



GLOBAL
ENTREPRENEURSHIP
MONITOR



ENTREPRENEURSHIP IN CYPRUS

NATIONAL REPORT 2019/2020

GUEST SECTION

**FOSTERING INNOVATIVE
ENTREPRENEURSHIP IN CYPRUS**



University
of Cyprus



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ENTREPRENEURSHIP IN CYPRUS
NATIONAL REPORT 2019/20

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GUEST SECTION:

FOSTERING INNOVATIVE ENTREPRENEURSHIP IN CYPRUS
DEPUTY MINISTRY OF RESEARCH, INNOVATION AND DIGITAL POLICY

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FOREFRONT FROM THE RECTOR OF THE UNIVERSITY OF CYPRUS

We are honoured that the Centre for Entrepreneurship, University of Cyprus, is the National Coordinator for the 4th consecutive year, and represents Cyprus in the Global Entrepreneurship Monitor (GEM) Study.

The University of Cyprus established the Centre for Entrepreneurship in 2014, to foster an entrepreneurial culture within the University of Cyprus and to support the development of a national entrepreneurial ecosystem. Participating in the GEM study, enables us to fulfil the Centre's role, to record the state of entrepreneurship in the island, and to help inform policy decisions that promote and support entrepreneurship.

The National GEM Report reveals that the public's perceptions regarding entrepreneurship and capabilities to initiate entrepreneurial activity exhibit a positive and increasing trend over the last four years. Entrepreneurship is now regarded as an attractive career choice, entrepreneurial endeavours are viewed favourably by the public, and founding and running a new business now carries prestige within the Cypriot society. It thus seems an appropriate time to launch strategies and public policies to further support entrepreneurship. As a country, we should try to boost entrepreneurial education, and to take advantage of positive recent developments in research, innovation

and entrepreneurship, such as the establishment of the Deputy Ministry of Research, Innovation and Digital Policy and the operation of Centres of Excellence that carry out disruptive research and provide mentoring and hosting to entrepreneurial teams. We should also offer incentives for the launch of new businesses in promising sectors of strategic value for the Cypriot economy, and to help existing businesses become more entrepreneurial, while promoting social responsibility and sustainability.

We welcome the contribution to the Special Section of this report from the Deputy Ministry of Research, Innovation and Digital Policy. This section presents the activities of the Deputy Ministry that acts as a catalyst in shaping the future of Cyprus' economy.

We would like to express our sincere appreciation to the Ministry of Energy, Commerce and Industry for the dedicated and vital support and sponsorship through all these years, and to PwC Cyprus which has embraced this effort by sponsoring the dissemination activities of National GEM Reports.

Professor Tasos Christofides

Rector
University of Cyprus

FOREWORD BY THE DEPUTY MINISTER FOR RESEARCH, INNOVATION AND DIGITAL POLICY

It is a pleasure to preface the 4th edition of the Global Entrepreneurship Monitor (GEM) Report and congratulate the Centre for Entrepreneurship of the University of Cyprus and the authors for providing an insightful overview of the changing dynamics of the Cyprus' entrepreneurial ecosystem.

Reflecting the status of entrepreneurial activity, its characteristics and the factors that affect it, is a crucial step towards taking informed and effective policy-making decisions that account for the rapidly changing technological, economic and social landscape. The use of a comprehensive set of indicators will lead to a more inclusive, sustainable economy, and stronger, more resilient society.

The results of the report facilitate the identification of early trends and foster their comparison with identical metrics at European level, thus enabling targeted action and timely interventions. The Government recognizes entrepreneurship as one of the main drivers of job creation and acceleration of economic activity in particular business activity based on knowledge and innovation. Our goal is to improve societal perceptions towards entrepreneurship, in-line with increased attention by the society and the media and expected impact of entrepreneurial activity with respect to the creation of new job positions.

Mr. Kyriakos Kokkinos

Deputy Minister for Research, Innovation and Digital Policy

Having said that, we need to shift further attention to enhance our population's confidence with respect to the capabilities to initiate entrepreneurial activity and to address fear of failure, remaining at remarkably high levels (despite the decrease from last year 48.5% to 36.4%) and having a direct impact on new, early-stage and gender balanced entrepreneurial activity.

This multilevel effort has as a fundamental objective to expand the productive base of our economy through knowledge-intensive sectors thus supporting sustainability in new and existing entrepreneurial ventures.

The measurement and evaluation of entrepreneurship should be part of any integrated national system monitoring and assessing the competitiveness of the economy by utilizing data, methodologies and indicators. In this framework, GEM Cyprus 2019/2021 results can serve a powerful tool for gaining deeper and better understanding of the dynamics of the Cyprus entrepreneurial ecosystem and formulating effective policy measures.

MESSAGE FROM THE PERMANENT SECRETARY OF THE MINISTRY OF ENERGY, COMMERCE AND INDUSTRY

As the Permanent Secretary of the Ministry responsible for the enhancement of Entrepreneurship in Cyprus I would like to welcome the 4th GEM report. At this point we are trying to overcome the COVID 19 crisis and move into period of economic growth where entrepreneurship is considered as top priority for the country. The current market conditions in the whole economic market and in Cyprus underline the need to stimulate the entrepreneurial mindsets of young people, encourage the development of innovative business start-ups and foster an ecosystem friendly to entrepreneurship and entrepreneurial activities.

The main challenge of the Government is to further enhance the entrepreneurial ecosystem so as to provide favorable conditions for a successful and comprehensive development of entrepreneurial activities. Towards this GEM results and suggestions are more than valuable. The availability of a comprehensive set of indicators based on the perceptions of the entrepreneurial activity itself is of utmost importance.

We will evaluate and take into consideration the results and policy recommendations of the 4th GEM report. We will focus on the enhancement of entrepreneurial spirit, the enrichment

of the existing educational system so that to cultivate entrepreneurial mindsets at an early age, the promotion of e-government and the creation of synergies between academia and enterprises. We anticipate that the report will serve as a useful tool for boosting the entrepreneurial activity in Cyprus. The results of the 4th Report are really encouraging for the entire ecosystem to keep trying!

I seize the opportunity to thank everyone that works in the completion of this report, especially the University of Cyprus for taking the leading role as our National Coordinator for GEM.

Marios Panagides

Permanent Secretary
Ministry of Energy, Commerce and Industry

MESSAGE FROM THE CEO OF PwC

Today's highly dynamic environment is reshaping the future for people, businesses and societies around the world. A growing number of pressing social issues demand our immediate attention while the breadth and depth of new challenges are testing long-established business models and institutions.

As we strive to find growth and stay competitive, we are called to address the immediate challenges of political and economic uncertainty and the long-term impact of issues such as new technologies, climate change and sustainability.

In such an environment, no idea, strategy, business or institution has a viable future without continuously reinventing itself. That is why, the need to cultivate a culture of innovation and support entrepreneurship as a basic tool for economic recovery seems more imperative than ever.

Academia, corporates, start-ups and the state have a critical role to play in building the right culture and creating an environment where entrepreneurship will thrive.

At PwC Cyprus we collaborate with leading academic and business stakeholders to bring about positive change. Guided

by our values, we work towards our purpose of building trust in society and solving important problems. Our efforts are directed towards making a lasting impact by fostering an entrepreneurial culture, supporting youth entrepreneurship and start-ups and strengthening research & innovation.

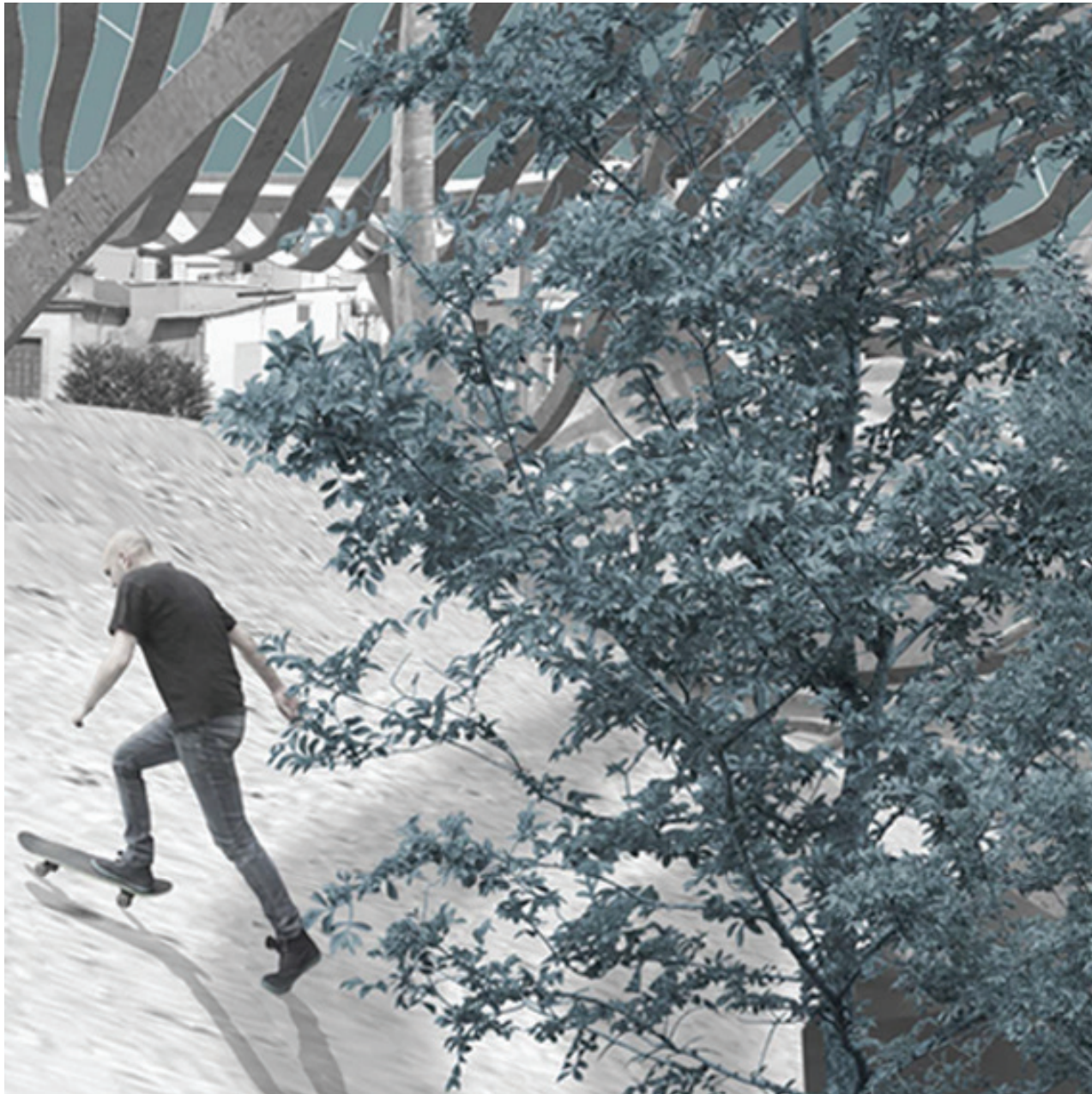
In this context, we congratulate the Centre for Entrepreneurship at the University of Cyprus for its efforts to foster entrepreneurship and innovation in our country and actively support its initiatives. For entrepreneurship to flourish, it requires collective and coordinated action in a number of areas ranging from infrastructure and policies to education and access to finance. The National Report for Entrepreneurship can serve as a useful tool for guiding national policy and driving the necessary changes that will enhance our entrepreneurial ecosystem.

By educating youth, promoting innovation and enabling the exchange of ideas we can create the right environment for success that will support businesses to build the competencies necessary for the future and serve the needs of our society.

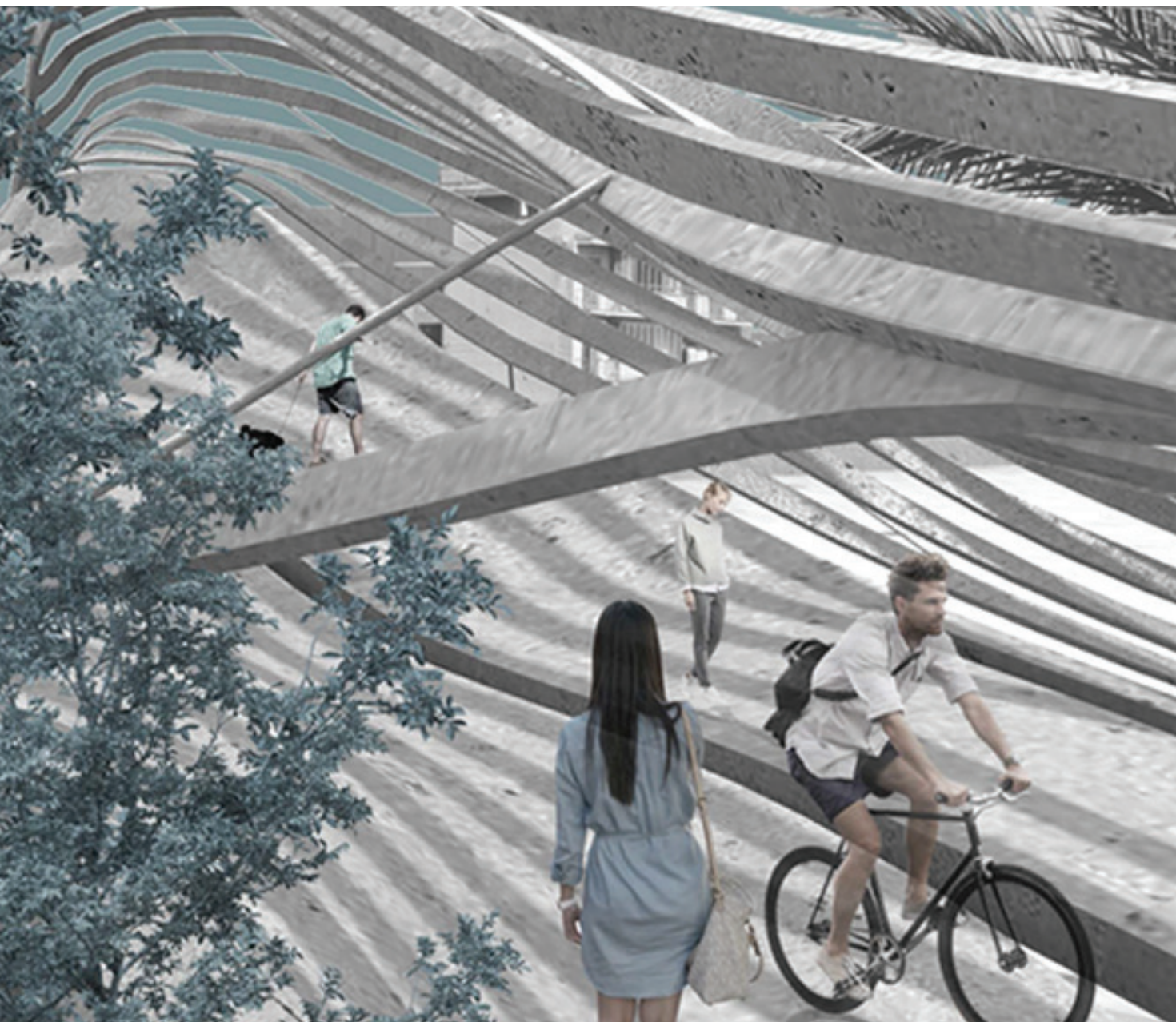
Evgenios C Evgeniou

CEO
PwC Cyprus

EXECUTIVE SUMMARY



Andria Leonitou and Zoe Papaoikonomou, ARH400 Architectural Design VII, 2018-2019



Entrepreneurship is a core driver of economic growth and societal prosperity, as it fosters the innovation necessary for exploiting new opportunities, enhancing productivity, increasing employment opportunities and providing more effective solutions. Aiming for a resilient economic recovery and growth, Cyprus strives to actively participate in the entrepreneurship and innovation global arena. This is reflected in recently formulated mechanisms and policy frameworks that aim to drive the country's entrepreneurial activity towards growth and internationalization, including the formulation of a Deputy Ministry of Research, Innovation and Digital Policy.

The Global Entrepreneurship Monitor (GEM) has been keeping its finger on the pulse of the state of entrepreneurship since 1999, both in terms of the state of the entrepreneurial mind-set, motivations, activities and ambition, as well as the national framework conditions required to allow entrepreneurship to flourish in an economy. GEM's conceptual framework contains a comprehensive set of indicators on entrepreneurship, allowing for the construction of detailed profiles of entrepreneurship in each participating country. These include societal attitudes and beliefs towards entrepreneurship, the characteristics, status and expected

impact of entrepreneurial activity and also the conditions of each country's entrepreneurial ecosystem. GEM 2019/2020 Adult Population Survey (APS) included 50 different economies. GEM's framework is well positioned to assess the current status of entrepreneurship in each country.

Our country's participation in GEM places Cyprus on the global map of entrepreneurship and innovation. This is the fourth successive year Cyprus participates in GEM, which allows for a longitudinal analysis of the evolution of the local entrepreneurial ecosystem. The national GEM report at hand aims to present an overview of the status of entrepreneurial intention and activity, the characteristics of entrepreneurs, the expected outcomes and the advantages and burdens of the national entrepreneurship ecosystems. Furthermore, the report also reflects on the changes recorded across the recent years. In order to serve as a powerful tool for informing the country's entrepreneurial status, the report also compares Cyprus' index rates with Greece's and Luxembourg's as well as the European average rates.

GEM Cyprus 2019/2020 highlight the advantages as the inhibitors of the island's entrepreneurial activity. On the positive side, societal challenges towards entrepreneurship and entrepreneurial activity in Cyprus have improved compared to the previous years. In 2019/2020 a larger part of the population perceives that entrepreneurship is a good career choice (69.9% in 2018/2019, 7.3% in 2019/2020) and high status is associated to successful entrepreneurs (67.6% in 2018/2019, 76.7% in 2019/2020). Similarly, the perceived capabilities to initiate entrepreneurial activity has improved (45.9% in 2018/2019, 58.2% in 2019/2020). Cyprus' TEA rate has notably increased this year (3.9% in 2018/2019, 12.2% in 2019/2020). Comparing Cyprus' TEA with other European countries participating in this year's GEM, Cyprus' is ranked 9th. Similarly, Cyprus' rate of established businesses (6.1% in 2018/2019, 10.1% in 2019/2020) and intrapreneurship (5.4% in 2018/2019, 6.2% in 2019/2020) have both increased. Cyprus' entrepreneurship ecosystem benefits from its high-quality physical infrastructure and commercial and services infrastructure, which remain the greatest strengths of the local entrepreneurial ecosystem across the years. Entrepreneurial education at post-school level is also a strength of the island's ecosystem.

However, entrepreneurial opportunities, fear of failure, gender gap as well as other factors inhibit Cyprus' entrepreneurial activity. Approximately two in five individuals in Cyprus perceive that there are available opportunities for initiating entrepreneurial activity (38.5%) while the index rate has decreased compared to last year (45.9%). Along the same lines, although fear of failure has decreased compared to the previous years, in 2019/2020, 36.4% of the population expressed their fear of failure related to entrepreneurial activity. There is also a disproportionate involvement of females and males in entrepreneurial activity (0.6 ratio). The gender gap ratio remains unchanged across the years, highlighting the need to take further action. The country's entrepreneurial ecosystem lacks sufficient entrepreneurial education at school stage, funding and R&D transfer. Most of these inhibitors persist across the years, highlighting the need for additional and more effective policies.

Overall, Cyprus' status of entrepreneurial activity has improved, while positive changes have also been recorded on societal perceptions. Despite these improvements, GEM 2019/2020 also shed light on the weaknesses of the ecosystem. The results underline the need for a disruptive shift from an economic, cultural and educational perspective. Indeed, the availability of financial resources needs to be increased, both for high-risk early stage endeavors as well as for more mature start-ups in need of venture capital. The risk-averse culture of the population needs to be altered through enhanced life-long education, whereas enhanced media attention and entrepreneurship programs could further contribute to increasing female entrepreneurship. Education at school stage also needs to be transformed to promote creativity, risk-taking and international orientation from an early-stage.

The formulation of a Deputy Ministry of Innovation and Digital Policy is the first step towards orchestrating the different government initiatives and providing more targeted support for the start-up ecosystem. This year's special section exhibits the aims and strategies of the deputy ministry and describes its planned actions. Cyprus' annual participation in GEM provides useful and comparable insights on the country's entrepreneurial status and makes policy recommendations. We aspire that GEM results can serve as a useful tool for further elevating and enhancing the country's entrepreneurial activity.

GEM INTRODUCTION AND BACKGROUND



Pantelis Ninis, ARH 101 Architectural Design II, 2018-2019

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Global Entrepreneurship Monitor (GEM) is the leading global study on entrepreneurship. Since GEM's debut in 1999, GEM has extracted data on over 112 economies and 2.9 surveyed adults. Every year, different countries participate in GEM, representing different levels of economic development and geographic regions, providing an overview of the status of entrepreneurship across the world. GEM's annual report is presented at the GEM annual meeting. Every country participating in GEM is represented by its national team. Each team is in charge of producing and publishing the country's national reports on entrepreneurship, comparing data with previous years and explaining the level of entrepreneurial activity across the different regions of the country. GEM results are disseminated across several media, including newspapers and websites such as the Wall Street Journal, Financial Times, the Economist, Forbes, Fortune, Business Week and Entrepreneur. Similarly, each participating country's national team contribute to disseminating GEM's results at local, regional as well as national news outlets.

Apart from GEM, there are also other studies on entrepreneurship. However, GEM encapsulates a broad collection of the indicators on entrepreneurship, which consequently allow the development of identical entrepreneurship indexes across all participating countries. Rather than focusing on businesses as units of analysis, GEM focuses on adult individuals of 18 to 64 years' old, thus enabling GEM to have a representative sample from each participating country's population. GEM's methodology is employed by all GEM national teams and the approach is also thoroughly managed and processed by the central GEM data team. As a result of following an identical methodology for data extraction, cross-national comparisons can be made among all the economies taking part in GEM each year. Additionally, GEM focuses on individuals who initiate or plan to initiate entrepreneurial activity. It extracts data on the societal values and beliefs towards entrepreneurship in light of the essence for individuals who are ready to embark on entrepreneurial endeavors and to those who are willing to support their attempt. It must also be noted that GEM focuses on the different stages of the entrepreneurial activity, from early-stage entrepreneurial activity to mature and grown businesses. GEM also differentiates from other studies currently conducted, as its methodology requires the national team of each participating country to collaborate very closely with the central GEM team. The national teams not only lead the survey process as well as the data collection of the research, but also collaborate with the central team of GEM to ensure adequacy of the survey approach and data quality. As the national teams hold a good understanding of their country's entrepreneurial environment, they are able to further discuss their results with the central GEM team. Furthermore, the national teams disseminate information on the country's entrepreneurial status and promote the academic and practical understanding of entrepreneurship.

Across this multi-year survey approach, GEM has gained recognition as the most useful and informative longitudinal study of entrepreneurship. The 2019/2020 GEM study includes 50 economies. As illustrated in **Figure 2.1**, GEM categorizes economies into four different regions, following the classification provided by the World Economic Forum and the United Nations. It also classifies the economies in accordance to their income level. Based on the approach of

previous GEM national reports, in our current analysis we draw on the countries belonging to the broader European regional area to calculate the EU average rates included in this report.

2.1 THE GEM CONCEPTUAL FRAMEWORK

The GEM's conceptual structure, as shown in **Figure 2.2**, indicates entrepreneurship's relationship with its environment. Specific contextual factors such as social, economic and political are considered by GEM in examining the research results; such factors are seen as influential for initiating entrepreneurial endeavors, as they may indirectly influence entrepreneurship. GEM methodology also regards the relationships between the different conditions of the entrepreneurial ecosystem. GEM assumes that the economic growth of each participating country is the result of the interdependencies between different entrepreneurial framework conditions and the particular characteristics and skills of individuals to identify and take opportunities.

Consequently, the GEM Cyprus report aims:

- To identify and explore the factors that affect entrepreneurship, including the societal values and beliefs, the individual characteristics of the population as well as the entrepreneurial framework conditions
- To evaluate and determine the extent to which entrepreneurial activity influences the country's socio-economic development
- To provide policy-making suggestions for enhancing Cyprus' entrepreneurial activity

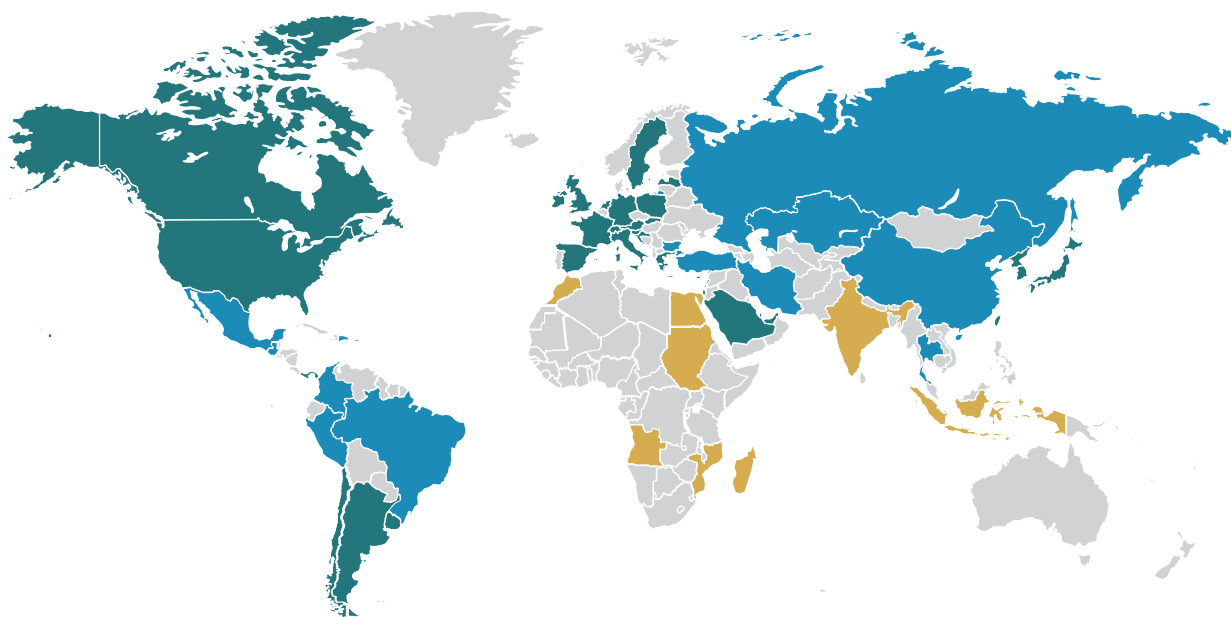
GEM's conceptual framework also considers that the economic development of each country is associated to the population's ability in identifying and seizing entrepreneurial opportunities (regarded by GEM methodology as entrepreneurial framework conditions).

Figure 2.2 illustrates the basic elements and relationships of the GEM methodology, including the entrepreneurial framework, the social principles and beliefs about entrepreneurship, the individual features of entrepreneurs, the degree of entrepreneurial activity and the anticipated effect. The National Framework Conditions (NFCs) assess the quality of the entrepreneurial ecosystem of each nation and hence represent the social, cultural, political and economic context of entrepreneurship. Societal values on entrepreneurship further address the societal assumptions about entrepreneurship whereas individual facets regard demographic peculiarities, self-perceptions and intentions. Entrepreneurial activity surrounds various aspects of the business process, possible effect and type of activity. These are discussed in detail towards the end of this subsection.

GEM conceptual framework acknowledges that entrepreneurship is part of a complex system of relationships including social values and individual attributes.

Entrepreneurial activity is thus the result of the interaction of an individual's motivation and skills to act upon this and the different circumstances of the respective environment where the individual is located. Additionally, while entrepreneurial activity is affected by the framework conditions in that environment where it takes place, it also benefits this environment too, through the formation and establishment of social value and economic evolution.

Figure 2.1: GEM economies by geographic region and economic development level



	Low Income	Middle Income	High Income
Asia and Pacific	India, Pakistan	Armenia, China	Australia, Japan, Republic of Korea, Taiwan
Europe and North America		Belarus, North Macedonia, Russian Federation	Canada, Croatia, Cyprus, Germany, Greece, Ireland, Italy, Latvia, Luxembourg, Netherlands, Norway, Poland, Portugal, Slovak Republic, Slovenia, Spain, Sweden, Switzerland, United Kingdom, United States
Latin America and Caribbean		Brazil, Ecuador, Guatemala, Mexico	Chile, Colombia, Panama, Puerto Rico,
Middle East and Africa	Egypt, Madagascar, Morocco	Iran, Jordan, South Africa	Israel, Oman, Qatar, Saudi Arabia, United Arab Emirates

The approach of GEM is unique as it gathers primary data at global level and arising by surveys on individuals who are questioned on a plethora of key topics concerning entrepreneurial ambitions, beliefs, motives and activities. It also collects information on the stages of entrepreneurial activity, including entrepreneurial intention, nascent entrepreneurship, new business ownership and established business ownership (**Figure 2.3**).

GEM's methodology contains a set of basic entrepreneurship indicators which define the ranking for each participating country. Overall, this group of indicators may be regarded as a dashboard representing a broad and completed set of measures that collectively provide towards the impact entrepreneurship has on a society and the amount to which each society supports this activity.

The GEM methodology identifies five categories of indicators, as follows:

Societal values and perceptions:

Good career choice: Percentage of the adult population (18-64 years' old) who are of the belief that entrepreneurship is a good career choice.

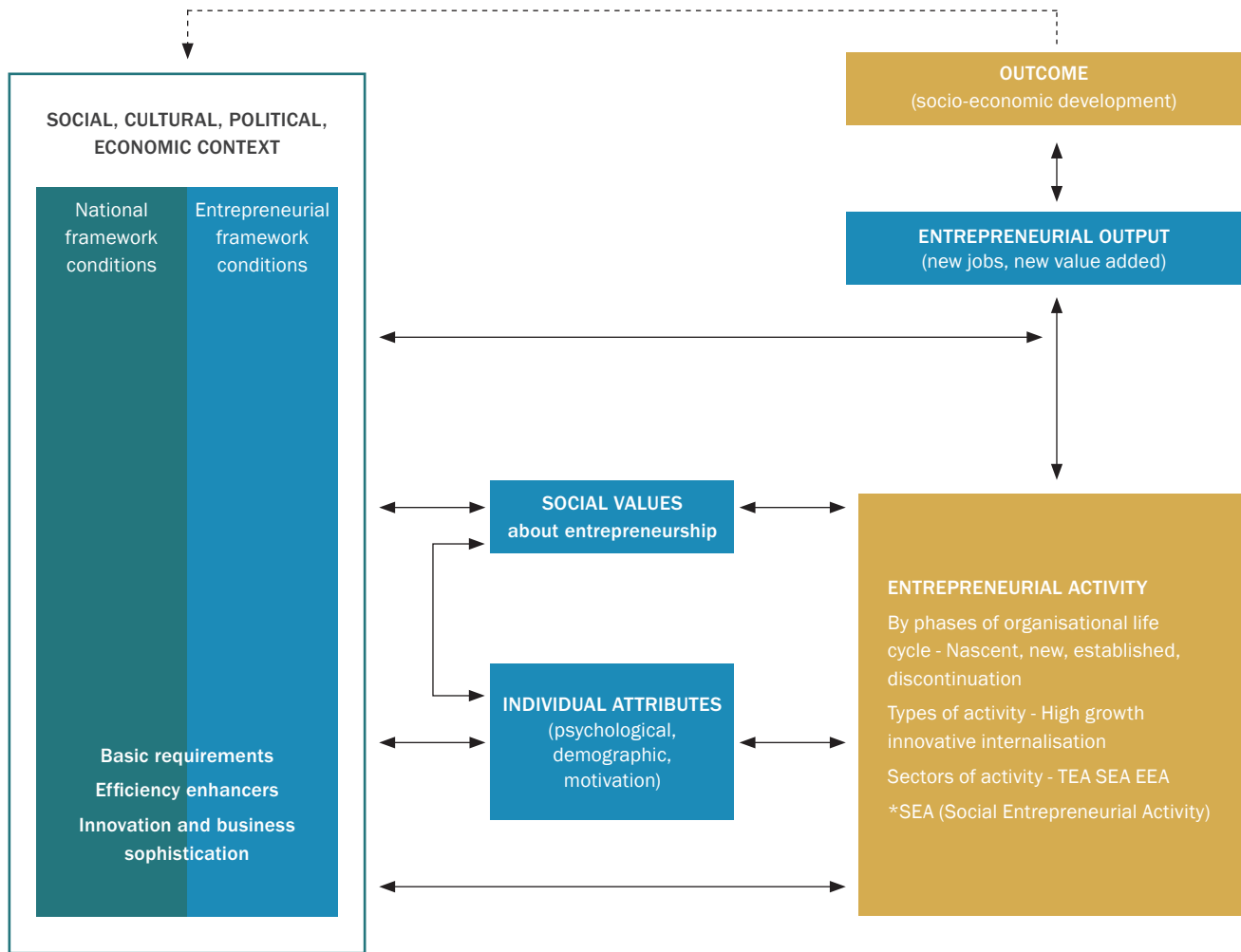
High status to successful entrepreneurs: Percentage of the adult population (18-64 years' old) who believe that high status is afforded to successful entrepreneurs.

Media attention for entrepreneurship: Percentage of the adult population (18-64 years' old) who believe that there is a lot of positive media attention on entrepreneurship in their country.

Individual attributes of a potential entrepreneur:

Perceived opportunities: Percentage of the population (18-64 years' old) who believe there is good potential and visible opportunities to start a firm in the area where they live.

Figure 2.2: GEM Methodology



Perceived capabilities: Percentage of the population (18-64 years' old) who believe they have the required skills and knowledge to start a business.

Entrepreneurial intention: Percentage of the population aged 18-64 years (individuals involved in any stage of entrepreneurial activity excluded) who are latent entrepreneurs and who intend to start a business within three years.

Fear of failure rate: Percentage of the population aged 18-64 years perceiving good opportunities, who indicate that fear of failure would prevent them from setting up a business.

Entrepreneurial activity indicators:

Nascent entrepreneurs: Those who have taken steps to start a new business, but have not yet paid salaries or wages for more than three months.

New entrepreneurs: Those who are running new businesses that have been in operation for between 3-42 months.

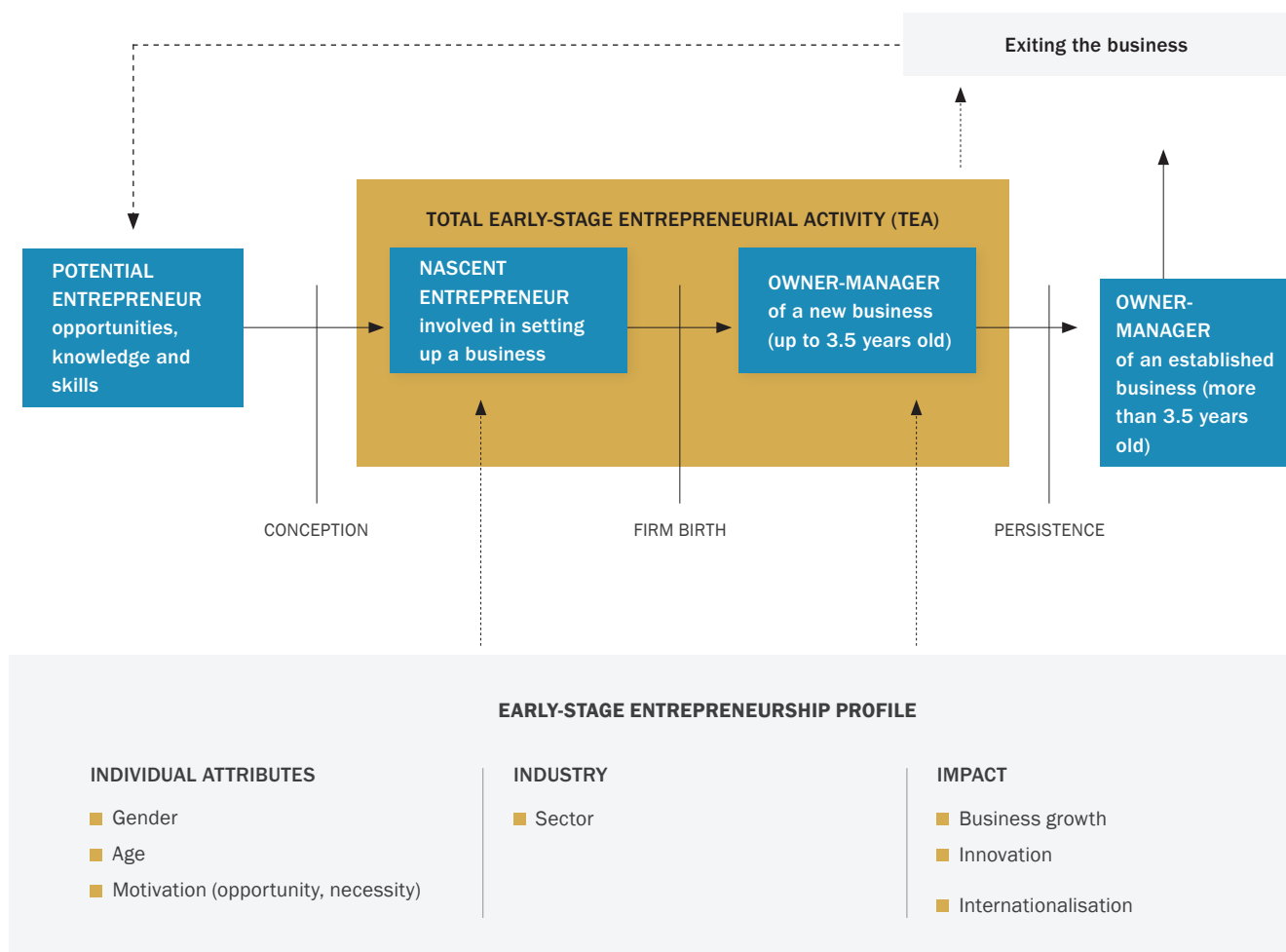
Indicators describing the life cycle of a venture:

Total Early-stage Entrepreneurial Activity – TEA: Percentage of the adult population between 18 and 64 who are in the process of starting a business (nascent entrepreneurs) or are owner-managers of a business which is younger than 42 months old.

Established business ownership rate: Percentage of the adult population between 18 and 64 who are currently owner-managers of an established business, i.e. owning and managing a running business that has paid salaries, wages, or has made other payments to the owners for more than 42 months.

Business discontinuation rate: Percentage of the adult population aged between 18 and 64 (either nascent entrepreneurs or owner-managers of a new business) who have, in the past 12 months, discontinued a business, either by selling, shutting down, or otherwise discontinuing an owner/management relationship with the business.

Figure 2.3: The entrepreneurial process and GEM operational definitions



Source: GEM 2019/2020

Entrepreneurial Employee Activity – EEA: Percentage of the adult population aged between 18 and 64 who as employees have been involved in entrepreneurial activities such as developing or launching new goods or services, or setting up a new business unit, a new establishment or a subsidiary.

National/Entrepreneurial framework conditions:

The quality of the entrepreneurial framework conditions is based on the average value of experts’ perceptions, using a Likert scale ranging from 1 (highly insufficient) to 9 (highly sufficient), on the following entrepreneurial framework components:

- Entrepreneurial financing
- Government policies: support and relevance
- Government policies regarding taxes and bureaucracy
- Government entrepreneurship programs
- Entrepreneurship education at primary and secondary school stage

- Entrepreneurship education at post-school stage and entrepreneurship training
- Research & Development (R&D) transfer
- Commercial and legal infrastructure
- Internal market dynamics
- Internal market burdens or entry regulations
- Physical infrastructure
- Cultural and social norms

2.2 GEM METHODOLOGY

GEM provides an integrated overview of the entrepreneurial activity of each participating economy. More specifically, it measures the social perceptions and the population’s attitudes towards entrepreneurship. It also assesses the activities and characteristics of individuals involved in the different phases and types of entrepreneurial activity.

In this way, every year, GEM gathers and presents comparative data from all the participating economies

taking part in the GEM report, as a mutual data collection methodology is followed by all countries participating in GEM. GEM follows the same methodology every year, using two different surveys, the Adult Population Survey (APS) and the National Expert Survey (NES).

Adult Population Survey (ASP)

The Adult Population Survey (APS) measures a variety of entrepreneurial factors. Figure 2.3 illustrates an overview of the main factors captured by APS. Each participating economy gathers data from 2000 or more, randomly selected adults (18–64 years of age). Data collection is usually conducted between May and July each year, using a standardized questionnaire provided by the GEM Global Team which is translated in the national language of each participating economy.

Additionally, the teams conducting the research of each participating economy, supervise data collection. The APS survey in Cyprus was conducted by the Center for Entrepreneurship of the University of Cyprus, in collaboration with RAI Consultants Ltd. A computer-aided telephone interviewing process was followed, which included 70% fixed-line numbers and 30% mobile numbers. The telephone numbers were randomly selected and at least five contacts were made to each number drawn, before that number was dropped.

The individuals who participated in 2000, were individuals who lived in both rural and urban areas controlled by the Republic of Cyprus. Men and women were equally represented in the sample. A multi-staged selection process was followed for sampling the respondents, in order to ensure that the geographical distribution of the sample was in line with the actual distribution of the targeted population. Quality assurance tests were conducted by the GEM Global Team to protect the harmony and unity of the statistical calculations across the participating countries.

Consequently, each participating individual country was given access to the datasets.

National Expert Survey (NES)

NES gathers in-depth opinions from selected national experts regarding the factors that have an impact on the entrepreneurship ecosystem in each economy.

Information is collected about the nine entrepreneurial framework conditions: financing, government policies, taxes and bureaucracy, government programs, school-level entrepreneurship education and training, post-school entrepreneurship education and training, R&D transfer, access to commercial and professional infrastructure, internal market dynamics, internal market burdens, access to physical and services infrastructure and social and cultural norms.

The GEM Global requires national teams to interview at least four experts from each of the entrepreneurial framework condition categories, making a minimum total of 36 experts per country.

In order to construct a balanced and representative sample, the experts were drawn from entrepreneurs, government officials, academics, and practitioners in each economy. Additional factors considered in the sample selection process were the balance across regional area, the individuals' gender, involvement in the public or private sector as well as their experience level.

Interviewees were invited to reflect on the factors that have an impact on the entrepreneurship ecosystem following a 1-9 Likert Scale (with 1 being highly insufficient and 9 highly sufficient) and answer open-ended questions. Questions were translated to the national language of each participating country. For the 2019/2020 GEM Cyprus, an online data collection tool was employed for collecting the said data. This year's NES included 44 experts, 15 females and 28 males.

ENTREPRENEURIAL ACTIVITY IN CYPRUS IN 2019/2020



Constantinos Katsambas, Dissertation Project, 2016-2017

This section discusses the findings arising by the APS on the entrepreneurial activity in Cyprus. In particular, it discusses the findings on societal values and media attention, the level of entrepreneurial activity across early-staged and established businesses and their expected impact. As this is the fourth consecutive year that Cyprus participates in GEM, the analysis draws on the results of the previous years to compare and contrast the findings where possible. This year's report also compares Cyprus' entrepreneurial indexes to the corresponding index values of Greece and Luxembourg due to cultural and geographical proximity reasons (Greece) and population size similarity (Luxembourg). To enhance the interpretability of the results, it also employs the average rates of European countries as benchmark rates. The report groups countries in the broader European regional area, following the approach of GEM Global (outlined in Section 2). This year's report also compares Cyprus' entrepreneurial indexes to the corresponding index values of Greece and Luxembourg.

3.1 SOCIETAL VALUES & PERCEPTIONS ON ENTREPRENEURSHIP

Although societal values and perceptions on entrepreneurship do not constitute a direct index of entrepreneurial activity, they can serve as proxies for gaining the entrepreneurial landscape in each country. This is because values and perceptions about entrepreneurship have an impact on entrepreneurial intention. GEM regards societal values on entrepreneurship by exploring whether entrepreneurship is considered by society as a good career choice. **Figure 3.1.** below indicates the results of the society's perception on entrepreneurship as a good career choice for the year 2019/2020 comparatively between Cyprus, Greece and Luxembourg, as well as Europe in general. It also compares

the results between the two previous years of 2018/2019 and 2017/2018, to provide a clearer picture on the perception across the years. According to the results, this belief is rather widely adopted in Cyprus and even more in Luxembourg, than Greece, as there is a notable difference of 23% to 30% more. Also, the perception of entrepreneurship as a good career choice in Cyprus has been improved compared to the previous years. In 2017/2018 the rate was 66.2% and in 2019/2020 the rate was 73%, recording an increase of almost 7%.

Similarly, there a rise on the society's perception regarding the high status of successful entrepreneurs. In 2019/2020, 76,7% of the population in Cyprus considers this statement to be true, which is higher by almost 10% compared to the 2018/2019 findings, and more than 15% comparatively to the results of 2017/2018. This perception is also more widely adopted in Cyprus compared to Greece or Luxembourg and even Europe in general. As illustrated in **Figure 3.2,** for 2019/2020, Cyprus holds a rate of 76.7% while Greece and Luxembourg hold 49,6% and 58,9% respectively. In Europe the average rate is 68,5%. Therefore, there is a significantly higher rate of this perception in Cyprus that seems to be increasing across the years. This finding could be possibly attributed to the improvement of the perception on entrepreneurship as a career pathway.

Regarding the media attention drawn on entrepreneurship, approximately one in two Cypriots consider that entrepreneurship received enough attention by the media. As illustrated in **Figure 3.3,** the rate of this index for Cyprus seems to be consistently around 50% across the years. However, compared to this year's European average rate, Cyprus' rate is approximately 10% lower. The corresponding index is notably higher in Luxembourg (66.5%) and slightly lower in Greece (48%).

Figure 3.1: Entrepreneurship as good career choice

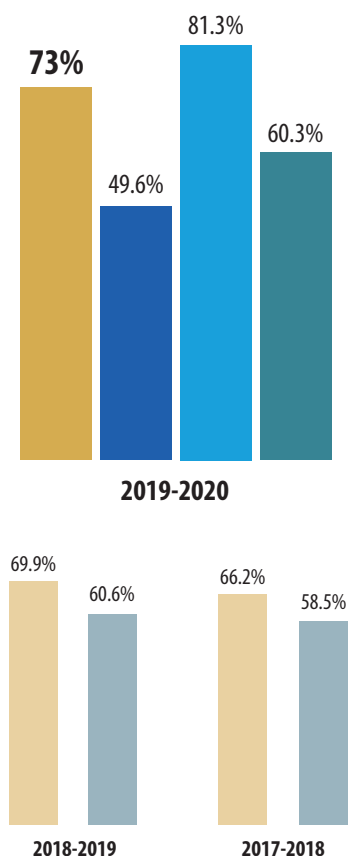
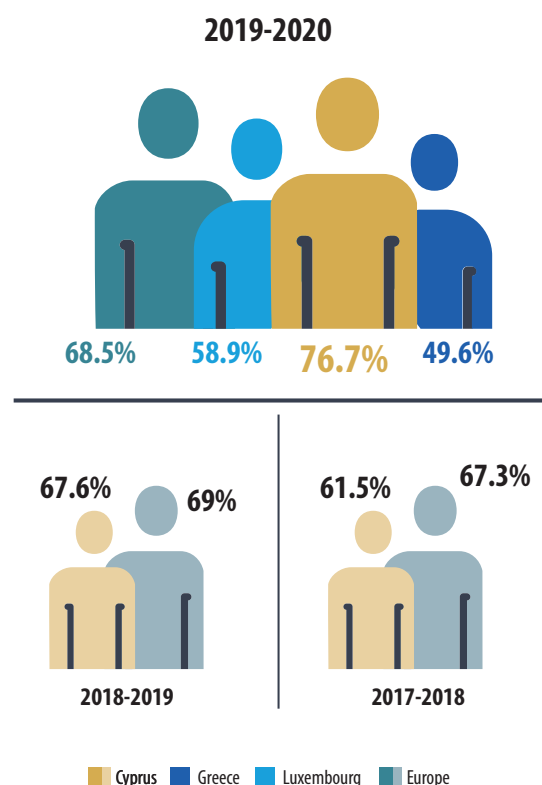


Figure 3.2: High status to successful entrepreneurs



The perceived entrepreneurial opportunities of an economy provide indications for the country's entrepreneurial intention. For this reason, GEM considers the perceived opportunities that might exist in a country, as well as the capabilities and the fear of failure perceived by the individuals. The perceived opportunities enhance the understanding on society's perception on the opportunities available for initiation of entrepreneurial activity.

As illustrated in **Figure 3.4**, the index value on perceived opportunities for entrepreneurial activity for Cyprus in 2017/2018 was 51%, in 2018/2019 it decreased to 45.9% and this year it further decreased to 38.5%. In Europe and in other European countries such as Greece and Luxembourg, figures are comparatively higher. Particularly, the European average value has increased by 9% between 2018/2019 and this year. Similarly, the index value in Luxembourg is also comparatively higher than in Cyprus with a notable difference of almost 20%.

Perceived ease is determined on the perception of the population of how easy it is to start an entrepreneurial activity in the area where they live. GEM began examining whether it is considered easy to start a business in each participating country in 2018/2019. In that year, about two in five of Cyprus' citizens (41.4%) believed that it is relatively easy to start a business. This rate was higher than the European average rate which was 38.2%. However, this year, the results have shifted: Cyprus currently shows a lower percentage of 38.2%, while the European average rate has increased up to 52.1%. This might be consequential to the decreased perception on

opportunities. According to **Figure 3.5**, the corresponding rates in Greece (46.9%) and Luxembourg (60.5%) are higher.

In contrast with perceived opportunities, Cyprus's population is more positive and optimistic regarding its perceived capabilities for initiating entrepreneurial activity in Cyprus. This finding is consistent in Cyprus across the years. In particular, compared to 46.4% in 2017/2018, this year Cyprus' rate is 58.2%, recording a total rise of approximately 15%. This implies that about three to five residents of Cyprus consider that they have the necessary capabilities for commencing entrepreneurial endeavors. This figure is also comparatively higher than the European average rate which this year stands at 50.3%, which indicates that Cypriots seem more optimistic about their capabilities on initiating entrepreneurial activity.

Following the increase of the population's perception on the perceived capabilities for initiating entrepreneurial activity, the public's fear of failure has also been decreased. Specifically, in 2017/2018, 55.9% of the population displayed a fear of failure associated to initiating entrepreneurial activity. This index value was initially decreased in the 2018/2019 report and it has now reached the value of 36.4%, which is comparatively lower to all figures seen throughout the report since 2017/2018 (**Figure 3.7**). As illustrated in **Figure 3.7**, Fear of failure appears to be higher both in Greece and in Luxembourg as well as across Europe.

There is also an amount of the population which considers that although there are good opportunities to start a business, they would not do so due to fear of failure. Comparatively with other

Figure 3.3: Media attention for entrepreneurship

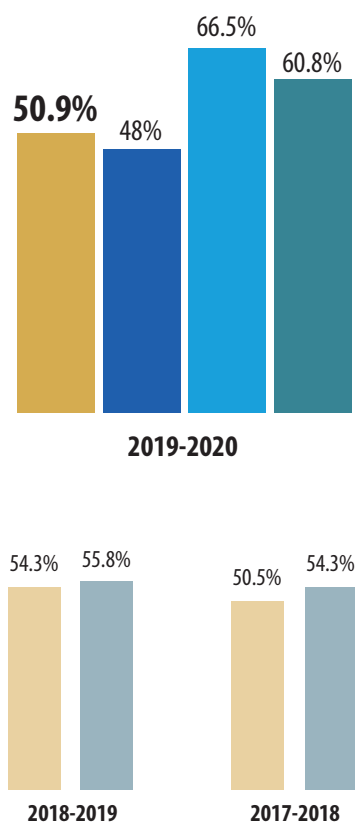
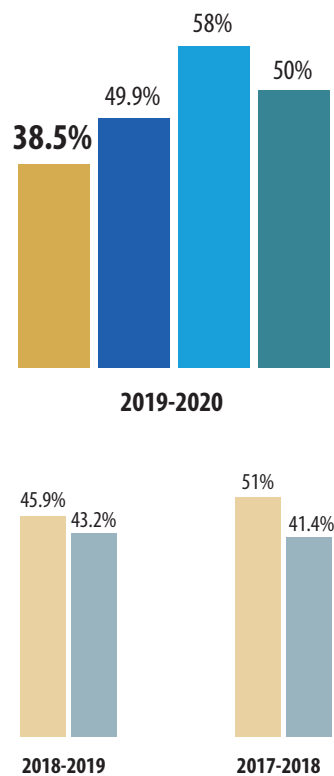


Figure 3.4: Perceived Opportunities: There are good opportunities to start a new business in my area (% adults)



■ Cyprus ■ Greece ■ Luxembourg ■ Europe

countries as well as the European average rate, in Cyprus a smaller amount of the population agrees with this view. This could be due to the fact that there is a decrease in the index associated to fear of failure in Cyprus.

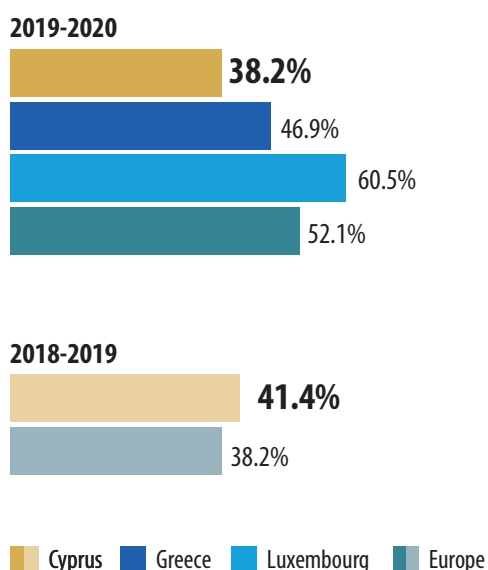
For the last two years, GEM extracted information on the percentage of the population knowing someone who has started a business in the past two years. As illustrated in **Figure 3.8** both Cyprus' and the European average rates demonstrate an increase regarding this index for the current year. In particular, in 2018/2019, the European average rate was 33% while this year it has reached 52.1%. In Cyprus the index value was 33.2% in 2018/2019 while it has now reached 56%. This means that approximately one in two Cypriots know someone who has started a business in the past two years, which is a very positive and important observation towards the better understanding of entrepreneurial endeavors.

3.2 TOTAL EARLY-STAGE ENTREPRENEURIAL ACTIVITY (TEA)

The GEM methodology extracts information on entrepreneurship of various stages of maturity, including the Total Early-Stage Entrepreneurial Activity (TEA) index, which is an assessment of a country's entrepreneurial activity at early stage. This index provides observations on new entrepreneurial aims and efforts, that could be later converted into established businesses. Thus, the TEA index reflects on the country's entrepreneurial potential and therefore it is considered as one of the most important indexes of the GEM methodology. The TEA index encapsulates both nascent entrepreneurs and new business owners. Overall the total early-stage entrepreneurial activity in Cyprus has been increased compared to the previous year.

As illustrated in **Figure 3.9**, in 2019/2020 there was a notable rise in the total early-staged entrepreneurial activity in Cyprus. In comparison to the corresponding European average rate,

Figure 3.5: Perceived Ease: In my country, it is easy to start a business (% adults)



Cyprus' TEA rate is higher by 3%. Other European countries such as Greece and Luxembourg also recorded a lower TEA value compared to Cyprus. In particular, the TEA index rate has been 8.2% in Greece and 10.2% in Luxembourg. The results highlight that Cyprus' early-stage entrepreneurial activity in 2019/2020 has been improved. The rise in the TEA index rate could be attributed to the improvement of the socioeconomic conditions and the improved societal perceptions on entrepreneurship as a career choice.

Furthermore, comparatively to other European countries such as Belarus, Germany, Italy and Norway, Cyprus TEA is higher. However, other countries such as Latvia and Canada have higher TEA values. Cyprus' TEA index in 2019/2020 is similar to that of other European countries such as Ireland, Portugal, Croatia and the Slovak Republic. **Figure 3.10** summarizes the TEA index rates of all the countries of the European regional area participating in GEM 2019/2020 as well as the TEA index rates of selected countries from other geographical regions. More information on the TEA level of other countries is also included in Appendix 1.

The rise of Cyprus' TEA index rate this year could be attributed to a plethora of reasons. Beyond the improved societal perceptions towards entrepreneurship, other factors could be relevant to the improvement of the perceived capabilities to embark on an entrepreneurial journey as well as the partial reduction of the fear of failure.

This is also supported by evidence presented later in this section, showing that the increase recorded in this year's TEA is largely due to the significant increase of the number of nascent entrepreneurs. The number of nascent entrepreneurs has increased more than a 6% compared to last year. This might also indicate that there is an increase of mechanisms providing entrepreneurial support, mentoring or education

Figure 3.6: Perceived Capabilities: You personally have the knowledge, skills and experience to start a new business (%adults)

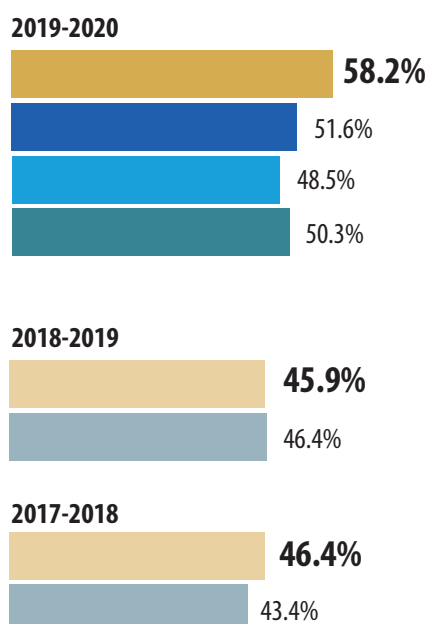


Figure 3.7: Fear of Failure: would not start a business for fear of failure (%adults)

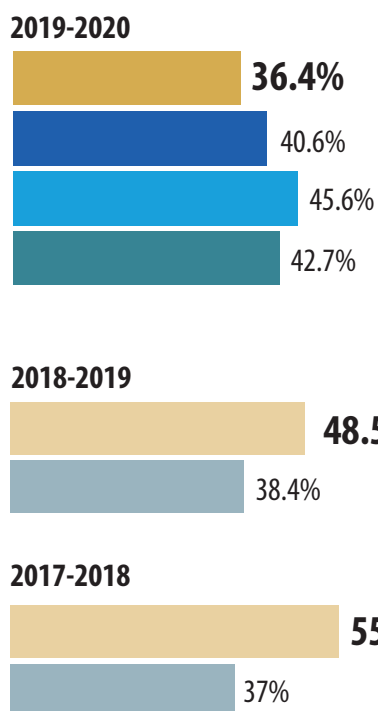


Figure 3.8: Knowing someone who has started a Business in past two years (% adults)

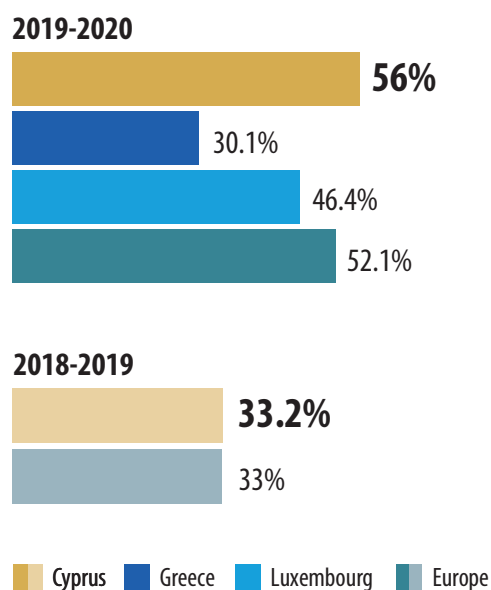
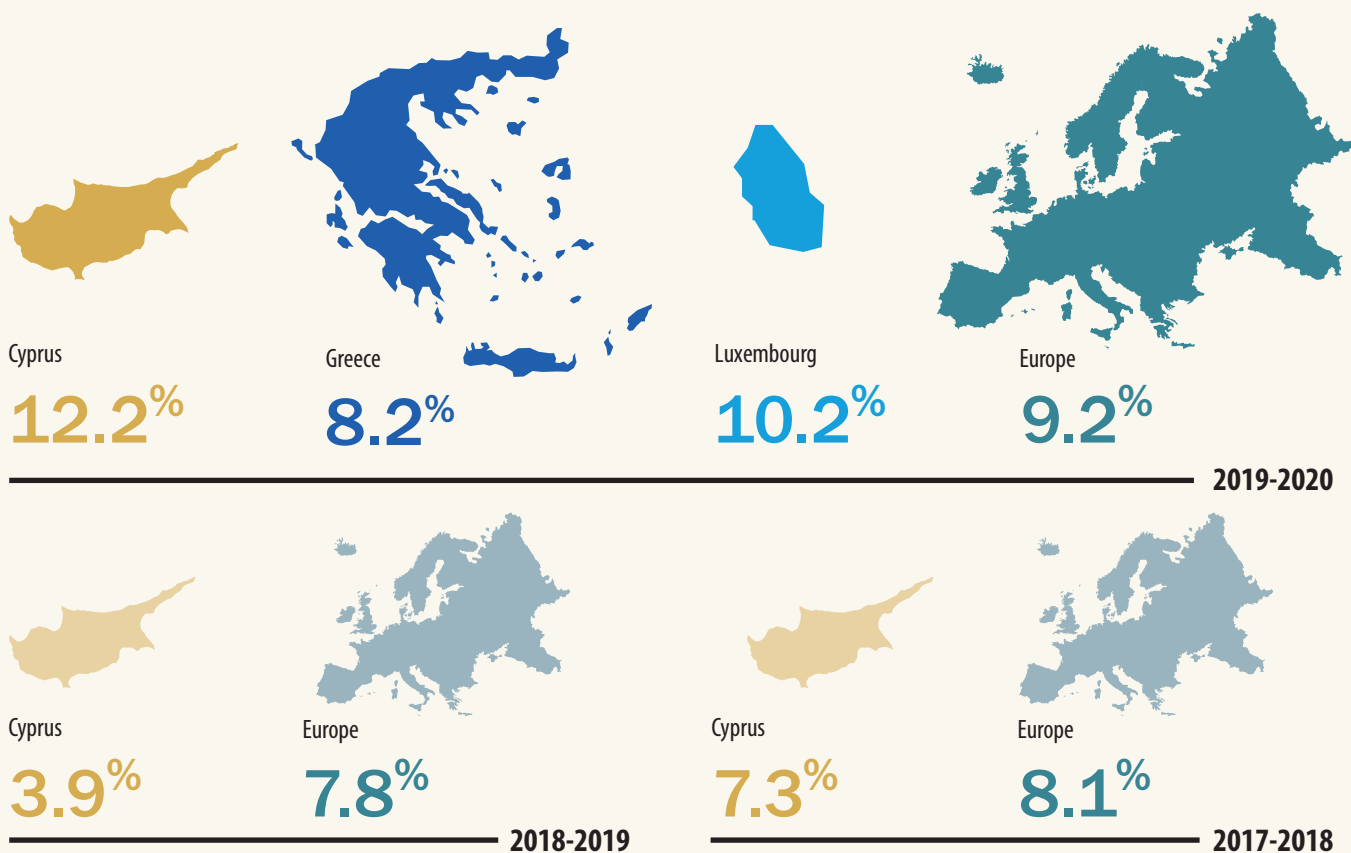


Figure 3.9: TEA index rates (% adults)



which seems to potentially assist nascent entrepreneurs in persisting on their entrepreneurial endeavors.

3.2.1 Nascent entrepreneurs

GEM regards nascent entrepreneurs as entrepreneurs who are on the very early-stage development of their entrepreneurial activity and who are currently seeking to set up a new business, have part-time or full-time involvement in this activity and will have at least partial ownership of the new business. Nascent entrepreneurship is relevant to new ventures which have not paid any wages for the past three months.

Nascent entrepreneurship in Cyprus has increased. In 2017/2018 nascent entrepreneurship in Cyprus was 3.6%, then in 2018/2019 it dropped to 1.2% and has now raised to the amount of 7.9%. As illustrated in **Figure 3.11**, the European average rate for nascent entrepreneurial activity also increased compared to last year, indicating an overall increase in nascent entrepreneurship across Europe. Compared to other countries, Cyprus and Luxembourg have similar nascent entrepreneurship figures, whereas Cyprus' nascent entrepreneurship index rate is higher than that of Greece. The increase recorded in Cyprus' TEA index rate in 2019/2020

is mainly due to the significant rise in the rate of nascent entrepreneurial activity during the same period of time.

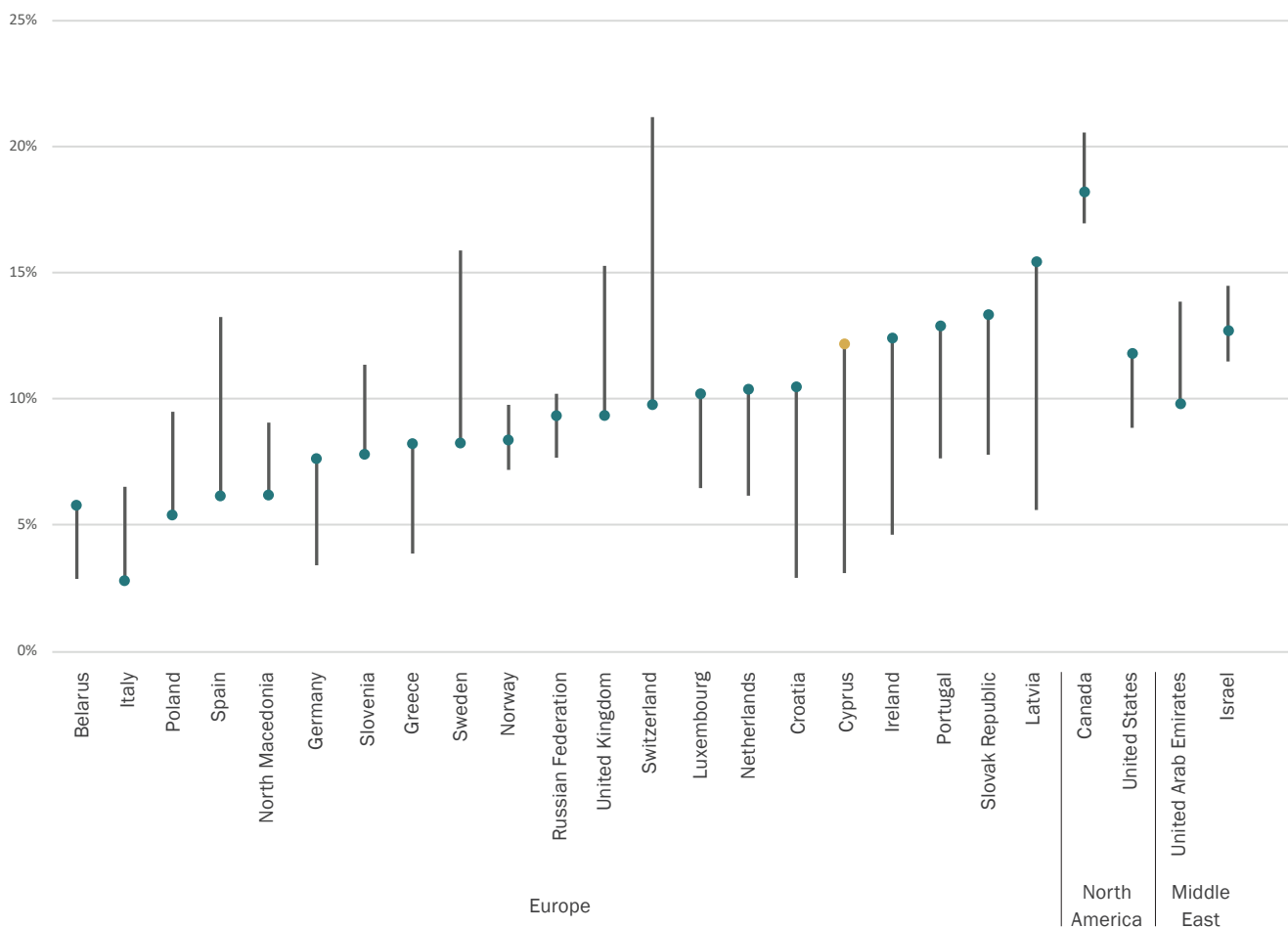
3.2.2 New business owners

According to the GEM methodology, new business owners are the early-stage entrepreneurs who have the ownership and handle the management of the new enterprises that have been set up, are younger than 42 months' old and have paid some salaries or wages.

In 2019/2020, 4.6% of Cyprus population has been identified as new business owners. This year's business ownership rate is the highest across the past three years, compared to the rate 2.7% in 2018/2019 and 3.8% in 2017/2018. This year's rate is also higher compared to the corresponding European average which is 3.7%.

GEM research results also show that the rates of nascent entrepreneurship and new business ownership in Cyprus have increased this year. In particular, the rise in nascent entrepreneurship is higher compared to that of new business owners. In particular, from 2018/2019 to 2019/2020, nascent entrepreneurship has increased by 6.7%, whereas

Figure 3.10: Total Early-Stage Entrepreneurial Activity (TEA) Index levels¹



¹ The horizontal lines illustrate the margin of error. It is shorter in countries that included a larger number of responses. For example, Spain surveyed 22000 respondents for the 2018/2019 GEM report. Cyprus collected 2000 responses and its margin error is +/- 1.4%.

Figure 3.11: Nascent Entrepreneurs in Cyprus and Europe

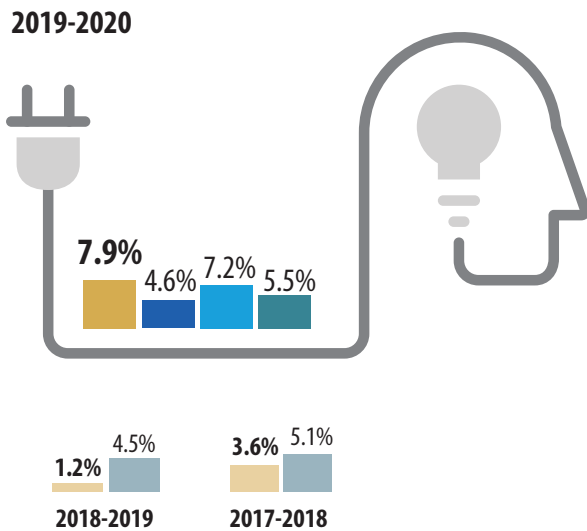
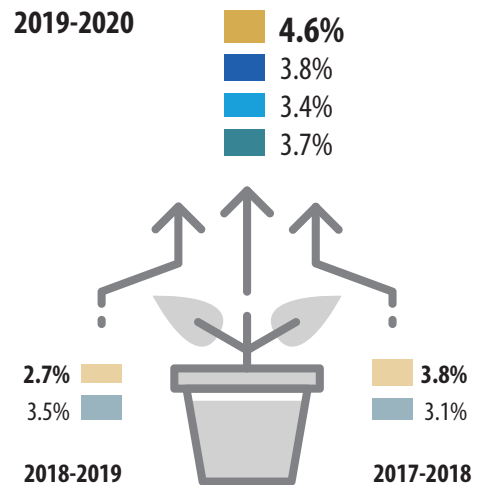


Figure 3.12: New business owners



■ Cyprus ■ Greece ■ Luxembourg ■ Europe

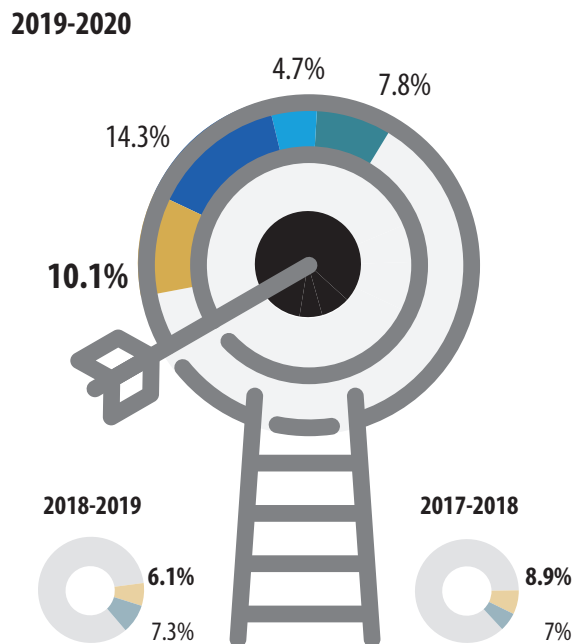
new business ownership has increased by 1.9%. This might indicate that it is harder to maintain and sustain new businesses compared to the less mature nascent ventures.

3.3 ESTABLISHED BUSINESS OWNERS

The GEM methodology also includes established business owners, that is entrepreneurs, owners and managers of established ventures, that are older than 42 months old and who have also already provided salaries or wages.

In 2019/2020, the rate of established business owners in Cyprus is 10.1%. This rate is higher than the 2018/2019 rate which was 6.1% and the 2017/2018 rate which was 8.9%. Cyprus' established business ownership is also higher than the corresponding European average rate (7.8%). As illustrated in **Figure 3.13**, Cyprus' rate is lower than Greece's (14.3%) and higher than Luxembourg's (4.7%).

Figure 3.13: Established business ownership



3.4 EMPLOYEE ENTREPRENEURIAL ACTIVITY

An additional category of entrepreneurial activity is employee entrepreneurial activity conducted within organizations. In 2019/2020, Cyprus employee entrepreneurial activity rate stands at 6.2%. As illustrated in **Figure 3.14**, employee entrepreneurial activity rate in Cyprus tends to increase across the years as the rate recorded in 2018/2019 was 5.4%, up from 1.8% in 2017/2018. Cyprus' entrepreneurial activity is higher than the corresponding 4.1% European average rate.

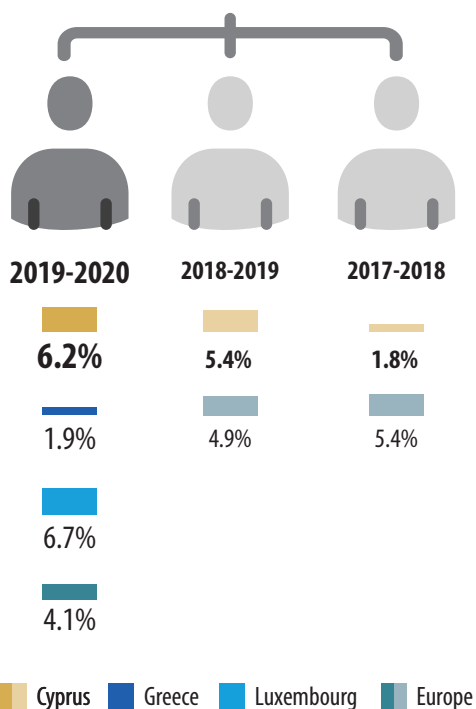
3.6 PROFILE OF ENTREPRENEURS IN CYPRUS

GEM also extracts information that describe the profile of the entrepreneurs in each economy participating in the study. This includes information regarding the individuals' age, gender, motives and education. This subsection draws on this data to sketch this year's entrepreneurs' profile.

Age distribution

Every year, GEM's APS sample size includes adults between 18 to 64 years. According to this year's results, the 25-34 age cohort is the age group with the highest involvement in TEA (16.8%), followed by the 35-44 (13.9%) and 18-24 (10.6%) age cohorts. The dominating age cohort in Luxembourg is the 25-34 age cohort, whereas in Greece the 18-24 age cohort hold the majority of the TEA involvement. Along the same lines, the European average rate indicates that the 25-34 age cohort is

Figure 3.14: Employee entrepreneurial activity in Cyprus and Europe



the one with the highest involvement in TEA. Cyprus' results are different to last year, as in 2018/2019, the 45-54 age cohort was the age group with the highest involvement in TEA. Overall, this year's results indicates an increase in the involvement of younger age groups in TEA. The results regarding the 25-34 cohort indicate that youngsters are keen on entering entrepreneurial endeavors while being at an early career stage. This raises the potential of the country's entrepreneurial activity to include fresh and creative business ideas and may contribute in extending a nation's innovation capacity.

Figure 3.15: Total Early-Stage Entrepreneurial Activity (TEA) rates by age group

2019/2020				
	Cyprus	Greece	Luxembourg	Europe
18-24 years	10.6%	13.2%	7.8%	10.7%
25-34 years	16.8%	6.3%	13.4%	13%
35-44 years	13.9%	6.5%	11.4%	10.1%
45-54 years	9%	9.9%	12.1%	7.6%
55-64 years	8.3%	6.7%	4%	7.8%

Gender distribution and motives









As with regards to gender distribution and motives, this year's results show that males tend to be more involved in TEA compared to females both in Cyprus as well as in Europe. Similarly to the previous years, in 2019/2020 the female to men ratio of involvement in TEA is 0.6, which is aligned with the 2018/2019 ratio and additionally with the corresponding European average rate (0.6) of the same period. In particular, the male TEA involvement in Cyprus (15.6%) is almost twice the amount of the female TEA involvement (8.9%). In comparison, the ratio of females and males involved in TEA is more balanced in Greece (0.9) and in Luxembourg (0.7).

Figure 3.16: Total Early-Stage Entrepreneurial Activity (TEA) rates and gender

2019/2020				
	Cyprus	Greece	Luxembourg	Europe
Male TEA (% of adult male population)	15.6%	8.8%	12%	11.2%
Female TEA (% of adult female population)	8.9%	7.6%	8.3%	7.1%
Ratio of female/male TEA	0.6	0.9	0.7	0.6

Beside the rates of male and female early-stage entrepreneurial activity in Cyprus and in Europe, **Figure 3.17** below also illustrates the motives and gender relevant to TEA. In 2019/2020, the majority of the individuals involved in TEA in Cyprus associate their entrepreneurial activity to their aim 'to build great wealth or very high income'. This motive has recorded the highest for both genders in Cyprus' TEA, as 76.8% of males and 68.1% of females considers this an important motive. The second most important motive is 'to earn a living because jobs are scarce' (58%). A notable amount of Cyprus' TEA also stated that their motive is 'to make a difference in the world' (45.1%). In Europe, the dominating motive for TEA is to 'earn a living because jobs are scarce' (53.1%). Similar is the dominating motive in Greece (51.6%), whereas in Luxembourg the most important motive is 'to make a difference in the world' (60.5%). The least popular motive in Cyprus is the intention 'to continue a family tradition'. This is also the least popular motive identified across Europe. Overall, these results indicate a difference in the motives of TEA in Cyprus compared to countries with different economic conditions such as Luxembourg. Luxembourg's economic environment and variety of career options may enable the population to embark on entrepreneurial endeavors because of their desire to make a difference in the world rather than because of their need to earn a living or to improve their income status.

Figure 3.17: Total Early-Stage Entrepreneurial Activity (TEA) rates, motives and gender

2019/2020				
	Cyprus	Greece	Luxembourg	Europe
To make a difference in the world (% of TEA)	45.1%	32.3%	60.5%	40.6%
 To make a difference in the world (% of male TEA)	44.4%	32.1%	64.9%	39.5%
 To make a difference in the world (% of female TEA)	46.1%	32.5%	53.8%	42.5%
To build great wealth or very high income (% of TEA)	73.5%	48.2%	41.2%	47%
 To build great wealth or very high income (% of male TEA)	76.8%	52%	43.2%	50.4%
 To build great wealth or very high income (% of female TEA)	68.1%	43.8%	38.1%	41.5%
To continue a family tradition (% of TEA)	30.3%	35.5%	30%	33.3%
 To continue a family tradition (% of male TEA)	32.5%	38%	28.1%	34.5%
 To continue a family tradition (% of female TEA)	26.7%	32.1%	32.9%	31.3%
To earn a living because jobs are scarce (% of TEA)	58%	51.6%	38.3%	53.1%
 To earn a living because jobs are scarce (% of male TEA)	54.8%	53%	38.9%	51.1%
 To earn a living because jobs are scarce (% of female TEA)	63%	49.9%	37.4%	56.1%

3.7 ENTREPRENEURIAL IMPACT

GEM also explores the impact of entrepreneurial activity recorded in each participating economy for every year. Understanding the impact of entrepreneurial activity can serve as a proxy for the expected development and growth of the country. This includes, inter alia, economy growth of different industry sectors, expected job creation, innovation level and international orientation. This section of the GEM report evaluates industry, job creation, innovation and international orientation in Cyprus across the years, and also provides a comparison on these indexes with the relevant European averages.

Industry

In 2019/2020, the majority of Cyprus' TEA is relevant to the Wholesale and Retail sector. In particular, 34.4% of Cyprus' early-stage entrepreneurs are active in the Wholesale and Retail sector, whereas the corresponding rate in Europe is 29.2%. The second most popular sector in Cyprus is the Health, Education, Government and Social Services sector (17.4%). The corresponding rate across Europe is 18.6%. The third most important sector of Cyprus' TEA is the Professional sector (8.35), while in Europe, the corresponding rate is 10.9%.

Comparing the results with the European average rate, Cyprus' TEA has a higher involvement in the Wholesale and Retail, Finance, Transportation and Personal/ Consumer Services sectors, compared to a lower involvement in other important sectors of the economy such as Health, Education, Government and Social Services, Professional Services, Mining, Manufacturing, Infor./Communications Tech and others.

In particular, only 8.3% of Cyprus' TEA is active in the Professional Services sector whereas the corresponding European average value for this sector is 10.9%. The involvement in Information and Communication Technology (ICT) sector of Cyprus' TEA (5.5%) is below the European average rate, while the corresponding value in Europe is 5.7%. Nonetheless, it must be noted that there has been an increase of Cyprus' activity across the past couple of years, as TEA activity in the Health, Education, Government and Social Services went up from 14% in 2018/2019 to 17.4% in 2019/2020. **Figure 3.18** illustrates Total Early-Stage Entrepreneurial Activity (TEA) and industry sectors in Cyprus, Greece, Luxemburg and across Europe.

Job creation

One of the most critical effects of new entrepreneurial activity on the economy is the degree to which this will impact and develop a country's job market through creating new job positions. GEM methodology also includes questions on the number of new job positions expected in the following years as a result of new entrepreneurial endeavors. In Cyprus, early-stage entrepreneurs appear to be optimistic on the impact of their entrepreneurial activity with regards to new job openings. Specifically, in 2019/2020, the majority of the population involved in TEA (5.2% of the adult population), expects that their entrepreneurial activity will create 1-5 jobs, whereas a part of the population involved in TEA (2.7% of the adult population) expects 6 or more new job positions because of their entrepreneurial activity (**Figure 3.19**). About one in three TEA entrepreneurs in Cyprus seem less optimistic as they do not expect their entrepreneurial activity to generate any new job positions in the future (4.2% of the adult population).

International orientation

The GEM methodology also accounts for the national or international orientation of the entrepreneurial activity, thus providing insights on the expected impact of TEA activity at national and international levels. In Cyprus, 4.2% of the adult population stated that they expect at least national scope for its customers and new products or processes, while the corresponding European average rate was 1.9% (**Figure 2.20**). The notably higher rate in Cyprus compared to the European average rate demonstrates that Cyprus' entrepreneurial activity has a higher potential to make an impact at the national market. However, other countries such as Luxembourg indicate a higher international orientation. Luxembourg's rate on global scope for its customers and new products or processes is higher compared to Cyprus'. This is also reflected on the expected revenue from customers outside the economy. In particular, 2.2% of the population in Cyprus claimed that they are expecting 25% or more of revenue from customers outside their own economy while the corresponding rate in Luxembourg was 2.7%. Overall, Cyprus' entrepreneurial activity is to some extent internationally oriented. Compared to other economies, such as Luxembourg's, there is further potential for international orientation and higher rate of revenue arising from customers outside the economy.

This section reported the entrepreneurial activity of Cyprus with regards to the European average rates and also in comparison to Greece and Luxembourg. Examining and analyzing the insights extracted by other economies which also participate in this year's GEM, helped in comparing findings and better interpreting the status of Cyprus' entrepreneurial activity. Where applicable, this year's results were also compared to the previous years, to extract conclusions on the progress recorded. In general, the results show that Cyprus' TEA rate has increased. This year's TEA increase is mainly due to the increase in the rate of nascent entrepreneurs. Along the same lines, results also indicated that the majority of Cyprus' TEA is driven by their wish and eagerness to build great wealth or very high income and less for making a difference in the world. Results also indicated that the majority of early-stage entrepreneurs in Cyprus is involved in the Wholesale/ Retail sector, whereas entrepreneurial activity is more focused towards the national market. The following Section addresses the status of the entrepreneurial ecosystem in Cyprus.

Figure 3.18: Total Early-Stage Entrepreneurial Activity (TEA) and industry sectors

Economy				
	Cyprus	Greece	Luxembourg	Europe
Agriculture	2.7%	6.4%	6.7%	4.7%
Mining	6.0%	3.2%	7.1%	6.3%
Manufacturing	5.7%	10.1%	4.5%	8.2%
Transportation	5.4%	10.1%	1.5%	3.6%
Wholesale/Retail	34.4%	42.1%	21.0%	29.2%
Infor./Communication Technology	5.5%	4.1%	10.1%	5.7%
Finance	5.6%	2.6%	11.6%	4.2%
Professional Services	8.3%	6.2%	13.2%	10.9%
Administrative Services	4.6%	5.2%	5.2%	5.2%
Health, Education, Government and Social Services	17.4%	14.1%	18.1%	18.6%
Personal/Consumer Services	4.4%	1.3%	1.0%	3.5%

Figure 3.19: Expected new job openings (% of adult population)

Job creation				
	Cyprus	Greece	Luxembourg	Europe
Expects 0 jobs in the next 5 years	4.2%	2.7%	2.7%	3.7%
Expects 1-5 jobs in the next 5 years	5.2%	4.3%	4.4%	3.1%
Expects 6+ jobs in the next 5 years	2.7%	1.2 %	3.1%	2.3%

Figure 3.20: Innovation and international orientation of entrepreneurial activity (% of adult population)

Innovation and international orientation of entrepreneurial activity				
	Cyprus	Greece	Luxembourg	Europe
At least national scope for its customers and new products or processes	4.2%	1.3%	3.5%	1.9%
Global scope for its customers and new products or processes	0.9%	0.5%	1%	0.5%
Expecting 25% or more of revenue from customers outside own economy	2.2%	1.4 %	2.7%	1.6%

TYPICAL EARLY-STAGE ENTREPRENEUR IN CYPRUS 2019/2020



12.2%
TEA INDEX

73%

OF THE POPULATION PERCEIVED
ENTREPRENEURSHIP AS GOOD CAREER
CHOICE



56%

OF THE POPULATION KNOW SOMEONE
WHO HAS STARTED A BUSINESS IN THE
PAST TWO YEARS



58.2%

OF THE POPULATION PERCEIVES THAT THEY
HAVE KNOWLEDGE, SKILLS AND EXPERIENCE
TO START A NEW BUSINESS



36.4%

OF THE POPULATION FEARS FAILURE RELATED
TO ENTREPRENEURIAL ACTIVITY



25-34 YEARS OLD:

THE AGE COHORT WITH LARGEST INVOLVEMENT IN TEA

16.8%



INVOLVED IN TEA

MALE

FEMALE



15.6%

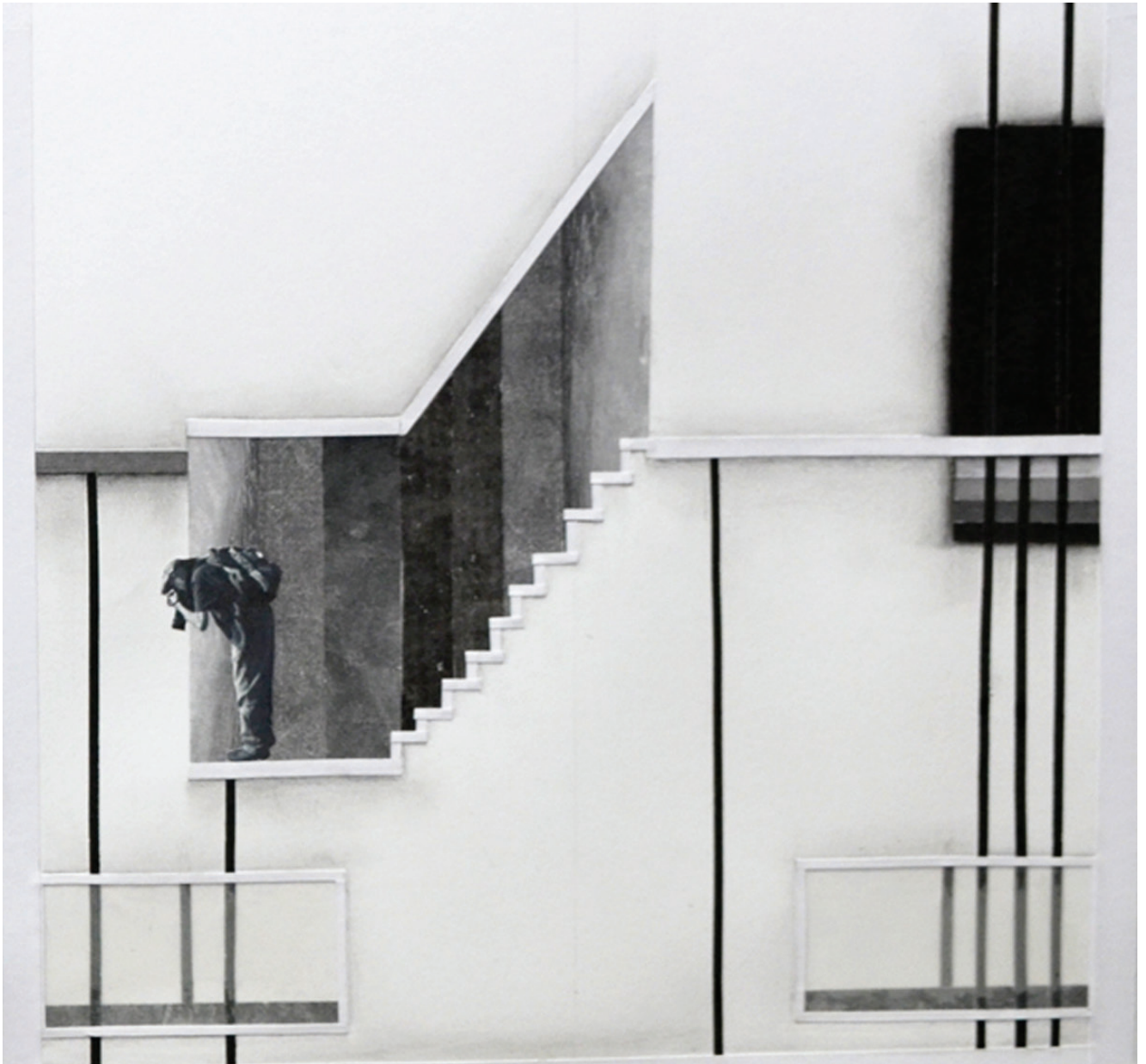
8.9%

INVOLVED IN TEA

RATIO OF
FEMALE/MALE
IN TEA

0.6

THE ENTREPRENEURSHIP ECOSYSTEM



Elena Rousou, ARH 100/124 Architectural Design I/ Communication Media in Architecture, 2017-2018

While the Adult Population Survey (APS) provides insights on the status of entrepreneurial activity in each economy, the National Expert Survey (NES) sheds light on the strengths and weaknesses of the ecosystem. In particular, NES invites experts to respond to a survey structured across nine different conditions which shape a country's entrepreneurship ecosystem. Each of these nine Entrepreneurial Framework Conditions (EFCs) are measured using a number of items. The EFCs included in the NES methodology are Entrepreneurial Finance, Culture and Social Norms, Government Programmes, Legal and Commercial Infrastructure, Government Policy, Physical Infrastructure, Entrepreneurship Education, Market Openness and Research and Development Transfer.

This Section discusses the results of NES as arising by the responses of Cyprus' national experts. **Figure 4.1** illustrates the nine EFCs included in NES 2019/2020. NES invites respondents to present the conditions that support (or constrain) entrepreneurial activity and development, following a 9-point Likert scale. More information on the GEM NES methodology is included in Section 2 of this report. The NES 2019/2020 results highlight the strengths and weaknesses of Cyprus' entrepreneurial ecosystem. According to the results, physical infrastructure and commercial and legal infrastructure are two of the local ecosystem's strongest framework conditions, a finding that has been consistent across the years.

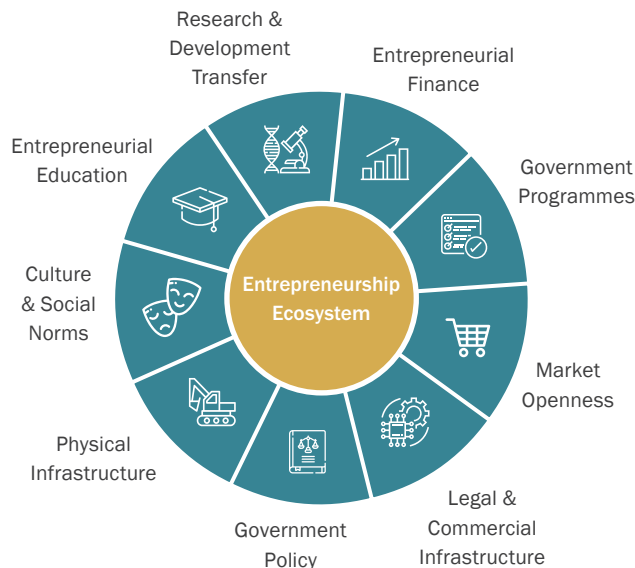


Figure 4.1: Entrepreneurial Framework Conditions (EFCs)

Figure 4.2: Entrepreneurial framework condition scores Cyprus and Europe in 2017/2018

■ Cyprus ■ Europe

2017/2018

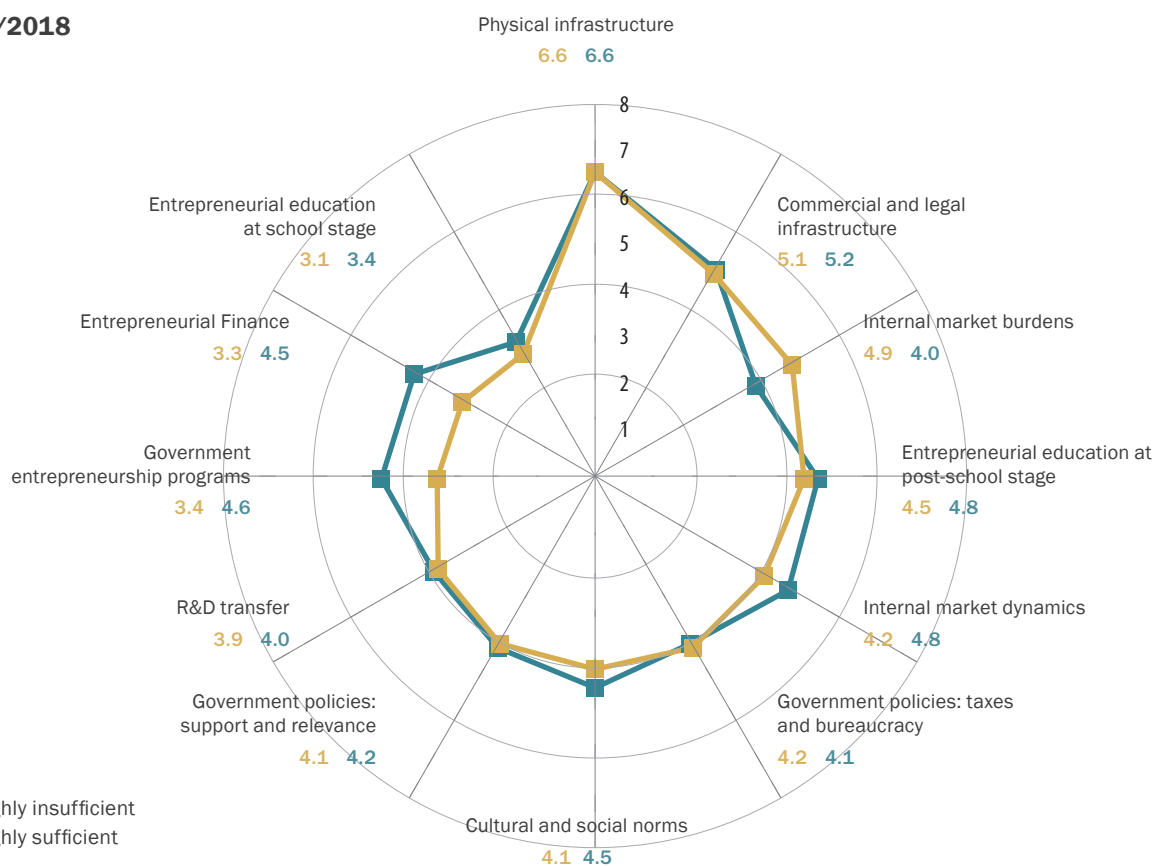


Figure 4.2: Entrepreneurial framework condition scores Cyprus and Europe in 2018/2019

Cyprus Europe

2018/2019

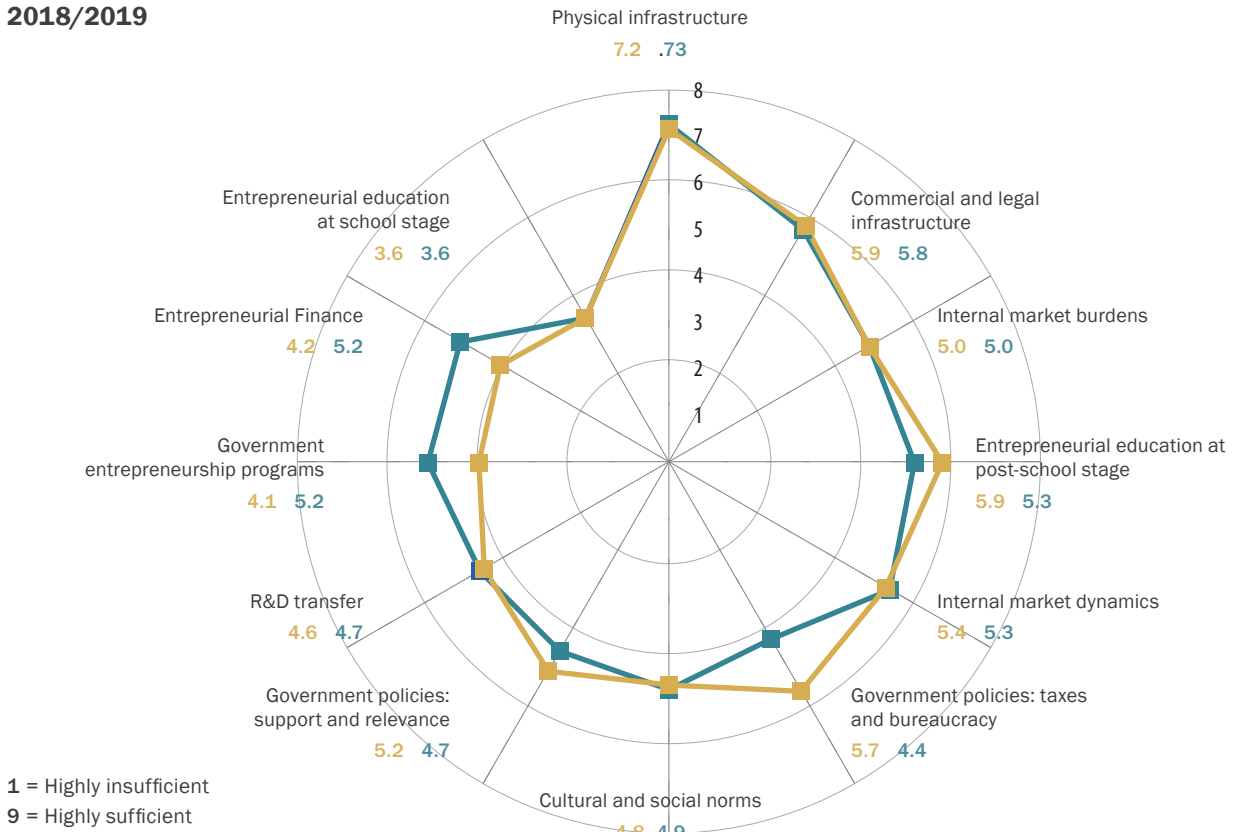
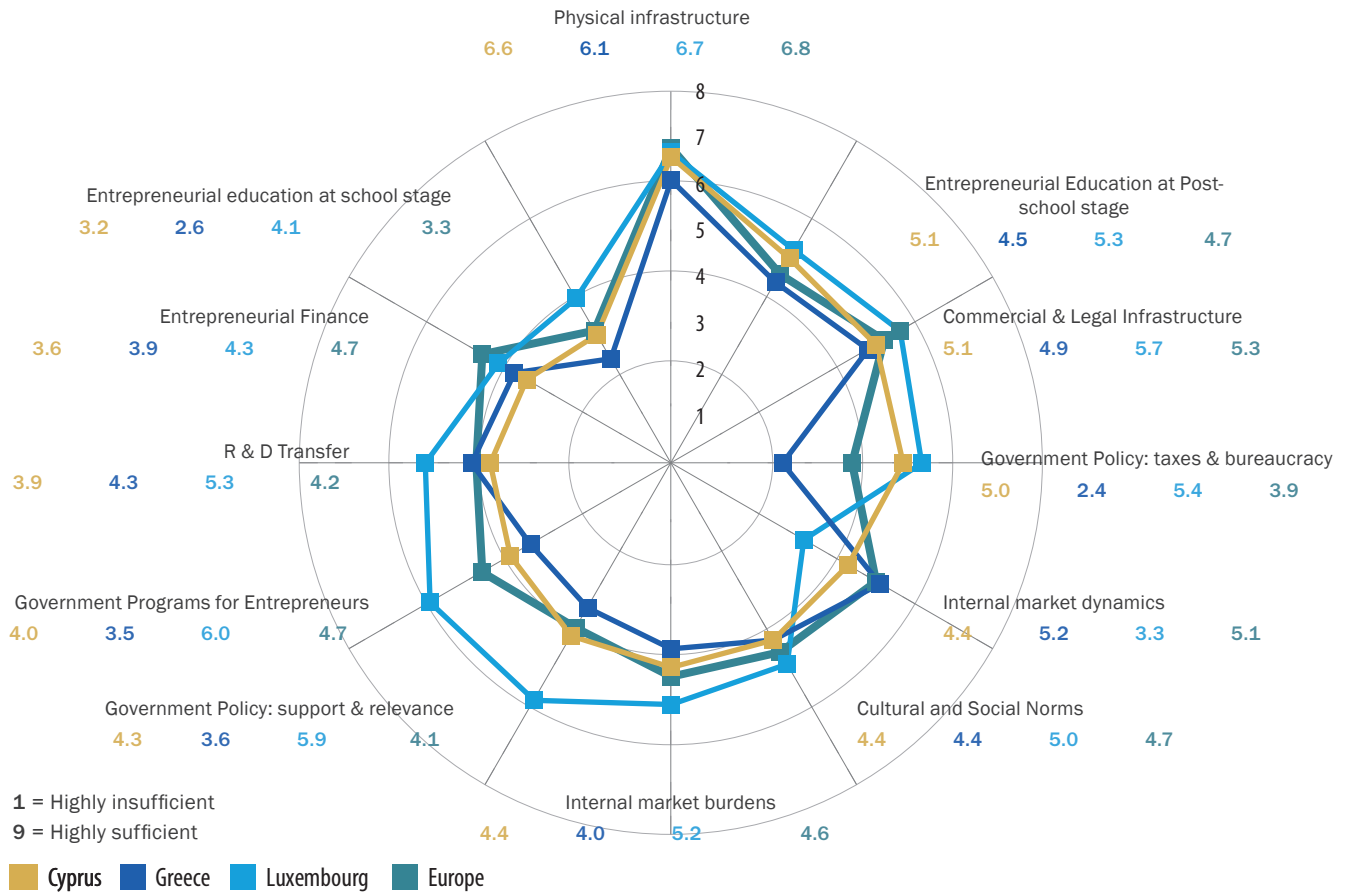


Figure 4.3: Entrepreneurial framework condition scores in Cyprus and other countries in 2019/2020



The results highlight Cyprus' high quality of physical, commercial and legal infrastructure and the competitive advantage of the country with regards to these framework conditions. In 2019/2020, the physical infrastructure's score was 6.6 out of 9 while the corresponding score regarding commercial and legal infrastructure was 5.1. This year's score of physical infrastructures is slightly lower than the corresponding European average value (6.8), while the commercial and legal infrastructure score is also slightly lower to the European average rate (5.1). Similarly, entrepreneurial education at post-school stage is one of the strongest conditions of Cyprus' ecosystem; a score of 5.1 is higher to the corresponding European average on this category by 0.4 points. Government policies relevant to taxes and bureaucracy have notably improved this year (5.0 in 2019/2020, 4.2 in 2018/2019). Overall, Cyprus' scores on these strengths are higher than the corresponding scores of Greece and lower than the corresponding scores of Luxembourg.

Alongside the identification of the ecosystem's strengths, NES also enables the identification of its weaknesses. According to NES, the most critical weakness is entrepreneurial education at the school stage. Compared to the previous years, the score on this condition has slightly decreased. Specifically, this year's rate is 3.2 out of 9, up by only 0.1 from 2017/2018 but 0.4 down from the most recent 2018/2019. Other major weaknesses of the ecosystem are access to finance and R & D transfer. Regarding entrepreneurial finance, despite the fact that the condition has been improved over the years, it has decreased comparatively to the results of the last few years (3.6 this year, compared to 4.2 in 2018/2019 and 3.3 in 2017/2018). Its score is also comparatively lower to the corresponding European average value (4.7). Similarly, R&D transfer for entrepreneurship is lower compared to the previous year (3.9 in 2019/2020, 4.6 in 2018/2019 and 3.9 in 2017/2018). These framework conditions shed light on the weaknesses of Cyprus' entrepreneurship ecosystem. The scores for each of these three weaknesses are lower than the corresponding European benchmark rates as illustrated in **Figure 4.4**. Greece's and Luxembourg's scores on entrepreneurship finance and R & D transfer highlighting the urge for strengthening these categories of the local ecosystem. **Figures 4.2-4.4** and **4.3** provide a graphical representation of the rates recorded across the last three years. The rest of this section provides more information on the measures used for each of the framework conditions.²

4.1 STRENGTHS AND WEAKNESSES OF THE ENTREPRENEURIAL ECOSYSTEM IN CYPRUS

Physical Infrastructure

Cyprus emphasizes a contemporary physical infrastructure that includes refined road, air and sea transport resolutions and services. During the last four years, the physical infrastructure is frequently regarded as the major strength of the island's entrepreneurial ecosystem. Even though Cyprus' infrastructure is a strength overall, the NES results show that Cyprus' physical infrastructure score have slightly decreased this year. Cyprus' physical infrastructure (roads, utilities, communications, water disposal) provides good support for new and developing firms, (6.1 out of 9 in 2019/2020, 6.3

out of 9 in 2018/2019). Similarly, experts perceive that new businesses have good access to communications (telephone, internet, etc.) with a rating of 7.4 out of 9 in 2019/2020 and that new businesses can gain good access to utilities (gas, water, electricity, sewer) within a month (7.8 out of 9 in 2019/2020). The decrease in this year's rate is mainly attributed to the decreased score on cost of getting good access to communications. Compared to other countries, Cyprus does not sufficiently provide cost-effective access to utilities for new and growing firms. However, gaining access to good utility services is easier in Cyprus compared to Luxembourg, Greece and the rest of Europe.

Commercial and services infrastructure

The quality of the commercial and services infrastructure is important for the growth of the entrepreneurial ecosystem. Cyprus holds high-quality commercial and services infrastructure as it features highly trained human resources staff alongside with the availability of a large number of legal offices and top accounting firms. This is also reflected in the results of this year's NES. National experts view that it is easy for new and growing firms to get good, professional legal and accounting services (6.1 out of 9 in 2019/2020). Similarly, they perceive that getting good banking services (checking accounts, foreign exchange transactions, letters of credit) in Cyprus is easy (5.8 out of 9). Although the ecosystem includes enough subcontractors, suppliers and consultants to support new and growing firms (5 out of 9), consistently with last year's results, subcontracting, supplying and consulting services are considered costly for new or growing firms (5.5 out of 9). Despite the fact that this category is a strength for the ecosystem, Cyprus' score is lower than the European average rates as well as Luxembourg's rates.

Government policies

Cyprus' government policies on legal and tax schemes highly contribute to the growth of the business ecosystem as well as the relocation or headquartering of foreign businesses in Cyprus. In particular, Cyprus offers a structured, attractive and balanced tax regime and has one of the lowest corporate income tax rates in the European Union, rendering the island one of the most attractive countries for new business endeavors in Europe. National experts consider Cyprus' tax scheme as supportive for new businesses due to the opinion that the amount of taxes applicable to new businesses does not constitute a concern for new and growing enterprises. In particular, according to the experts, the amount of taxes in Cyprus is not a burden for new and growing firms. This perception is becoming stronger across the years (6.5 out of 9 in 2017/2018, 7.3 out of 9 in 2018/2019 and 7.5 out of 9 in 2019/2020). Moreover, experts view that taxes and other government law schemes are applied to new and growing firms in a certain and predictable way (6.0 out of 9 for 2019/2020), highlighting the long-lasting stability of Cyprus' tax scheme. Although experts recognize and believe that support for new and growing firms is a priority of high essence at national government level (5.5 out of 9 for 2019/2020), they also believe that it is not a high priority at local government level (3.6 out of 9). Experts perceived that it is not easy for new developed firms to obtain the requested permits and licenses within a week (2.2 out of 9), even

² The item values presented for each framework condition are not weighted

Table 4.1: Physical Infrastructure

	2017/2018	2018/2019	2019/2020	2019/2020	2019/2020	2019/2020
The physical infrastructure (roads, utilities, communications, water disposal) provides good support for new and growing firms	6.4	6.3	6.1	5.9	6.0	6.3
It is not too expensive for a new or growing firm to get good access to communications (phone, Internet, etc.)	5.8	5.6	5.3	6.8	6.7	5.6
A new or growing firm can get good access to communications (telephone, internet, etc.) in about a week	7.2	6.8	7.4	6.8	6.9	6.8
New and growing firms can afford the cost of basic utilities (gas, water, electricity, sewer)	6.0	5.9	6.0	6.6	6.6	5.9
New or growing firms can get good access to utilities (gas, water, electricity, sewer) in about a month	7.1	7.3	7.8	6.7	6.8	7.3

(scale: 1=completely false, 9=completely true)

Table 4.2: Commercial and services infrastructure

	2017/2018	2018/2019	2019/2020	2019/2020	2019/2020	2019/2020
There are enough subcontractors, suppliers, and consultants to support new and growing firms	5.2	5.5	5.0	5.7	5.9	6.0
New and growing firms can afford the cost of using subcontractors, suppliers, and consultants	3.6	4.1	4.1	4.0	3.5	4.1
It is easy for new and growing firms to get good subcontractors, suppliers, and consultants	4.5	5.0	4.5	4.8	4.7	5.3
It is easy for new and growing firms to get good, professional legal and accounting services	6.4	6.1	6.1	6.0	5.3	7.0
It is easy for new and growing firms to get good banking services (checking accounts, foreign exchange transactions, letters of credit)	5.9	6.1	5.8	6.1	5.3	5.8

(scale: 1=completely false, 9=completely true)

Table 4.3: Government policies

	2017/2018	2018/2019	2019/2020	2019/2020	2019/2020	2019/2020
Government policies (e.g., public procurement) consistently favor new firms	3.8	4.4	3.7	4.9	3.3	3.0
The support for new and growing firms is a high priority for policy at the national government level	4.9	5.4	5.5	6.6	4.5	4.1
The support for new and growing firms is a high priority for policy at the local government level	3.5	4.1	3.6	5.9	4.3	3.5
New firms can get most of the required permits and licenses in about a week	2.1	2.4	2.2	3.1	3.2	2.7
The amount of taxes is NOT a burden for new and growing firms	6.5	7.3	7.5	5.8	4.3	2.2
Taxes and other government regulations are applied to new and growing firms in a predictable and consistent way	6.6	6.6	6.0	6.4	4.5	2.1
Coping with government bureaucracy, regulations, and licensing requirements is not unduly difficult for new and growing firms	3.9	4.2	4.1	6.0	3.9	2.7

(scale: 1=completely false, 9=completely true)

though the case of setting up a business in Cyprus demands approximately seven to twelve working days. Experts stressed the need for further digitalization of the government processes: “Government bureaucracy could be simplified and potentially government procedures could be digitalized”. Compared to other countries, Cyprus’ tax scheme is not a burden for new and growing firms. **Table 4.3** summarizes the findings on this EFC.

Entrepreneurial education and training

The 2019/2020 NES results demonstrate that entrepreneurial education at post-school level in Cyprus has been improved and enhanced throughout the years. Experts have identified that the business and management education given at post-school level is adequate for preparing the population for start-ups and growing firms. Specifically, their belief with respect to education across the years is improving. For example, the score was 5 out of 9 in 2017/2018 and 6.1 out of 9 in 2018/2019 whereas this year the score stands at 5.6 out of 9. Along the same lines, experts perceive that colleges and universities are also sufficiently preparing students for starting up and growing new firms (5 out of 9 in 2019/2020, 5.2 out of 9 in 2018/2019 and 4.5 out of 9 in 2017/2018). While post-school entrepreneurial education has transformed to a strength of the ecosystem in the last years, entrepreneurial education at school level still remains a weakness. According to the experts, primary and secondary education in Cyprus lack adequate activities and classes which would encourage creativity, imagination, vision, self-sufficiency and personal initiative (3.2 out of 9 in 2017/2018, 3.3 out of 9 in 2018/2019, 3.1 out of 9 in 2019/2020). This was also shown through the open-ended questions as experts highlighted the “lack of a system/ curriculum that will encourage creativity from an early age”. Experts also perceive that school-level education does not provide adequate instruction in market economic principles (3.6 out of 9 in 2018/2019, 3.5 out of 9 in 2019/2020). Similarly, experts believe that school-level education does not provide adequate attention to entrepreneurship and new

firm creation (2.8 in 2018/2017, 2.8 out of 9 in 2018/2019, 2.9 out of 9 in 2019/2020). **Table 4.4** below outlines the perceptions of national experts of school and post-school entrepreneurial education. Compared to last year, this year’s results show a minor decrease on entrepreneurial education provided at post-school level. The rates of all questions relevant to primary and secondary school education are below average, hence indicating that primary and secondary education in Cyprus does not adequately familiarize students with entrepreneurship and does not concentrate enough on the improvement of the skills required for proceeding with entrepreneurial endeavors.

Government entrepreneurship programs

Government entrepreneurship programs are a weakness of the ecosystem. According to the experts, governmental aid for newly developed and growing firms, which can be obtained through contact with a single agency, is limited, despite the slight improvement noted across the years (2.9 out of 9 in 2017/2018, 3.5 out of 9 in 2018/2019, 3.7 out of 9 in 2019/2020). This is also reflected on the perceived support provided by science parks and business incubators (3.2 out of 9 in 2017/2018, 3.5 out of 9 in 2018/2019, of 4.1 out of 9 in 2019/2020). Experts view that it is difficult for anyone who needs help from a government program for a new or growing business to find what they are looking for (3.2 out of 9 in 2017/2018, 3.4 out of 9 in 2018/2019, 3.5 out of 9 in 2019/2020). These results are also comparatively lower to the EU average scores and especially Luxemburg’s scores (5.1 out of 9). **Table 4.5** presents the scores of all the items measuring the government entrepreneurship programs condition. Overall, the results show a slight improvement compared to the previous years. However, scores are comparatively low to the European average rates and other benchmark countries. Thus, further action is needed in order to assist the improvement of the country’s state-supported entrepreneurship programs.

	Cyprus	Greece	Luxembourg	Europe		
Table 4.4: Education						
School education						
Teaching in primary and secondary education encourages creativity, self-sufficiency, and personal initiative	3.2	3.3	3.1	3.5	2.6	4.1
Teaching in primary and secondary education provides adequate instruction in market economic principles	3.4	3.6	3.5	3.5	2.7	4.4
Teaching in primary and secondary education pays adequate attention to entrepreneurship and new firm creation	2.8	2.8	2.9	3.0	2.5	3.8
Post-school education						
Colleges and universities provide adequate preparation for starting up and growing new firms	4.5	5.2	5.0	4.3	4.1	5.1
The level of business and management education provides adequate preparation for starting up and growing new firms	5.0	6.1	5.6	5.1	5.5	5.2
The vocational, professional, and continuing education systems provide adequate preparation for starting up and growing new firms	3.9	4.4	4.6	4.6	3.8	5.6

(scale: 1=completely false, 9=completely true)

Table 4.5: Government entrepreneurship programs

A wide range of government assistance for new and growing firms can be obtained through contact with a single agency	2.9	3.5	3.7	4.1	3.0	6.2
Science parks and business incubators provide effective support for new and growing firms	3.2	3.5	4.1	5.4	4.4	6.9
There is an adequate number of government programs for new and growing businesses	3.8	4.1	4.6	5.0	4.2	6.3
The people working for government agencies are competent and effective in supporting new and growing firms	3.5	3.5	3.8	4.5	2.8	6.2
Almost anyone who needs help from a government program for a new or growing business can find what they need	3.2	3.4	3.5	4.2	3.0	5.1
Government programs aimed at supporting new and growing firms are effective	3.6	3.9	4.2	4.4	3.6	5.5

(scale: 1=completely false, 9=completely true)

2017/2018 2018/2019 2019/2020

Table 4.6: Access to finance

There is sufficient equity funding available for new and growing firms	3.4	4.0	3.8	4.8	3.9	4.5
There is sufficient debt funding available for new and growing firms	3.7	4.4	4.5	5.0	2.9	4.3
There are sufficient government subsidies available for new and growing firms	4.3	4.9	5.1	5.2	4.5	5.7
There is sufficient funding available from informal investors (family, friends and colleagues) who are private individuals (other than founders) for new and growing firms	5.0	5.1	4.6	4.9	4.4	5.0
There is sufficient professional Business Angels funding available for new and growing firms	4.2	4.2	3.5	4.7	4.2	4.3
There is sufficient venture capitalist funding available for new and growing firms	2.5	3.2	2.5	4.5	5.0	4.3
There is sufficient funding available through initial public offerings (IPOs) for new and growing firms	2.4	2.7	2.6	3.6	3.1	3.2
There is sufficient private lenders' funding (crowdfunding) available for new and growing firms	2.7	2.8	2.5	4.5	2.9	3.6

(scale: 1=completely false, 9=completely true)

2017/2018 2018/2019 2019/2020

Table 4.7: Cultural and social norms

The national culture is highly supportive of individual success achieved through own personal efforts	4.7	4.9	5.2	4.9	4.9	5.7
The national culture emphasizes self-sufficiency, autonomy, and personal initiative	4.5	4.7	4.9	4.8	4.7	5.1
The national culture encourages entrepreneurial risk-taking	3.3	3.6	3.4	4.0	3.3	4.0
The national culture encourages creativity and innovativeness	3.8	4.1	4.1	4.8	4.1	4.9
The national culture emphasizes the responsibility that the individual (rather than the collective) has in managing their own life	4.2	4.1	4.5	4.7	4.7	5.2

(scale: 1=completely false, 9=completely true)

2017/2018 2018/2019 2019/2020

Table 4.8: Internal market dynamics and burdens

	2017/2018	2018/2019	2019/2020			
The markets for consumer goods and services change dramatically from year to year	4.2	4.9	4.5	5.2	5.1	3.2
The markets for business-to-business goods and services change dramatically from year to year	4.3	4.8	4.3	5.0	5.2	3.3
New and growing firms can easily enter new markets	4.4	4.6	4.4	4.8	4.2	5.5
New and growing firms can afford the cost of market entry	3.5	3.9	3.9	4.1	3.6	4.9
New and growing firms can enter markets without being unfairly blocked by established firms	4.0	4.4	4.2	4.5	4.0	4.9
The anti-trust legislation is effective and well enforced	4.9	5.1	4.9	4.8	4.2	5.8

(scale: 1=completely false, 9=completely true)

Financial environment for entrepreneurship

Financial support for new and growing business is one of the major weaknesses of Cyprus’ ecosystem. Experts perceive that new and growing businesses are able to access relatively sufficient financial support by informal investors such as family members, friends or colleagues (5 out of 9 in 2017/2018, 5.1 out of 9 in 2018/2019, 4.6 out of 9 in 2019/2020). Experts also believe that there are sufficient government subsidies available for new and growing firms (4.2 out of 9 in 2017/2018, 4.9 out of 9 in 2018/2019, 5.1 out of 9 for 2019/2020). Along the same lines, access to finance supported by the private sector, albeit improved, still remain restricted and lower than the relevant European average scores. Notably, there is limited debt funding (3.7 out of 9 in 2017/2018, 4.4 out of 9 in 2018/2019, 4.5 out of 9 in 2019/2020), equity funding (3.4 out of 9 in 2017/2018, 4 out of 9 in 2018/2019, 3.8 out of 9 in 2019/2020), funding by Business Angels (4.2 out of 9 in 2017/2018, 3.5 out of 9 in 2019/2020, 4.2 out of 9 in 2018/2019) and venture capital funding (2.5 out of 9 in 2017/2018, 3.2 out of 9 in 2018/2019, 2.5 out of 9 in 2019/2020). Similarly, there is limited funding available for new and growing businesses, in the form of initial public offerings (IPOs) (2.4 out of 9 in 2017/2018, 2.7 out of 9 in 2018/2019, 2.6 out of 9 in 2019/2020) and private lenders’ funding (crowdfunding) (2.7 out of 9 in 2017/2018, 2.8 out of 9 in 2018/2019, 2.5 out of 9 in 2019/2020). This is also reflected in the open-ended questions, as many of the experts expressed their concern regarding the availability of funding from specific sources e.g., large investors: “Access to finance within the country can be improved. There is a lack of large, professional investors that could help new and growing businesses. We

do have loan funding from financial institutions and some angel investments and government grants for smaller entities. However, Cyprus could benefit from larger investors.” **Table 4.6** summarizes the mean scores for the questions measuring access to finance.

Cultural and social norms

Societal perceptions towards entrepreneurship in Cyprus have been improved across the years (discussed in Section 4). However, culture toward entrepreneurship and risk-averseness are to some extent preventing the population to embark on entrepreneurial career journeys. This is also reflected in the NES results. Although this EFC has improved across the years, the cultural and social norms on entrepreneurship in Cyprus are still limiting. For example, experts perceived that the national culture is not sufficiently supportive for entrepreneurs who have succeeded through their own personal efforts. However, there has been a slight improvement compared to the previous years (4.7 out of 9 in 2017/2018, 4.9 out of 9 in 2018/2019, 5.2 out of 9 in 2019/2020). Also, the belief on whether the national culture emphasizes on self-sufficiency, autonomy, and personal initiative is also slightly improved (4.9 out of 9 in 2019/2020, up from 4.7 in 2018/2019 and 4.5 out of 9 in 2017/2018). However, the propensity to entrepreneurial risk-taking still remains low (3.3 out of 9 in 2017/2018, 3.6 out of 9 in 2018/2019, 3.4 out of 9 in 2019/2020). As one of the experts noted, Cypriots tend to prefer more secure government positions to entrepreneurship. Thus, there is limited encouragement for entrepreneurial creativity and innovativeness (3.8 out of 9 in 2017/2018, 4.1 out of 9 in 2018/2019, 4.1 out of 9 in 2019/2020). **Table 4.7**

Table 4.9: Research and development

	2017/2018	2018/2019	2019/2020	Cyprus	Greece	Europe
New technology, science, and other knowledge are efficiently transferred from universities and public research centers to new and growing firms	3.5	3.6	3.9	4.0	3.7	5.1
New and growing firms have just as much access to new research and technology as large, established firms	3.5	4.1	3.9	3.8	4.0	4.6
New and growing firms can afford the latest technology	5.3	5.5	3.1	3.7	5.2	5.5
There are adequate government subsidies for new and growing firms to acquire new technology	3.7	4.1	3.6	4.1	4.4	5.7
The science and technology base efficiently supports the creation of world-class new technology-based ventures in at least one area	4.4	4.2	4.7	4.9	4.6	6.1
There is good support available for engineers and scientists to have their ideas commercialized through new and growing firms	3.0	3.5	3.9	4.4	3.8	5.5

(scale: 1=completely false, 9=completely true)

summarizes the average scores for each item relating to cultural and social norms for Cyprus and other countries.

Internal market dynamics and Internal market burdens or entry regulation

NES framework also encapsulates the internal market dynamics and internal market burdens or entry regulation in each economy participating in the study. Experts scores have been neutral regarding whether new and developing firms can easily enter new markets (4 out of 9 in 2017/2018, 4.6 out of 9 in 2018/2019, 4.4 out of 9 in 2019/2020). They consider that it is difficult for new and growing firms to afford the cost of new market entry (3.5 out of 9 in 2017/2018, 3.9 out of 9 in 2018/2019, 3.9 out of 9 in 2019/2020). Regarding the change in markets of consumer goods and services, results have been relatively consistent across the years (4.5 out of 9 this year, 4.9 out of 9 in 2018/2019). Additionally, the experts agree that the anti-trust legislation is persuasive and satisfactory (4.9 out of 9 in 2017/2018, 5.1 out of 9 in 2018/2019, 4.9 out of 9 in 2019/2020). **Table 4.8** summarizes the results regarding the internal market dynamics, internal market burdens and entry regulation condition.

Research and Development (R&D) Transfer

Being able to transfer research results to the industry can assist the entrepreneurial ecosystem in order to become more innovative and more competitive. Regarding R&D transfer, experts perceive that technology is not becoming more affordable every day for new and growing firms in Cyprus (5.3 out of 9 in 2017/2018, 5.5 out of 9 in 2018/2019, 3.1 out of 9 in 2019/2020). Similarly, they share the view

that new technology, science, and other knowledge are not efficiently transferred from universities and public research centers to new and growing firms (3.5 out of 9 in 2017/2018, 3.6 out of 9 in 2018/2019, 3.9 out of 9 in 2019/2020). Furthermore, the support provided to engineers and scientists to commercialize their results is limited (3 out of 9 in 2017/2018, 3.5 out of 9 in 2018/2019, 3.9 out of 9 in 2019/2020). Also, the support provided by the science and technology base on the creation of world-class new technology-based ventures in at least one area is insufficient (4.4 out of 9 in 2017/2018, 4.2 out of 9 in 2018/2019, 4.7 out of 9 in 2019/2020). Concerning technology access, national experts disagree with the view that new and growing firms have equal access to new research and technology as large firms (3.5 out of 9 in 2017/2018, 4.1 out of 9 in 2018/2019, 3.9 out of 9 in 2019/2020). Compared to other countries, Cyprus' overall R&D transfer is lower than that of Luxembourg, Greece and of other European countries. **Table 4.9** includes the questions employed for measuring research and development transfer.

Overall, the NES survey provides valuable insights on the status of the island's entrepreneurial conditions. The NES results highlight the progress achieved across the year's with regards to specific framework conditions. Comparing Cyprus' results with the results of other economies shed light on the limitations of Cyprus' ecosystem including education at school stage, access to financial resources and R&D transfer. Section 6 builds on APS and GEM results and the comparisons made, so as to provide policy considerations which can contribute to further development of the island's entrepreneurial ecosystem.

EXISTING POLICIES AND FUTURE POLICY RECOMMENDATIONS



Paraskevi Komodromou, ARH 501.7/503.7 Dissertation Project, 2017-2018



Cyprus is an established business hub, offering opportunities for new and growing businesses. The island's geostrategic location enables businesses to easily access both EU and MENA markets. Its excellent physical infrastructure, high-quality of professional services, attractive tax regime and skilled multilingual human capital, raise the country's potential to further expand its entrepreneurship and innovation ecosystem. Along these lines, the state as well as non-governmental members of the ecosystem are determined to support the growth of the entrepreneurial ecosystem in the near future. This is also reflected in the release of

relevant strategies such as the Research and Innovation Strategy Framework³ (more information in Section 6) and the New Holistic and Integrated National Industrial Strategy⁴. Numerous schemes to attract new business endeavors and support entrepreneurial growth have also been formulated by public and private organizations. These include the Start-up Visa scheme⁵, the establishment Cyprus Entrepreneurship Fund (CYPEF)⁶, Cyprus Business Angels Network (CYBAN)⁷, RPF programs (see Section 6), Launch In Cyprus⁸, Invest Cyprus⁹ and many more.

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- 3 National Research and Innovation Strategy 2016-2023, National Board for Research and Innovation. <https://www.nbri.gov.cy/strategy-plan/>
 - 4 Cyprus' New Holistic and Integrated National Industrial Strategy 2017-2030, Ministry of Energy, Commerce, Industry and Tourism, <http://www.mcit.gov.cy/mcit/sit/sit.nsf/All/FBC207AE9BC8BE69C225819C0040030F?OpenDocument>
 - 5 StartUp Visa Scheme <https://launchincyprus.com/files/StartUpVisa.pdf>
 - 6 Cyprus Entrepreneurship Fund (CYPEF) is based on a joint initiative of the European Investment Bank (EIB) Group and the Government of the Republic of Cyprus (RoC) http://www.dgepcd.gov.cy/dgepcd/dgepcd.nsf/page23_en/page23_en?OpenDocument
 - 7 Cyprus Business Angels Network (CYBAN), <https://www.cyban.com.cy/en/home>
 - 8 Launch In Cyprus, <https://launchincyprus.com/index.html>
 - 9 Invest Cyprus, <https://www.investcyprus.org.cy/>

Its participation in GEM places Cyprus in the global map of entrepreneurship and innovation. GEM's methodology guides the collection of data on the entrepreneurial status of the country. The methodology followed is similar across the years and for all participating countries. Thus, we can extract conclusions on the progress, strengths and weakness of Cyprus' entrepreneurial ecosystem and deliver new policy-making recommendations. Earlier GEM Cyprus reports (published between 2016-2019) also derived a list of policy-making recommendations, some of which have been consistent across the years and thus are also included in this year's report.

EDUCATION AND CULTURE

Entrepreneurial education at school and post-school level assist younger generations to develop the necessary skills and competences in order to proceed with future entrepreneurial endeavors. GEM 2019/2020 results show that entrepreneurial training at post-school level has been improved and it is now considered as a strength of Cyprus' entrepreneurial ecosystem. However, a small number of Cyprus' TEA is relevant to the ICT sector or expects that their entrepreneurial activity will generate new job positions while the imbalance of gender involvement in TEA remains unchanged across the years. Along the same lines, the results show that entrepreneurial education at school level has been consistently identified as a weakness of the ecosystem across the years. Regarding culture, social perceptions towards entrepreneurship (i.e., career choice, high status to successful entrepreneurs) have improved compared to the previous years, indicating an overall improvement in the culture towards entrepreneurship. Perceived capabilities to embark on entrepreneurial activity have also improved across the years, indicating that the adult population skills have improved. However, the rate of the adult population's perceived fear of failure remains high, which may lead individuals in Cyprus to more secure career options. This is also reflected through the open-ended questions addressed towards the national experts, as they urge for the need to shift away from a "secure government position culture". The national experts highlight the need to further extend entrepreneurial creativity and tech training offered through school, university and life-long learning programs. Overall, the results signal the need for enhancing and restructuring the existing educational system with more targeted courses that will assist individuals of different ages to develop entrepreneurial skills. Additionally, further action is needed to change the population's culture towards fear, job security and entrepreneurship motives. Thus, policy-making recommendations in this category may include, but are not limited to:

- Restructuring of the educational system at school-level to incorporate an integrated strategy on entrepreneurial education. Beyond traditional courses, such strategy should include dedicated courses on entrepreneurship, creativity and innovation and also require students to take internships in start-up businesses, visit incubators and accelerators and be exposed to successful entrepreneurial stories
- Enhancing existing undergraduate and postgraduate programs curricula with elective courses relevant to entrepreneurship, new technologies, financial

management and IPR management and providing incentives to students to take internships and network with the industry before graduation

- Encouraging the further development of partnerships and collaborations between Universities and industry
- Encouraging Universities and research institutes to develop short certified programs that will support the continuous development of skills towards the needs of the market as well as the life-long education beyond traditional commerce
- Providing incentives to existing businesses to engage in intrapreneurship employee training activities
- Offering courses dedicated to the female workforce to expand their education towards the needs of the STEM industry and encouraging them to attend such training by raising awareness and providing motives
- Raising awareness on existing life-long education schemes across different industries
- Encouraging the media to broadcast shows dedicated to entrepreneurship, invite existing entrepreneurs to share the story of their entrepreneurial journey including successful and unsuccessful attempts, and present failure as part of the entrepreneurial process

GOVERNMENT PROCESSES & POLICIES

This year's GEM results show that government procedures towards new businesses in terms of taxes and bureaucracy have improved. However, according to the national experts, government processes need to improve with regards to market entry, regulation and licensing requirements, digitalization and government employee schemes. Along the same lines, R&D transfer remains a weakness of the ecosystem. Some of these findings regarding government procedures are persistent across the years and thus highlight the urge to transform existing government procedures and policies. Drawing on GEM APS and NES findings, recommendations on government processes and policies may include, but are not limited to:

- Digitalizing the majority of the government procedures and services and improving the coordination of government services towards businesses
- Enabling the transparency of the public sector processes
- Simplifying and speeding up the process for company registration, licensing and pattern registration
- Minimizing tax for young start-up businesses specializing in specific sectors (e.g., tech, health, energy etc.) and/or orienting towards international markets
- Considering the restructuring of the payment scheme of new hires in the public sector and motivating the younger generations towards other career options
- Disseminating the recent regulation on the commercialization of research results towards the researchers of public universities and encouraging them to commercialize their research results and to create spin-off companies
- Strengthening the promotion of existing programs aiming to enhance the country's entrepreneurial ecosystem (e.g., Startup Visa, tax incentives for new residents and executive expats)

- Generating schemes that will attract digital nomads to relocate in Cyprus and providing incentives to initiate business activity in Cyprus.

FINANCIAL SUPPORT

Access to funding is one of the most important requirements for the initiation and growth entrepreneurial activity. The lack of entrepreneurial finance and government entrepreneurship programs have consistently been two of the local ecosystem's major weaknesses. These weaknesses have also been particularly noted by the majority of experts through the open-ended questions. The results show that new and existing businesses struggle to acquire the necessary financial resources and highlight the urgent need for improving access to financial resources for new and growing businesses. More specifically, the policy recommendations may include, but are not limited to:

- Increasing the funding as well as the number of government schemes and programs available for start-ups and existing enterprises and speeding up the evaluation procedures
- Reconsidering the criteria of existing government programs so as to reach a broader audience of potential entrepreneurs (e.g., broaden the age criteria) or target specific audiences (e.g., female entrepreneurs)
- Increasing the frequency of open calls targeted towards start-up businesses
- Enhancing the existing Cyprus citizenship scheme to trigger the professional investors' interest in investing in Cyprus' entrepreneurial ecosystem
- Developing private and public sector partnerships to further promote and boost the international outreach of existing schemes towards potential investors
- Building collaboration between the public and private sectors in order to create a funding agency for providing early-stage pre-seed funding
- Raising the awareness of the members of the local business community, introducing it to the local start-up ecosystem and promoting the ecosystem as an alternative investment option
- Providing tax incentives and other benefits to large businesses for providing early-stage pre-seed funding to new businesses in their area

BUSINESS SUPPORT

The physical as well as the commercial and legal infrastructure are some of the strengths of Cyprus' entrepreneurial ecosystem. Compared to other countries, Cyprus is lagging behind in terms of entrepreneurial activity relevant to the ICT sector and its orientation towards the international market. Experts also stress the lack of technology transfer support as well as the geographical and psychological distance from larger entrepreneurship and innovation hubs. Overall, despite the good infrastructure or level of professional services offered at local level, there is a need for reaching support, mentoring and services from entities specializing on the needs of start-up businesses. The policy recommendations for boosting business support

offered to the entrepreneurial ecosystem may include, but are not limited to:

- Providing incentives to airlines to better connect Cyprus with large businesses centers and key destinations with the largest developments in terms of technology and research
- Encouraging government and private organizations to develop a network of international mentors that could advise the start-ups of Cyprus' ecosystem
- Setting-up a local association of businesses which could support and mentor early stage entrepreneurs and businesses
- Developing and supporting technology transfer offices and non-profit incubators and accelerators
- Formulating schemes for attracting talent in promising sectors e.g., tech sector
- Creating a national entrepreneurship strategy towards specific industrial sectors, e.g., maritime, fintech etc., and defining specific KPIS for measuring the impact of this strategy

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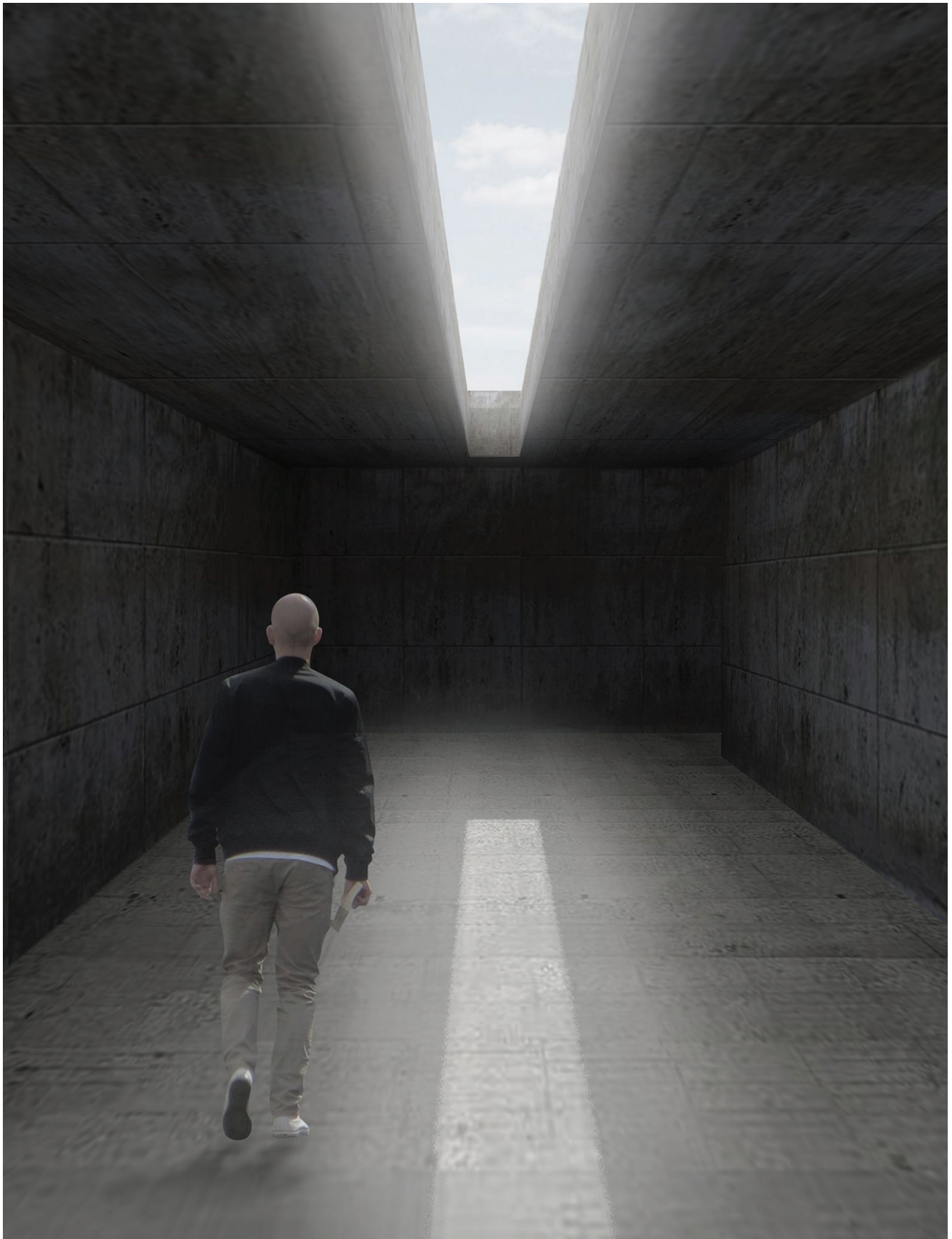
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6

FOSTERING INNOVATIVE ENTREPRENEURSHIP IN CYPRUS

DEPUTY MINISTRY OF RESEARCH, INNOVATION AND DIGITAL POLICY

INTRODUCTION

In today's globalized world, defined by transformational challenges and untapped opportunities, the competitiveness of any economy is deeply rooted into its readiness and ability to compete and excel in a new norm. This does not just refer to Covid-19-induced conditions, but also to a wave of disruptions in today's global environment, where markets, products, technologies, competitors, regulations and even societies change rapidly and continuously. Shifting geopolitics, the wide spread of digital technologies, socio-demographic changes and political and economic uncertainty, all highlighted and amplified by the impact of the Covid-19 pandemic, require governments to effectively rise to the challenge and transform themselves, while laying the foundations for society and the economy to do the same.

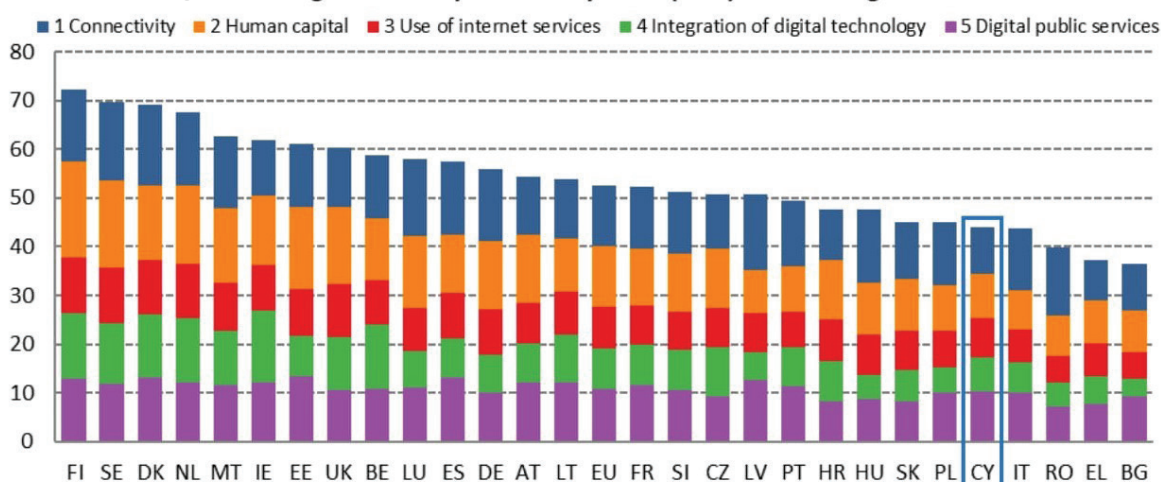
In the past few months, the world has shown both how strong and how fragile it is. Despite its adverse impact, testing the resilience of our societies, economies, healthcare and welfare systems, Covid-19 has also shown that rapid change is possible, as millions of people quickly adapted to new ways of working, learning and socializing. It is therefore now time to lead the way from this fragility towards a new vitality, and make change happen by design, moving forward and moving fast.

Leveraging digital technologies and optimizing our nations' and organizations' innovation capacity is vital to supporting a recovery that leads to greener, more inclusive, sustainable

economies, and stronger, more resilient societies. Set up in March 2020, the Deputy Ministry of Research, Innovation and Digital Policy undertook exactly this challenge: to fundamentally transform the Cypriot society and economy, through digital technology exploitation and a well-tuned research and innovation ecosystem, designed to facilitate agile and swift response to a fast-changing environment, as global developments and technological evolutions continue to take place, accelerate and evolve.

Fostering the creation of a new and more efficient model that capitalizes upon a powerful ecosystem is a challenging task, whose implementation extends beyond the short-term horizon. Cyprus is gradually making notable progress in its development towards a knowledge-based economy, translated into improved scores in indices measuring innovation performance and digital readiness at European and global level. The 2020 Digital Economy and Society Index (DESI) (**Figure 6.1**) highlighted the improvement of Cyprus' scores on all dimensions, and also praised the effort and the efficiency of digital solutions introduced to deal with Covid-19-induced needs. Even though the Index revealed that progress has been slower than in other countries, Cyprus has recently risen from the 54th to the 40th position, recording progress in all 3 parameters assessed in the context of the IMD World Digital Competitiveness Ranking: Knowledge, Technology, and Future Readiness, while being one step prior to entering the "Strong Innovators" category in the European Innovation Scoreboard 2020 (**Figure 6.2**).

Figure 6.1: Digital Economy and Society Index (DESI) 2020 ranking



1 European Commission, "Digital Economy and Society Index (DESI) 2020", found at: <https://ec.europa.eu/digital-single-market/en/digital-economy-and-society-index-desi>

European Innovation Scoreboard 2020

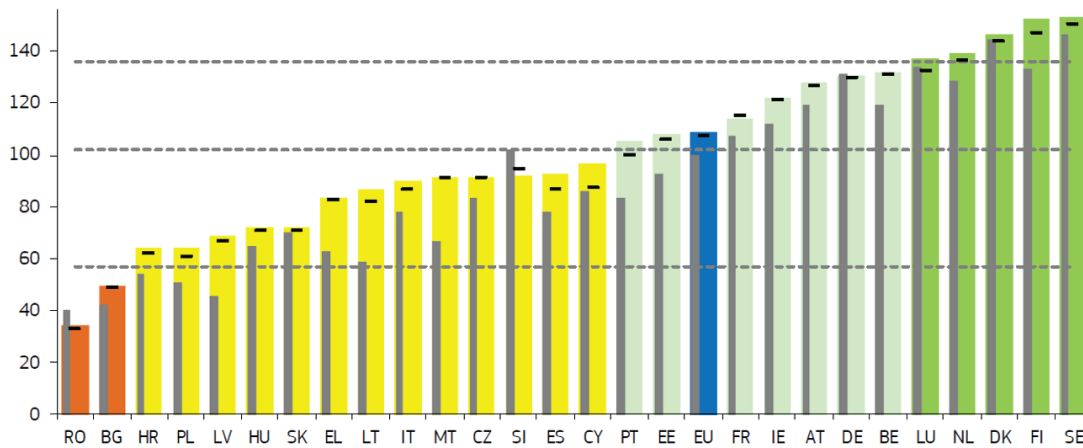


Figure 6.2: European Innovation Score board

- 2 IMD World Competitiveness Center, "IMD World Digital Competitiveness Ranking 2020" found at: <https://www.imd.org/wcc/world-competitiveness-center-rankings/world-digital-competitiveness-rankings-2020/>

Our goal is to maintain the momentum accumulated during the crisis and further boost our performance and capabilities, so as to be able to respond effectively to the various challenges ahead. The establishment of the Deputy Ministry is an important sign of strong political sponsorship and determination to support this new, diversified economic model, driven by research, innovation and technological advancement, expected to drive growth, prosperity and competitiveness and enable Cyprus to transcend national boundaries and achieve the agility required to stay ahead of the game in these hectic times.

The Deputy Ministry leads the national Research and Innovation (R&I) governance system designed to meet the following fundamental requirements: strong guidance, supervision and ownership at policy level, utilization of the maximum possible synergies between the public and the private sector and engagement of all stakeholders in the knowledge chain, as well as sufficient resources and competences for the effective operation of the system. The principal bodies and institutions that comprise the R&I governance system are the National Board for Research and Innovation (NBRI), which acts as an advisory body for policy issues, the Chief Scientist for R&I of the Republic of Cyprus and the Research and Innovation Foundation (RIF), which is the executive arm of the Government for R&I-related issues.

INNOVATIVE ENTREPRENEURSHIP

Entrepreneurship is a source of change and dynamism in society and the economy. As a fertile environment for innovation creation, it is acknowledged as a key mechanism for stimulating growth, reducing rising unemployment and achieving social welfare. Globalization and the shift towards knowledge as a key source of competitiveness highlight the need to create mature societies which do not just innovate more, but differently as well. In this regard, we are crafting a holistic approach to nurture innovation and foster the

development of an efficient, transformational entrepreneurial ecosystem that goes beyond economic returns, concentrates on social outputs and stresses the importance of producing knowledge as the main element towards building technical and economic capacity into the system.

To this end, conducive institutional and regulatory framework conditions, effective interactions between the main stakeholders of the ecosystem, well-designed and targeted government programmes and incentives to set up and expand R&I activity, and a strong entrepreneurial culture are crucial. Our efforts are focused on enabling researchers, entrepreneurs and all creative minds to gain access to resources that include cutting edge research infrastructure and facilities, knowledge, finance and human capital, and build innovative enterprises that are willing and able to enter the international market with innovative products and services.

A business-friendly environment will also support the attraction of foreign investments, in order to set up private or public-private funds channelled towards innovation activity, or to attract foreign multinational companies (MNC) to set up offices and R&I departments in Cyprus, thus creating a multiple, spill-over effect over the Cyprus innovation ecosystem and economy. Creating a vibrant community of start-ups is also a priority and will be achieved by means of programmes and incentives specially designed to respond to the needs of early-stage entrepreneurship.

GOVERNMENT POLICIES TO BOOST INNOVATION PERFORMANCE

As part of a nurturing environment, different incentives and financial instruments are available to promote innovative entrepreneurship in the local ecosystem, facilitate access to funding for local start-ups and expand R&I activity. In this regard, Cyprus has introduced a tax incentives package for investment in qualifying innovative small and medium sized

enterprises (SMEs), either directly or through an investment fund or an alternative trading platform. For this purpose, the Ministry issues a relevant Certificate to companies which fulfil the criteria under the existing incentive framework. Moreover, a new Equity Fund set up to facilitate access to finance for SMEs and start-ups, is under development and will be functional by 2021, state-funded with €20 million. Moreover, in order to increase the appeal and competitiveness of the country, the Ministry is redesigning the provisions of the Start-up Visa programme of the Republic of Cyprus, directed towards talented entrepreneurs from countries outside the European Union (EU) and the European Economic Area (EEA) wishing to establish a start-up with a high growth potential. We are also in the process of designing a conducive framework and sector-specific incentives for high tech companies, facilitating investment into R&I and supporting skilled migration.

Facilitation and knowledge transfer are key variables in shaping innovation performance and bridging the disconnect between the local innovation network and the real economy. In this regard, we are working at establishing an effective framework, revisiting the bill for university Spinoffs, lifting any legislative or other barriers and providing incentives for faculty members, students and research staff to engage in innovation activity and start-ups, through targeted funding Programmes and activities for the horizontal integration of knowledge transfer practices across all R&I activity. Moreover, in order to enhance the innovation management capacity of start-ups and enterprises, we are introducing a central Knowledge Transfer Office (KTO), within the Research and Innovation Foundation, to be operational in early 2021.

Our policies are based on the notion that transformation benefits significantly from knowledge spill-overs arising from interactions among industry, research institutions and new ventures, stimulating innovation and sustaining competitive advantage. We strongly believe that all academic institutions, both public and private, should adopt Knowledge Transfer as one of their fundamental missions. Academic and research excellence remains a key goal; however, universities need to reinvent themselves and adopt a different business model, one that fosters innovation and entrepreneurship across all pillars – organizational, pedagogical and cultural – and leads to commercialisation and dissemination of research carried out in our institutions.

The relatively static nature of the educational curriculum and the dynamic nature of the business world account significantly for the gap that exists between industry and academia. It is, therefore, essential to reinvent learning and teaching methods as well as educational content to meet current industry demands and needs, while developing a mechanism that facilitates adapting to a constantly changing economic climate. Universities must be connected – in real time – with the industry and start-up ecosystems, embed entrepreneurship into their academic and research curricula and also promote the development of soft and transversal skills, considered critical success factors in today's workplace. In order to bridge the skills gap and boost employability, internships and placements are also important tools in offering students real-life work experience, the opportunity to gain valuable insight and apply theoretical knowledge to real industry problems, so to produce breakthroughs with significant added value for the economy and society.

The government acts, in this regard, as a facilitator, promoting the partnership and interlink between all stakeholders and encouraging new learning methods and content so that universities can become active members of a functional and effective innovation ecosystem. We are organizing interactive workshops with universities, research centres, industry associations and business entities in order to facilitate a constructive exchange of views on how academia and industry can work together, to the benefit of both.

Further to the various funding programmes launched by the RIF – listed in the Appendix – the RIF provides a number of added value services to its partners, particularly existing enterprises and start-ups, aimed at enhancing their abilities and competitiveness and allowing them to scale-up internationally. Through the Enterprise Europe Network Cyprus Project (EEN-Cy), RIF provides cost effective, high quality, targeted services, as well as high-quality innovation management capacity assessment and innovation support services to local SMEs. Brokerage Events organized by the Network and one-to-one relationships with EEN's member organizations abroad, enable RIF to support Cypriot SMEs to identify new markets, find new ways to sell or licence their technologies and connect to new partners for commercial, technology and R&D collaborations.

There is a growing need for upgrading and redesigning the support and guidance services the state provides to its expanding category of customers which includes start-ups and innovative businesses. In this context, the RIF has set up the «Innovation Factory» under the auspices of the Chief Scientist for Research and Innovation. The purpose of this initiative is to provide specially designed workshops, mentoring and coaching services to start-ups and innovative companies, innovation capacity assessment services to businesses, networking with investors and other events to support the development of the ecosystem. The initiative was launched on 29 September 2020 with a workshop titled «How to pitch your Innovation idea». This addressed start-ups that have succeeded in the first stage of evaluation of the RIF's «PRE-SEED» Programme, which focuses on the creation and early-stage development of start-ups with an international orientation.

The RIF also supports local SMEs to access financing from EU tools. Specifically, enterprises interested in applying in the EC's European Innovation Council (EIC) Programme receive tailored support for proposal preparation (pre-screening) in order to increase their chances to attract EU funding. Basic IP services are also provided to SMEs in order to understand how to protect and manage their intellectual property. Furthermore, one-to-one tailored support is provided, using specialized tools (innovation management audit), to support SMEs in managing their innovation. Finally, aiming to increase local SMEs' potential and capability to scale-up, the RIF assesses the needs of enterprises and identifies appropriate coaches to provide them with individualized support. The latter services are focused on EIC and RIF's Innovation Programmes beneficiaries.

There is a variety of well-designed and efficient support tools for start-ups and high-tech innovative businesses in Cyprus, such as business incubators, accelerators, and co-working spaces, which can provide integrated support services that include office space, coaching, mentoring, international networking, pre-seed and seed funding and access to high-

quality professional, legal and advisory services on topics relating to entrepreneurship, setting up a new business, protection and exploitation of intellectual property rights and participation to national and European R&I funding programmes. The aforementioned support mechanisms have been developed in partnership with local and international actors, as well as through EU initiatives.

Moreover, the European Union has launched a broad array of initiatives to spur innovation and entrepreneurship. These, for example, include: Funding commitments, notably Horizon Europe, which have set aside a total budget of €100 billion for digital actions between 2021 and 2027 under the next multiannual financial framework, and Digital Europe, the first-ever funding initiative investing €9.2 billion to align with increasing digital challenges. Amongst its main priorities is enabling the creation of a network of European Digital Innovation Hubs, which can help companies improve their processes, products and services through the use of digital technologies.

In addition, the Deputy Ministry is designing a targeted support mechanism for all Centres of Excellence, co-funded by the EU Teaming mechanism and the Cyprus government, aimed at helping them establish appropriate governance, management and accountability systems, build local capacity and capability, and promote broad commercialization of their research results in order to ensure the sustainability of their future operations.

Mobility and international collaboration are also key to innovation performance at national and global level. A strong innovation ecosystem depends largely on the quality of its actors, the quality of its institutions, as well as the quality of links with other external communities, such as Israel, and the Cypriot diaspora. Promoting synergies, interconnecting and strengthening our innovation ecosystems through the exchange of best practices, resources and skills will practically benefit all parties, as it will support economic recovery and pave the way for sustainable development. The active fostering of new and effective use of existing research and innovation networks will also enable our ecosystem to fully harness the potential of digital, especially as regards frontier and emerging technologies; along with a boost to digital entrepreneurship that will make Cyprus an attractive destination to start, operate and grow a digital business.

Digital transformation is both an enabler and an output of innovative entrepreneurship. Our journey to digital maturity evolves under 5 key initiatives: redesigning the Ministry's internal enterprise architecture and governance model, optimizing our service delivery model, delivering a resilient, robust and secure ICT infrastructure, delivering a stronger digital economy and increasingly more digital and competitive industries, as well as an accessible and inclusive society that has the skills and the motivation to embrace the national digital transformation and actively participate in digital communities. By utilizing state-of-the-art technologies, including AI and blockchain, to further streamline and automate processes, we are implementing a two-dimensional approach consisting of the rapid deployment of small-scale digital solutions and the parallel long-term implementation of mega e-government projects. Our ultimate goal is to create an end-to-end, quality citizen- and business-experience throughout their interactions and 'touch-points' with the

public sector, drive cost efficiencies, enhance reliability, security and resilience, and draw genuine trust in the system and the technologies themselves.

A high level of broadband penetration is also key for digital services to be made practical and accessible, and of course affordable; we, therefore, aim to facilitate high-speed connectivity, as well as proceed with the deployment of 5G networks within 2021. Through a new national broadband plan, we are moving rapidly towards a gigabit society, with gigabit connectivity for all main socio-economic drivers and access to internet connectivity with a download speed of ≥ 100 Mbps (upgradable to 1 Gbps) for all premises in organized communities. We aim at providing uninterrupted 5G coverage with a download speed of ≥ 100 Mbps for 100% of the population and all major terrestrial transport paths, and also an internet connection (take-up) with a download speed of ≥ 100 Mbps for 70% of households throughout the island.

As a government, we aim to lead by example, developing and implementing new policies and making use of new technologies, in order to encourage public sector employees and organizations to act in a more entrepreneurial way to effectively deal with key issues, using limited resources. Digitalizing businesses by providing upskilling, tools, support and guidance, is key to enabling businesses regardless of type, sector and digital maturity level to make the most out of digital and build a more efficient and profitable way of delivering higher quality services/products. Citizen empowerment and engagement in both designing, evaluating and implementing policies, cooperation with the private sector and co-creation, leads to solutions which best serve all; government, businesses and citizens.

Crucial constraints of entrepreneurship are developing and retaining skilled labour as well as enhancing the skills of the indigenous population. In order to minimize the widening digital divide, and in addition to the effort of aligning educational curricula to meet current and future industry needs, we are heavily investing on the upskilling of our current workforce, both in terms of promoting digital skills – from basic to advanced – as well as training and certification programmes in cross-sectoral competencies, such as business analysis and project management, both within the public and the private sectors. We are also running stimulating programmes, interventions and instruments to strengthen digital fitness at all levels of society, mobilizing all available resources and making use of all available funding sources at local and European context. We particularly aim to cultivate an entrepreneurial spirit, infuse an innovative mindset and develop a culture of life-long learning across the whole spectrum of enterprises and society, sufficiently integrating entredIGI to develop innovative ideas and take them to the market, thus contributing to a more innovative and competitive Europe. The Ministry has also undertaken the Digital Champion function, which provides for the organization of the national Digital Championship, a digital innovation competition aiming to promote digital innovation and encourage innovative entrepreneurship amongst pupils, students and SMEs, to provide solutions addressing social, cultural or environmental issues.

CONCLUSION

Innovation and entrepreneurship are strong vectors to overcome global societal challenges from climate change and sustainable energy to food and healthy living. The European economy needs a productivity boost from innovation and diffusion of digital and new frontier technologies to support growth and improve welfare.

Cyprus aspires to build a nurturing environment which will spur innovative behaviour, while empowering entrepreneurs to become drivers of policy and institutional change. Covid-19 acted as an agent of change in our island, accelerating transformation in the innovation and digital domains. The Government has set ambitious national targets related to the technological, social and economic development of the country, based on a holistic digital transition and a mature and effective R&I ecosystem. This is a most complex and challenging endeavour that needs proper orchestration of the R&I ecosystem, supporting policies and measures and - the most challenging - a cultural and mind shifting journey across all levels of society.

APPENDIX-RIF PROGRAMMES

The Research and Innovation Foundation provides funding opportunities through the following targeted Programmes aiming to support innovative entrepreneurship.

Development and Promotion of Internationally Competitive Innovative Products and Services by Existing Enterprises (INNOVATE)

The Programme aims to support existing enterprises, that will invest in research and innovation, for the development of competitive innovative products or services with quick global market penetration prospects. Funding is mainly aimed to support the development or optimization of the product/service, the launch of the commercial production, the promotion/marketing, and ultimately the global market penetration of the product. A dedicated Call for Proposals of the Programme, aiming to address the COVID-19 pandemic and/or its consequences was launched in 2020

Development of Internationally Competitive Innovative Products and Services by START-UPS (SEED)

The Programme supports the rapid development of dynamic and innovative start-ups that intend to develop internationally competitive products or services, as well as to mobilize private investment funds for this purpose. The Programme covers every activity that will allow the rapid development of the innovative idea, the attraction of investment and the successful global market penetration of the product / service. A dedicated Call for Proposals of the Programme, aiming to address the COVID-19 pandemic and/or its consequences was launched in 2020

Creation and Initial Development of START-UPS with International Orientation (PRE-SEED)

The Programme supports the creation and initial development of innovative Start-ups that aim to develop innovative products and services with the prospect of penetrating into the international market. Funding can cover the investigation, evaluation and development of the idea, the development of an initial product/service and the first efforts towards the commercialization of the product/service

Research in Enterprises

The Programme supports the development of new or substantially improved high added value products/ services/ processes by Cypriot enterprises aiming to enhance their competitiveness and contribute to the development of the economy of the country

Research in Start-ups

The Programme aims to support start-ups to implement research projects for the development of new or substantially improved high added value products/services/processes

Proof of Concept

The Programme supports the preliminary investigation of possible industrial applications of a technology/ knowhow

Innovation Vouchers

The Programme supports SMEs to obtain basic knowledge and to improve their ability for innovation and development through their cooperation with knowledge intensive organisations

Industrial Property

The Programme supports the protection of Intellectual Property through Patents & Industrial Designs

Commercial Exploitation of Research Results

The Programme aims to support the commercial exploitation of research results generated in Research Organisations, the Public Sector and Organisations of the Broader Public Sector. Furthermore, it encourages high-risk investment in spin-offs established by beneficiary Organisations

Commercial Exploitation of Research Results by Enterprises

The Programme aims to support the commercial exploitation of the results of research carried out by Cypriot Enterprises. Furthermore, it encourages high-risk investment in spin-offs established by beneficiary Organisations

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