014 and to 80.3% of the international sample 2016) of the students intend to work as employees, while five years after graduation almost 51% (compared to 55% in 2014) choose this career path.
- \* Directly after the studies 4.5% (compared to 7.1% in 2014) intend to be self-employed, while five years after graduation almost 33% (compared to 27% in 2014) choose entrepreneurship as a career choice.
- \* While in the first year (2008) that Greece participated in GUESSS, the public sector was a very attractive career path both directly after the studies but also 5 years after graduation, we see that this picture changed in the 2014 and 2016 data. In the last waves of data collection the public sector is no longer a highly preferable career choice in both timespans probably because of the reforms that occurred during the years of the economic crisis.
- \* A great amount of students that would like to follow an academic career path five years after graduation

## • Entrepreneurial intentions

- \* The aggregated entrepreneurial intention index is 4.1 (compared to 3.82 in the previous report) for Greece, which shows a rather moderate level of entrepreneurial intentions.
- \* The entrepreneurial intention for male respondents is significant higher than that for female respondents.
- Universities
  - \* More than 60% of the students have attended an entrepreneurship course either as a compulsory or as an elective course (multiple answers were possible).



- \* Greek universities still have a lot of work to do in order to be regarded as entrepreneurial as students assess the entrepreneurial climate in their universities quite neutrally.
- \* Students seem to ask for more measures to be taken by Universities in order to enhance their ability to develop networks and to gain practical management skills.

#### • Nascent entrepreneurs

105 students are nascent entrepreneurs (16,2% of the sample).

- \* In the Greek sample 105 students can be classified as nascent entrepreneurs (16.2%). This percentage is below the international average which is 21.9%.
- \* The majority of nascent entrepreneurs would like to found their company in a team.
- \* The majority of nascent entrepreneurs have collected information about markets or competitors, wrote a business plan and discussed their business idea with potential customers.
- \* For the majority of the nascent entrepreneurs the business idea came from their university studies and their hobbies.
- \* The preferred industry sector for nascent entrepreneurs is tourism followed by advertising, design and marketing.

#### • Active entrepreneurs

- \* In the Greek sample there 40 active entrepreneurs (6.2%) which is below the international average (8.8%)
- \* Active entrepreneurs show a moderate satisfaction towards entrepreneurship.
- \* The preferred industry sector for active entrepreneurs is advertising, design and marketing, followed by other services.



## References

Ajzen, I., 1991. The theory of planned behaviour. Organizational Behaviour and Human Decision Processes 50 (2), 179–211.

Begley, M.W., Boyd, D.P. (1987). Psychological Characteristics Associated with Performance in Entrepreneurial Firms and Small Businesses., *Journal of Business Venturing*, 2, 79-93.

Bergmann, H., Hundt, C., & Sternberg, R. (2016). What makes student entrepreneurs? On the relevance (and irrelevance) of the university and the regional context for student start-ups. *Small Business Economics*, 47(1), 53-76.

Bird, B. (1988). Implementing entrepreneurial ideas: The case for intention. Academy of Management Review, 13(3), 442-453.

Bullough, A., Renko, M., & Myatt, T. (2014). Danger Zone Entrepreneurs: The Importance of Resilience and Self-Efficacy for Entrepreneurial Intentions. *Entrepreneurship: Theory & Practice*, 38(3), 473-499.

Davidsson, P. & Gordon, S.R. (2012). Panel studies of new venture creation: A methods-focused review and suggestions for future research. *Small Business Economics*, *39*(4), 835–875.

Davidsson, P. & Honig, B. (2003). The role of social and human capital among nascent entrepreneurs. *Journal of Business Venturing* 18(3), 301-331.

Kelley D., Singer S. Herrington M. (2016). 2015/16 Global Entrepreneurship Monitor Report. Global Entrepreneurship Research Association (GERA)

Kristiansen, S. & Indarti, N., 2004. Entrepreneurial intention among Indonesian and Norwegian students. *Journal of Enterprising Culture* 12 (1), 55–78.

Krueger, N. F. & Carsrud, A. L. (1993). Entrepreneurial intentions: Applying the theory of planned behaviour. *Entrepreneurship & Regional Development: An International Journal*, 5(4), 315-330.

Krueger, N.F., Reilly, M.D. & Carsrud, A.L., (2000). Competing models of entrepreneurial intentions. *Journal of Business Venturing* 15 (5–6), 411–432.

Laspita, S., Breugst, N., Heblich, S., & Patzelt, H. (2012). Intergenerational transmission of entrepreneurial intentions. *Journal of Business Venturing*, 27(4), 414-435.

Linan, F., & Chen, Y. W. (2009). Development and cross-cultural application of a specific instrument to measure entrepreneurial intentions. *Entrepreneurship Theory and Practice*, 33(3), 593-617.

Mueller, S.L., Thomas, A.S., (2001). Culture and entrepreneurial potential: a nine country study of locus of control and innovativeness. *Journal of Business Venturing*, Vol. 16, pp.51–55.

Papayannakis, L., Kastelli, I., Damigos, D., & Mavrotas, G. (2008). Fostering entrepreneurship education in engineering curricula in Greece. Experience and challenges for a Technical University. *European Journal of Engineering Education*, 33(2), 199-210.

Piacentini, M. (2013). Women Entrepreneurs in the OECD: Key Evidence and Policy Challenges: OECD Social, Employment and Migration Working Papers, No. 147.

Sarri, K., & Trichopoulou, A. (2012). Female entrepreneurship: An approach of the Greek reality. Athens, Greece: Rosili.

Pittaway, L., Cope, J., 2007. Entrepreneurship education—A Systematic Review of the Evidence. *International Small Business Journal* 25(5), 479–510.

Slavtchev, V., Laspita, S. and Patzelt, H., (2012), Effects of entrepreneurship education at universities, No 2012-025, Jena Economic Research Papers, Friedrich-Schiller-University Jena.

Sieger, P., Fueglistaller, U., & Zellweger, T. (2016). Student Entrepreneurship 2016: Insights From 50 Countries. St.Gallen/Bern: KMU-HSG/IMU.



Souitaris, V., Zerbinati, S. & Al-Laham, A., 2007. Do entrepreneurship programmes raise entrepreneurial intention of science and engineering students? The effect of learning, inspiration and resources. *Journal of Business Venturing* 22 (4), 566–591.

GUESSS 2016 was generously supported by Ernst & Young (EY) as the international project partner. We cordially thank EY for their support. Without it, GUESSS in the current form would not have been possible.





# Appendix

|    | Country                | University  | Team Leader(s)                              |
|----|------------------------|---|---|
| 1  | Albania / Kosovo (ALB) | AAB College   | Malush Tullumi                              |
| 2  | Argentina (ARG)        | Austral University / IAE Business School                  | Prof. Silvia Carbonell                      |
| 3  | Australia (AUS)        | Curtin University of Technology                           | Prof. Paull Weber                           |
| 4  | Austria (AUT)          | Johannes Kepler University Linz                           | Prof. Norbert Kailer                        |
| 5  | Belgium (BEL)          | Antwerp Management School                                 | Prof. Eddy Laveren                          |
| 6  | Belarus (BLR)          | Belarusian State University                               | Dr. Radzivon Marozau                        |
| 7  | Brazil (BRA)           | UNINOVE - Universidade Nove de Julho                      | Prof. Edmilson Lima                         |
| 8  | Canada (CAN)           | Concordia University                                      | Prof. Alexandra Dawson                      |
| 9  | Chile (CHI)            | Universidad Catolica del Norte                            | Prof. Gianni Chocce                         |
| 10 | China (CHN)            | Shanghai Finance University                               | Su Jing                                     |
| 11 | Colombia (COL)         | Universidad EAFIT   | Prof. Claudia Alvarez                       |
| 12 | Croatia (CRO)          | University of Zadar                                       | Gabrijela Vidic                             |
| 13 | Czech Republic (CZE)   | Technical University of Liberec                           | Prof. Klara Antlova                         |
| 14 | Ecuador (ECU)          | Universidad Catolica de Santiago de Guayaouil             | Mariella Ortega                             |
| 15 | England (ENG)          | Kingston University                                       | Prof. Robert Blackburn                      |
| 16 | El Salvador            | Universidad Dr. Jose Matias Delgado                       | Prof. Manuel Sifontes                       |
| 17 | Estonia (EST)          | Tallinn University of Technology                          | Prof. Urve Venesaar                         |
| 18 | Finland (FIN)          | Lappeenranta University of Technology                     | Prof. Timo Pihkala                          |
| 19 | France (FRA)           | EM Lyon Business School                                   | Prof. Alain Fayolle                         |
| 20 | Germany (GER)          | University of St.Gallen (CH), FH Fulda                    | Dr. Heiko Bergmann, Prof. Stephan Golla     |
| 21 | Greece (GRE)           | University of Macedonia                                   | Prof. Katerina Sarri                        |
| 22 | Hungary (HUN)          | University of Miskolc                                     | Dr. Szilveszter Farkas                      |
| 23 | India (IND)            | The Entrepreneurship School                               | Sanjeeva Shivesh                            |
| 24 | Ireland (IRL)          | Dublin City University                                    | Dr. Eric Clinton                            |
| 25 | Italy (ITA)            | University of Bergamo                                     | Prof. Tommaso Minola                        |
| 26 | Japan (JAP)            | Hosei University  | Prof. Noriko Taji                           |
| 27 | Kazakhstan (KAZ)       | Turan University  | Prof. Olga Sudibor                          |
| 28 | Korea (KOR)            | Korea Entrepreneurship Foundation (KEF)                   | Kim Jong Sung                               |
| 29 | Liechtenstein (LIE)    | University of Liechtenstein                               | Prof. Dr. Urs Baldegger                     |
| 30 | Lithuania (LTU)        | Aleksandras Stulginskis University                        | Virginija Kargyte                           |
| 31 | Luxembourg (LUX)       | Institut Universitaire International Luxembourg           | Prof. Pol Wagner                            |
| 32 | Malaysia (MAL)         | Universiti Malaysia Kelantan                              | Prof. Raja Suzana Kasim                     |
| 33 | FYROM (MAC)            | University American College Skopje                        | Dr. Makedonka Dimitrova                     |
| 34 | Mexico (MEX)           | EGADE Business School                                     | Prof. José Ernesto Amorós                   |
| 35 | Morocco (MAR)          | Abdelmalek Essaâdi University                             | Prof. Hassan Ezbalehe                       |
| 36 | Norway (NOR)           | Stord/Haugesund University College                        | Prof. Marina Solesvik                       |
| 37 | Pakistan (PAK)         | Sukkur Institute of Business Administration               | Dr. Altaf Hussain Samo                      |
| 38 | Panama (PAN)           | Universidad de Panama                                     | Omaris Vergara, Dr. Maria Angeles Frende    |
| 39 | Peru (PER)             | Universidad Esan  | Prof. Jaime Serida                          |
| 40 | Poland (POL)           | Family Business Institute Poland                          | Prof. Adrianna Lewandowska                  |
| 41 | Portugal (POR)         | Universidade de Lisboa                                    | Prof. Miguel Amaral                         |
| 42 | Russia (RUS)           | St.Petersburg University - GSOM                           | Prof. Galina Shirokova                      |
| 43 | Slovakia (SVK)         | Comenius University Bratislava                            | Dr. Marian Holienka                         |
| 44 | Slovenia (SLO)         | GEA College   | Prof. Katja Kraskovic                       |
| 45 | Spain (ESP)            | ESADE Business School                                     | Dr. Joan Batista-Foguet, Dr. Maika Valencia |
| 46 | Sweden (SWE)           | University of Skövde                                      | Prof. Susanne Durst                         |
| 47 | Switzerland (SUI)      | University of Bern, University of St.Gallen, HEG Fribourg | Prof. Philipp Sieger, Prof. Rico Baldegger  |
| 48 | Ukraine (UKR)          | Stord/Haugesund University College                        | Prof. Marina Solesvik                       |
| 49 | Uruguay (URY)          | Universidad Catolica del Uruguay                          | Prof. Catherine Krauss                      |
| 50 | USA                    | Stetson University, University of Vermont (UVM)           | Prof. Isabel Botero, Prof. Erik Monsen      |











