

**Entrepreneurship during times of crisis:
Examining Entrepreneurial Framework
Conditions and cultural characteristics during
the COVID-19 pandemic**

Master's Degree in International Business

Bruno Emanuel Barbosa Figueiredo

Leiria, September of 2022

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Dissertation under the supervision of Professor Ana Cadima Lisboa, Professor at the
School of Technology and Management of the Polytechnic of Leiria.

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Dedication

To my family, the biggest support of my life, who always believe in me and always help me to reach my potential.

Acknowledgements

This dissertation represents the last step of my learning path during the master's level. Over this two-year period, different people have supported and helped me in their own way. In this sense, it is indispensable to give an appreciation message to the people that are highlighted here:

To my dissertation supervisor Professor Ana Cadima Lisboa, for all the constant support and guidance, as well encouragement and patience;

To Professor João Neves de Carvalho Santos, coordinator of the master's in International Business, to the Superior School of Technology and Management of Polytechnic of Leiria, as well as to all the other amazing Professors with whom I had the opportunity to learn from;

To my close family, since without their support, it would not be possible for me to reach my goals;

To my wife, who has always supported me in those times I almost wanted to quit out of exhaustion and always told me I can do anything;

To my closest friends, I am grateful for the patience and support you have demonstrated;

To my master's colleagues, who started and are now ending this journey by myside for always being available to help and share their knowledge with me;

Thank you for everything!

Resumo

O modelo do Global Entrepreneurship Monitor (GEM) sugere que a atividade empreendedora a nível nacional varia de acordo com o Framework para Condições Empreendedoras (EFCs) de cada país. Por outro lado, a perspectiva de Hofstede, ilustra os efeitos da cultura de uma sociedade sobre os valores e o comportamento dos seus membros. Combinando estas duas perspectivas, eu testo empiricamente a influência do Framework para Condições Empreendedoras do GEM e de duas Dimensões de Hofstede na criação de novas empresas no contexto da Pandemia do COVID-19. Com base em dados extraídos do Global Entrepreneurship Monitor e do Hofstede Insights para 28 países, os resultados sugerem que alguns fatores como o acesso ao financiamento para empreendedores, educação em empreendedorismo pós-escolar e normas sociais e culturais são mais relevantes do que outras, promovendo a criação de novos negócios durante estes tempos difíceis. Estas descobertas têm implicações para académicos e Governos, que estão agora mais interessados do que nunca em promover a atividade empreendedora em todo o mundo.

Palavras-chave:

Empreendedorismo, Tempos de crise, Pandemia do COVID-19, Framework para Condições Empreendedoras, Dimensões de Hofstede.

Abstract

The Global Entrepreneurship Monitor (GEM) model suggests that entrepreneurial activity at the national level varies with Entrepreneurial Framework Conditions (EFCs). Hofstede's perspective, on the other hand, illustrates the effects of a society's culture on the values and behavior of its members. Combining these two perspectives, I empirically test the influence of GEMs entrepreneurial framework conditions and two Hofstede Dimensions on the creation of new companies within the context of the COVID-19 pandemic. Building on data drawn from Global Entrepreneurship Monitor and Hofstede Insights for 28 countries, results suggest that some factors, such as access to entrepreneurial finance, post-schooling entrepreneurial education and social and cultural norms are more relevant than others promoting the creation of new businesses during these difficult times. These findings have implications for theorists and policymakers, which are now more interested than ever in promoting entrepreneurial activity around the world.

Keywords:

Entrepreneurship, Times of crisis, COVID-19 pandemic, Entrepreneurial Framework Conditions, Hofstede's dimensions.

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List of abbreviations and acronyms

CCP- Chinese Communist Party

COVID-19 / COVID / Coronavirus- severe acute respiratory syndrome coronavirus

E&C- Entrepreneurship & Crisis

EFCs- Entrepreneurial Framework Conditions

GEM- Global Entrepreneurship Monitor

NES- National Experts Survey

RBV- Resource-based view (theory)

SAR- Special Administrative Region

VIF- Variance Inflation Factor

Reasons for choosing this topic

Authors such as Anokhin and colleagues have claimed that entrepreneurship has become the main vehicle of economic development (Anokhin, Grichnik, & Hisrich, 2008). Its role on economic growth relies on its positive effects on employment, innovation, and welfare (Acs, Desai, & Hessels, 2008). In fact, the more entrepreneurs there are in an economy, the faster that economy is expected to grow (Dejardin, 2000).

Nevertheless, as times evolve, the circumstances that businesses and entrepreneurs have to deal with may change. Particularly, times of crisis represent extraordinary situations that occur occasionally (Fink, 1986; Turner, 1976). A crisis unfolds in distinguishable sequences between the beginning of a critical event and its aftermath (Boin, Hart, Stern, & Sundelius, 2005). It can include pandemics or disasters, wars, and trade disputes (Gothell, 2005) and impact countries at all levels. Specifically, crises may break the routine, and several actors, such as governmental actors have a crucial role to manage it and contribute to the “how” and “what consequences” it has (Adam, 2008).

For the past couple of years, we have been living under such an unprecedented situation. For the first time in the 21st century we faced a global pandemic which has basically affected every corner of the world. However, different countries were affected distinctively by the COVID-19 pandemic. Governments, companies, and managers dealt differently with the situation even though they have faced a rather similar one. The differences in results at the national level can be attributed to both informal and formal institutions (Maor & Howlett, 2020), where different laws, regulations and social values led to different outcomes (Capano, Howlett, Jarvis, Ramesh & Goyal, 2020).

The COVID-19 virus appeared originally as a local epidemic in Wuhan, China, but quickly spread worldwide, escalating into a global pandemic. (e.g. The Washington Post, 2021). I chose to investigate the influence of the Global Entrepreneurship Monitor EFCs and cultural dimensions in company creation in the context of this pandemic. To do so, I analyse 28 countries, taking into account different scenarios. As most countries have previously suffered with a high number of daily infections and have implemented strict restrictions, the effects of the pandemic in entrepreneurship in these countries should be similar. However, as different countries have different intrinsic characteristics, such as national institutional frameworks and cultural characteristics, they have reacted

differently to the pandemic, and have implemented different measures to face it, I believe the results will be very different in these sample countries.

To further examine this issue, in a post-hoc study, I analysed two countries in more detail, China, as it is the country which was first affected by the pandemic, and Portugal which was later greatly affected by the virus but had the chance to learn from other countries' mistakes.

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1. Introduction

Entrepreneurship is regarded as the cornerstone of competition and innovation, both at the company and at the national level (Khyareh & Rostami, 2018), while the entrepreneur is regarded as the engine of economic growth (Holcombe, 1998). It has been recognized for a long time that a country's economic health is closely tied to the vibrancy and success of its entrepreneurial sector (Aquino, 2005). This happens because entrepreneurship drives innovation, creates jobs, develops human potential, and satisfies new customer demands (Commission of the European Communities, 2003), therefore promoting economic development. According to prior research, entrepreneurship introduces innovation, change, enhances competition, and intensifies rivalry in the market, all of which have an impact on a nation's economic performance (Wong, Ho, & Autio, 2005). The empirical evidence supporting a link between entrepreneurship and economic growth is very strong as multiple studies have found that regional and national differences in economic growth are correlated to levels of entrepreneurship (Naudé, 2013). Audretsch, Carree and Thurik (2001) suggested that entrepreneurship is a vital determinant of economic growth, while Toma, Grigore and Marinescu (2014) argued that entrepreneurship is undeniably a large contributor to a country's economic success in terms of its GDP. Audretsch, Carree, Van Stel and Thurik (2002), even go so far as to claim that a lack of entrepreneurship will come at a price in the form of missed opportunities for economic growth for a country. As it can be seen it is undeniable that there is a positive and statistically significant relationship between entrepreneurship and economic growth at all levels of analysis, including the establishment, the company, the industry, the area, and the nation (Audretsch et al., 2002).

However, unexpected situations happen which test both countries and individuals. These unexpected situations, such as times of crisis, pose clear threats to an organization, and rigidity may result in organizational decline (Staw, Sandelands, & Dutton, 1981) which deeply affects a country business fabric. The concept of crisis is mainly related to an extreme, unexpected, and unpredictable event that requires a response from organizations (Doern, Williams & Vorley, 2019). When facing times of crisis, companies need to break away from old routines that match the old equilibrium (Romanelli & Tushman, 1986) and learn new capabilities that match the new environment (Haveman, 1992). These sudden changes often open possibilities for new organizational strategies, while rendering some old strategies ineffective (Haveman, Russo, & Meyer, 2001). As

such, these times induce corporate strategy change and contain opportunities for the emergence of new strategy patterns. As our planet has become increasingly globalized, crisis that start in one country quickly spread around the world. The most recent example is the novel coronavirus that causes the disease COVID-19, which appeared in early 2020 in China and has drastically changed our global society (Parnell, Widdop, Bond, & Wilson, 2020).

In a situation of crisis, governments, companies and managers can opt for different paths, from inertia, defensive moves such as cost reductions, to bolder actions such as innovation and creation (Bolton, 1993; Foss, 2020; Wenzel, Stanske & Lieberman, 2020). When facing rising concerns about unemployment, jobs, growth and international competitiveness, the promotion of creation of new businesses and entrepreneurship may be vital (Reynolds, Hay, Bygrave, Camp, & Autio, 2000). Still, one needs to understand the factors that can facilitate the choice of this path over the others.

According to the institutional theory, the countries or culture's prevailing rules, norms and beliefs may influence in this regard (Scott, 2007). Considering a country perspective, the national entrepreneurial framework conditions, as well as some cultural characteristics, namely uncertainty avoidance and long vs short-term orientation, may actuate on the way countries and companies deal with unpredictable times of crisis, such as the current COVID-19 pandemic.

Combining the GEM entrepreneurial framework and Hofstede cultural perspective, I use data of 28 countries and empirically analyze the influence of such factors in a specific entrepreneurial act.

This dissertation presents three main contributions. First, to my knowledge, it is the first to simultaneously test GEMs EFCs and of Hofstede's dimensions on creation of new companies in the context of the COVID-19 pandemic. Second, it takes on a national perspective and, using a multi-country data, allows to study the effect of COVID-19 in the creation of new companies around the world. Third, it shows how certain cultural differences and dissimilar institutional frameworks can reduce or increase the rate of company creation in a country during times of crisis, which can inform governments on what areas to improve to effectively support the creation of new businesses.

This dissertation is organized as follows: in the following chapter I present the literature review, in which I approach the main foundations of the theoretical background of the dissertation, namely the concept of entrepreneurship, what are considered times of crisis and I explain institutional theory. Next, I present the Conceptual model proposed

in this work and develop the hypotheses associated. In the methodology section, I describe the data collection process, as well as the variables and methods used to test the hypotheses. In the results and discussion section I present the results obtained. In the conclusion I present some final considerations, refer to the study's limitations, and identify some future research paths. Lastly, I added a post-hoc study section, in which I analyze the situation of Portugal and China in more detail. In such section I compare two countries, the one in which the pandemic officially appeared and one that faced the situation latter on and was referred to by the international press as an example of how to deal with the pandemic (e.g., Aljazeera, 2020; Der Spiegel, 2020; RTL Nieuws,2020; The Guardian, 2020). This deeper analysis could be useful for better understanding the impact of national entrepreneurial framework conditions and cultural characteristics.

2. Literature Review

2.1 Entrepreneurship

2.1.1 What is entrepreneurship?

Entrepreneurship is one of the hottest topics of the 21st century. Thousands of articles have been written on this topic and by consequence hundreds of different definitions of entrepreneurship have been put forward. Originally translated from the French term “entreprendre”, entrepreneur literally means “the one who undertakes”, which indicates that an entrepreneur is an individual who takes action, he is a doer (Dollinger, 2008). However, multiple researchers still argue that the term “entrepreneurship” is too vague and that there is a lack of consensus of exactly how to define it.

Researchers such as Knight (1921) consider that entrepreneurship relates to collecting profits from bearing uncertainty and risk. Schumpeter (1934), on the other hand, considers entrepreneurship as the action of carrying out new combinations of company organization, whether it is new products, new services, new sources of raw material, new methods of production, new markets, or new forms of organization.

At the beginning of the 21st century the idea of entrepreneurship was adapted to the new particularities of the complex economic environment and its description changed to something deeper than just the pursuit of money into a business field where entrepreneurship evolves from a vision or a mindset. For Shane and Venkataraman (2000), entrepreneurship is a field of business which seeks to understand how opportunities can create something new. In 2003, the Commission of the European Communities described entrepreneurship as the mindset and process to create and develop economic activity by blending risk-taking, creativity or innovation with sound management, within a new or an existing organization. Kuratko and Hodgetts (2004) described entrepreneurship as a dynamic process of vision, change and creation, while Allen (2006) described entrepreneurship as a mindset or way of thinking that is opportunity focused, innovative and growth-oriented and which can be found both in large corporations as well as in socially responsible not-for-profits organizations. According to McMullen and Shepherd (2006, p.134) entrepreneurial action can be described as the “behavior in response to a judgmental decision under uncertainty about a possible opportunity for profit”. For Professor Howard Stevenson, the godfather of entrepreneurship studies at Harvard

Business Review, entrepreneurship is defined as the pursuit of opportunity beyond resources controlled (Eisenmann, 2013).

Building on the ideas of Audretsch and Thurik (2001), entrepreneurship can be seen as a multifaceted and heterogeneous activity. Despite the different definitions of entrepreneurship, one can identify common elements, such as the presence of creativity and innovation, the capabilities of resource identification, acquisition, and marshaling, the economic organization and the opportunity for gain under risk and uncertainty (Dollinger, 1995). For the purpose of this dissertation, entrepreneurship is defined as the process of control and deployment of resources to create an innovative economic organization with the purpose of delivering something new or improved to the market, or by organizing the means of production in a superior way, under conditions of risk and uncertainty (Center for American Entrepreneurship, n.d.).

The study of entrepreneurship covers a wide range of fields, including economics, management, sociology, psychology, anthropology, geography, and law. This incredibly wide span of fields shows that the study of entrepreneurship covers both processes and states of being, companies and individuals, internal organization and external environment, market motivations and extra-rational behavior, and temporal and lifecycle dimensions. Therefore, entrepreneurship is a very complex phenomenon (Center for American Entrepreneurship, n.d.).

2.1.2 The entrepreneurial agent- the entrepreneur

Knowing what an entrepreneur is and what fosters his entrepreneurial intention is very important for policymakers since high levels of entrepreneurial activity in a country are likely to contribute to innovative activities, increase competition and employment generation (Paul & Shrivatava, 2015).

An entrepreneur is an individual who innovates and creates something new to maximize his profits, bearing most of the risks and enjoying most of the rewards. This innovation often involves problem solving and real entrepreneurs usually feel satisfaction by succeeding in the challenge of solving them (Higgins, 1964). An entrepreneur is the agent who brings together the factors of production, management and all the risk bearing (McClelland, 1961) while exploiting technological breakthroughs, commercializing innovations, and driving technological change, therefore promoting economic growth.

There are two most common ways of becoming an entrepreneur, by starting a new business venture or by taking over an existing company (Bastié, Cieply & Cussy, 2013).

Entrepreneurs play a crucial role in any economy, as their creations can create wealth, reduce unemployment, develop human potential, and satisfy new consumer demands by using their skills and initiative to anticipate new ideas and projects to the market (Shrivatava & Paul, 2016).

2.2 Main theories of entrepreneurship

Over the past century, many different theories have attempted to explain entrepreneurship and the creation of new companies.

Some of the main theories include Max Weber's Theory of Social Change (1922), where he argued that entrepreneurial growth is dependent upon the ethical value system of the society concerned, or Knight's Uncertainty-Bearing Theory (1921), where he argued that profit was a reward for uncertainty-bearing, not for risk bearing. Both theories contributed to the field of entrepreneurship but were proven unrealistic and even empirically invalid.

A few years later, Schumpeter (1934) proposed one of the most famous theories in the field called innovation theory, where he argued that an entrepreneur is basically an innovator who introduces new combinations. However, many critics have said that he focused too much on innovative functions, while ignoring the risk taking and organizing aspects of entrepreneurship. Moreover, critics also argued that Schumpeter failed to provide a suitable answer to questions such as why some countries had more entrepreneurial talent than others.

Over the past few decades, one of the most cited theories which tries to explain the phenomena of entrepreneurship has been the resource-based view (RBV). This theory was first mentioned by Edith Penrose (1959), who focused on the role of resources in enabling or constraining organizational growth. Over the past 50 years, researchers have built on Penrose's insights, and as the RBV evolved, researchers have focused more specifically on "strategic resources" (Amit & Schoemaker 1993). Works such as "The Resource-Based View of the Firm" (Wernerfelt, 1984), "The Core Competence of The Corporation" (Prahalad & Hamel, 2006) and "Firm resources and sustained competitive advantage" (Barney, 1991) have helped to develop RBV, making it of the most cited theories ever. The RBV was initially developed in the field of strategic management but

although different, strategic management and entrepreneurship have many aspects in common and for that reason RBV has been widely employed in entrepreneurship studies. According to the resource-based view, founders' access to resources is a significant determinant of opportunity-based entrepreneurship and new venture growth (Alvarez & Busenitz, 2001). This theory emphasizes the value of human, social, and financial resources (Aldrich, 1999). Therefore, having access to such resources improves a person's capacity for detecting and seizing opportunities (Davidsson & Honig, 2003). Additionally, many authors mention that RBV's greatest accomplishment has been the formulation of criteria that must be jointly met for resources to give rise to sustained competitive advantage (Barney, 1991; Peteraf & Barney, 2003). As it can be seen, according to the resource-based view of the firm (Barney, 1991), resources are essential for the creation and success of new business ventures.

However, while RBV is one of the most cited theories in the international business field, some critics argue that it may miss some relevant elements in the current business setting. Over the years, environments became more complex and diversified and countries became more interconnected due to globalization. Consequently, the literature called attention to additional influencing factors and multilevel influences. Specifically, authors such as Veciana and Urbano (2008) mention the existing economic and development country differences, therefore, while resources are acknowledged as important, other issues such as culture, legal environment, or even governmental incentives to specific industries may assist business and entrepreneurial success (Baumol, Litan, & Schramm, 2009). In this regard, the study of the environmental / institutional approach of countries can assist and further enrich the existing literature (Veciana & Urbano, 2008). Busenitz, Gomez and Spencer (2000) agreed that differences in national institutions can also bring about different levels of entrepreneurial activity across countries. Through the theoretical lens of institutional theory, researchers can take these issues into account. The institutional theory recognizes the importance of rules, norms and beliefs which vary across countries and cultures and may influence organizations and their members (Scott, 2007).

2.2.1 Institutional theory

2.2.2 What are Institutions?

Institutions can be classified as “the humanly devised constraints that structure human interaction” (North, 1990, p.3). They are multifaceted, durable social structures, made of symbolic elements, social activities, and material resources (Scott, 2013). These include formal rules, such as constitutions, laws, economic rules, property rights and contracts, as well as informal influences such as cultural norms, values, sanctions, taboos, customs, traditions, and codes of conduct. Institutions differ from organizations: institutions set the rules and define the way the game is played, whereas the organizations are the players of the game (North, 1993). The main reason why human beings conceived institutions is to create order and reduce uncertainty in exchange (North, 1993). In what regards business, institutions, along with the economic constraints, determine choices, transaction, and production costs and, as a result, business profitability and feasibility.

The formal and informal aspects of institutions can be classified into three pillars: regulative, normative, and cultural-cognitive (Scott, 1995; 2008). These pillars, along with their inherent activities and resources, provide stability and meaning to social life (Scott, 2007). Each pillar is important, and while one may dominate at times, especially in strong institutional frameworks, they mostly work together. Additionally, institutions can remain mostly unchanged for a long time, being transmitted across generations (Zucker, 1977) or can undergo changes over time.

Institutions have the capacity to control and constrain behavior, by imposing restrictions by defining legal, moral, and cultural boundaries, distinguishing between acceptable and unacceptable behavior (Scott, 2013). Still, institutions also support and empower activities and actors by providing stimulus, guidelines, and resources for acting as well as prohibitions and constraints on action (Scott, 2013).

Among the existing terminologies, this study will follow Scott’s terminology, given its wider use and reputation within the related literature. Hence, in this work institutions are divided in the regulative pillar, the normative pillar, and the cultural-cognitive pillar.

I. The Regulative Pillar

According to the regulative pillar, institutions constrain and regularize behavior by their regulatory processes. Institutions have the capacity to establish rules, inspect

other's conformity to them, and if necessary, apply sanctions, rewards, or punishments, to influence behavior. The regulative pillar of institutions has an essential role, because one of the fundamental parts of the functioning of institutions is the costliness of determining what are infractions of the law and what are suitable penalties and punishments (North, 1990).

Many types of regulations enable and empower social actors and actions, via licenses, special powers, and benefits (Scott, 2013). Additionally, in most cases, regulatory processes within the private, market-base sector are more likely to rely on positive incentives, such as increased returns or profits. The regulatory processes within the public actors are more likely to use negative sanctions, such as taxes, fines or even incarceration (Scott, 2013).

A stable system of rules, both formal or informal, supported by surveillance and sanctioning power affecting actors' interests that is accompanied by feelings of guilt or innocence constitutes one prevailing view of institutions (Scott, 2013). In many ways, attention to the regulative pillar of institutions creates renewed interest in the role of the state, as a rule maker, referee, and enforcer (Scott, 2013).

II. The Normative Pillar

Normative systems include both values and norms (Scott, 2013). Values are conceptions of the desirable that are used to create standards to which current structures or behaviors can be compared and evaluated (Scott, 2013). Norms define how things should be done, and the proper methods to pursue the desired outcome (Scott, 2013).

In this sense, the normative pillar not only defines goals or objectives, such as making a profit, but also designates appropriate ways to pursue them, such as conceptions of fair business practices (Scott, 2013). These normative systems confer both rights and responsibilities, privileges and duties and licenses and mandates, empowering and enabling social action (Scott, 2013).

Feelings associated with the trespassing of norms include mainly a sense of shame or disgrace, or for those who exhibit exemplary behavior, feelings of respect and honor (Scott, 2013). The conformity to or violation of norms typically involves a large measure of self-evaluation: heightened remorse or effects on self-respect, where such emotions provide powerful inducements to comply with the prevailing norms (Scott, 2013). Multiple researchers concluded that as human beings, humans are moral agents, which

means that we experience our existence as partaking in questions of what is right and what is wrong to do (Scott, 2013).

III. The Cultural-Cognitive Pillar

The cultural-cognitive aspect of institutions can be seen as the shared conceptions that constitute the nature of social reality and create the frames through which meaning is made (Scott, 2013). In this sense, elements such as symbols, words, signs, and gestures, have their effect by shaping the meanings people attribute to objects and activities (Scott, 2013). Douglas (1982, p.12) defended that “we should treat cultural categories as the cognitive containers in which social interests are defined and classified, argued, negotiated, and fought out”. Hofstede’s (1991) also argued that culture provides patterns of thinking, feeling, and acting, which he called the “software of the mind”.

These cultural systems operate at multiple levels, from the shared definition of local situations to the common frames and patterns of belief that make up an organization’s culture, to the organizing logics that structure organizations fields, to the shared assumptions and ideologies that define preferred political and economic systems at national and international levels. Since these levels are nested together, broad cultural frameworks can penetrate and shape individual beliefs on the one hand, while individual constructs can work to reconfigure far-flung belief systems on the other. However, it is also important to understand that cultural beliefs vary and are constantly contested, especially in times of social instability and change (DiMaggio, 1997). According to Ventresca and Mohr, some indicators of cultural-cognitive elements are “relevant features of shared understandings, professional ideologies, cognitive frames or sets of collective meanings that condition how organizational actors interpret and respond to the world around them” (2002, p.819).

The affective dimension of this pillar is expressed in feelings from the positive affect of certitude and confidence on the one hand versus the negative feelings of confusion and disorientation on the other (Scott, 2013). In this way, actors who align themselves with the existing cultural beliefs are likely to feel competent and connected, whereas those who fail can be seen as clueless or even insane (Scott, 2013).

Tab.1 summarizes the three pillars:

Table 1: The three institutional pillars and their characteristics.

	<i>Regulative</i>	<i>Normative</i>	<i>Cognitive</i>
Legitimacy	Legal systems	Moral and ethical systems	Cultural systems
Central Rudiments	Policies and rules	Work roles, habits and norms	Values, beliefs and assumptions
System Change Drivers	Legal obligation	Moral obligation	Change values are internalized
System Change Sustainers	Fear and coercion	Duty and responsibility	Social identity and personal desire
Behavioral Reasoning	Have to	Ought to	Want to

Source: Palthe (2014).

2.2.3 Institutions and legitimacy

In some circumstances, one pillar will support the social order by itself, or one pillar will take the primary role in a society (Scott, 2013). When these pillars are not well aligned, creating confusion and conflict, this provides conditions that are highly likely to give rise to institutional change (Dacin, Goodstein, & Scott, 2002). However, when these three pillars are aligned, the strength of their combined forces can be formidable (Scott, 2013).

Besides, organizations need more than material resources and technical information to survive and thrive in their social environments. They also need acceptability and credibility (Scott, Ruef, Mendel, & Caronna, 2000), which means they require legitimacy. According to Suchman, “legitimacy is a generalized perception or assumption that the actions of an entity are desirable, proper, or appropriate within some socially constructed system of norms, values, beliefs and definitions” (1995, p.574). Organizational legitimacy alludes to the degree of cultural support for an organization (Meyer & Scott, 1983). According to a strong institutional perspective, legitimacy is not seen as a commodity that companies can possess or exchange, but it is rather a condition reflecting perceived consonance with relevant rules and laws or normative values, or alignment with cultural-cognitive frameworks (Scott, 2013).

Each institutional pillar provides a different basis of legitimacy. The regulatory pillar emphasizes conformity to rules, which considers legitimate organizations those

established by and operating in accordance with the relevant legal or quasi-legal requirements (Scott, 2013). The normative pillar represents a deeper, moral base for assessing legitimacy, and as normative controls are more likely to be internalized than regulative controls, the incentives for conformity are likely to include both intrinsic and extrinsic rewards (Scott, 2013). Lastly, a cultural-cognitive viewpoint to the legitimacy comes from conforming to a common definition of the situation, frame of reference, or a recognizable role for individuals or organizations (Scott, 2013). In this way, what is taken as evidence of legitimacy varies by which elements of institutions are privileged (Scott, 2013).

2.2.4 How does the institutional context of a country affect entrepreneurship?

When viewed from the perspective of the institution or the entrepreneur, an institutional framework's function in an economy is to lower transaction and information costs by decreasing uncertainty and creating a solid framework that makes interactions easier (Hoskisson, Eden, Lau, & Wright, 2000).

As it is expected, the process of becoming an entrepreneur is highly conditioned by the formal and informal institutions. According to North, “the agent of change is the individual entrepreneur responding to the incentives embodied in the institutional framework” (1990, p.83). Aldrich and Waldinger (1990) also agreed that not just the task environment was important but also the institutional environment, which could drive or impede entrepreneurship in a country.

Veciana and Urbano (2008), argued that one of the main concerns in the field of entrepreneurship should be how the institutional context affects, promoting or inhibiting the emergence of entrepreneurs, the rate of new companies' creation, and new company growth and development. Some of the known reasons are that for new organizations, the institutional environment defines and limits entrepreneurial opportunities, and thus affects the rate and size of new venture creation (Hwang & Powell, 2005). Other equally important institutional factors in the external environment that can impact entrepreneurial development are favorable market incentives and the availability of capital (Foster, 1986).

Inadequate institutional development can complicate new venture creation (Baumol et al., 2009), while a more developed institutional environment with overly restrictive regulation can hamper company's founding (Soto, 2000). The institutional factors impacting entrepreneurial efforts include the direct action of governments in

constructing and maintaining an environment supportive of entrepreneurship as well as societal norms towards entrepreneurship. In particular, the regulations and policies that control the allocation of rewards in a society have a direct impact on the level of entrepreneurship that develops in that community (Baumol et al., 2009). Governments can ensure markets function properly by removing conditions that create entry barriers, market imperfections, and unnecessarily stifling regulation.

In such an unpredictable moment, such as the COVID-19 pandemic, it is more important than ever to understand how the Institutional Framework of a country and the policies created by governments can help promote entrepreneurship and mitigate the pandemic impact on its economy.

2.3 The antecedents of entrepreneurship

To better understand what entrepreneurship is and how it works, it is important to first understand the antecedents of entrepreneurship.

Why do people decide to start a business? Despite being a very important question and decades of research, researchers still haven't found a complete and definite answer (Shane & Venkataraman, 2000).

The antecedents of entrepreneurship have been divided in different ways.

According to Wang, Ellinger, and JimWu (2013) these antecedents may be internal or external, also called environmental; indeed, a close relationship exists between internal and external antecedents of entrepreneurship. In what regards the internal antecedents, the literature mentions some factors such as education, business experience, proprietary advice and infrastructure, perception of the business and desire to do something new (Windirah, Suwarsinah, & Adhi, 2015). Pihie (2008) found that academic experience of entrepreneurs significantly predicts their entrepreneurial attributes and motivation, while Parker and Van Praag (2006) found that education enhances entrepreneurs' performance both directly and indirectly. In what concerns external antecedents, there are two categories, the push factors, and the pull factors. Push factors refer to external conditions that force people or companies into entrepreneurship because of the lack of viable alternatives (Dawson & Henley, 2012). Some examples are economic crisis (Amit & Muller, 1995), hunger, periods of high unemployment, wars, health crisis or difficulties in finding work because of someone's race or gender (Gonzalez-Gonzalez, Bretones, Zarco, & Rodríguez, 2011). On the other hand, pull factors attract entrepreneurs

towards businesses creation as a way of seizing market opportunities. Push and pull motivation of entrepreneurship are related to the concept of opportunity and necessity entrepreneurship (Reynolds, Camp, Bygrave, Autio & Hay, 2001), where push motivation drives necessity entrepreneurship, whereas pull motivation forms the basis for opportunity entrepreneurs to create startups (Verheul, Thurik, Hessels, & Van Der Zwan, 2010). This distinction is crucial because an entrepreneur's motivation may influence how he manages the business, which may have an impact on its performance (Hessels, Van Gelderen, & Thurik, 2008). Previous empirical research confirms that opportunity entrepreneurs are more successful than necessity entrepreneurs (Vivarelli, 2004). According to Zali, Faghih, Ghotbi, and Rajaie (2013), a venture that seeks to seize an opportunity has a greater propensity to grow than a business whose founder's motivation is a push factor such as unemployment or dissatisfaction with another job.

Many authors argue whether times of crisis are detrimental or beneficial for businesses and entrepreneurs. On one hand, unexpected events can hinder the creation and expansion of businesses, as crises can be highly harmful for business as they undermine trust, damage brand value, threaten business goals and objectives, and might even result in business failure (Engidaw, 2022). When such unexpected times happen, entrepreneurs are the recipients of much of these changes as they act as opportunity agents in society. While entrepreneurs are frequently judged on their ability to solve issues or providing benefits for society, they can also be under enormous pressure to produce certain results (Williams, Gruber, Sutcliffe, Shepherd, & Zhao, 2017). On the other hand, a crisis can also boost the emergence of new opportunities and the need to find disruptive solutions and leverage resources in order to solve it (Wan & Yiu, 2009). Miller and Le Breton-Miller (2017) proposed the underdog theory of entrepreneurship, which states that adverse personal circumstances of an economic, sociocultural, cognitive, and physical/emotional nature may have a significant impact in motivating people to become successful entrepreneurs. This happens because adverse shocks, create experiences and situations that mold and promote a set of crucial entrepreneurial skills and attributes within an individual. Therefore, challenging backgrounds lead to certain conditions and experiences that necessitate the acquisition of coping or adaptive skills conducive to entrepreneurship (Miller & Le-Breton-Miller, 2017).

As it can be seen, for entrepreneurs, the environment may help or hinder them in pursuing their business, which means that there needs to be a focus on how the environment in a country can be an enabler of entrepreneurship (Ratten, 2020).

2.4 Times of crisis

2.4.1 What are times of crisis?

The existence of a crisis – and its relation to entrepreneurship – may be contextualized in the environmental antecedents of entrepreneurship above mentioned.

According to the Merriam-Webster dictionary, a crisis can be described as “an unstable or crucial time or state of affairs in which a decisive change is impending; especially one with the distinct possibility of a highly undesirable outcome.” Coombs (2007, p.2) defined a crisis event as “the perception of an unpredictable event that threatens important expectancies of stakeholders and can seriously impact an organization's performance and generate negative outcomes”. Smith and Riley (2010, p.53) argued that crises are usually “confronting, intrusive and painful experiences”. Many other scholars have proposed different meanings of the concept of crises, including extreme and unpredictable events, low-probability and high-impact situations that threaten the viability of organizations, processes, industries, nations, or society that will cause actors to fail to operate normally, which can lead to a management response to the adversity (Williams et al., 2017). Shah and Tripsas (2020) also argued that crises generate the need for quick decision-making, innovation and actions in support of the common good.

Some languages also present a very straightforward definition of the term. For example, in Chinese language, the term "crisis" is expressed with two characters, 危机 wēijī, where the first means "danger" and the second means "opportunity" (Kim, 1998). In that sense, some companies are able to turn a crisis into an opportunity by transforming absorptive capacity in a discontinuous way to reap tremendous growth through enhanced competitiveness, while others fail to adapt and ultimately perish (Kim, 1998).

Perrow (1984) argued that crises can be described as normal events as there will always be unexpected surprises in a certain environment. As crisis will always happen from time to time, it is crucial to look at the past and see how they were overcome and replicate these strategies.

2.4.2 Entrepreneurship during times of crisis

The productivity and citation impact of Entrepreneurship & Crisis (E&C) research has improved continuously in recent years. In general, based on the continuous occurrence of crises events in recent years, E&C research has been receiving increasing attention (Xu, Wang, Wang, & Skare, 2021).

Most crises and uncertain times, often characterized as having a rapidly shifting economic environment, generate two main narrative strands: one of cataclysmic destitution and horror and another of opportunity and innovation. In both discourses, the lessons and consequences of past crises can operate as informative contexts of belief and courage that the present crisis will be overcome (Knight, 2012). On one hand, a poor economic context can limit opportunities and hamper the entrepreneur's ability to exploit these opportunities (Weick, 1995). This means that when facing unpredictable times entrepreneurs will have a hard time trying to pursue any opportunity or idea. For instance, when a country is devastated by war and most infrastructures are destroyed, even if an entrepreneur has an idea and the intention to solve a problem through the creation of a business, he will most likely lack the basic necessary resources to do so. The same can happen during a health crisis where people may be forced to stay at home or see their lives controlled which might hamper their plans of starting a business. These early life shocks put an individual at a disadvantage in terms of securing wage employment later in life (Churchill, Munyanyi, Smyth & Trinh, 2020). Some of these disadvantages will be reflected in the effect of the shock on the specific circumstances of the individual, such as loss of human capital or persistent poor health condition later in life. Others will be linked to the more general adverse labor market conditions due to the long-term effect of the crises on infrastructure and growth (Churchill, Munyanyi, Smyth & Trinh, 2020).

However, Knight (2015) defended that despite most prominent narratives where fear is often the prevalent word, unpredictable times of crisis can also create space for opportunities and diversification through business innovation and enforced changes to livelihood strategy. Knight (2015) illustrated his idea with the example of Greece, where throughout the history of Modern Greece, clear paths to opportunities can be traced through periods of social and economic turbulence in the form of entrepreneurial investment, commercial and political collaboration, migration, and changes in livelihood strategy. According to this view, unpredictable times generate a lack of multiple services and solutions for different problems, which are great opportunities for the creation of a

business. A study made by Fairlie (2013), supported this idea as it proved that for some entrepreneurial profile combinations, entrepreneurship can have better results during recessions than during boom periods. Zhang and Alon (2009) supported the idea that unpredictable situations and adversities experienced by entrepreneurs during childhood, contributed to their decision to later become entrepreneurs (Zhang & Alon, 2009). Research has also shown that entrepreneurship can reduce the negative impacts of a crisis and maximally restore national economies and regional development following a crisis (Grube & Storr, 2018). Following the same ideas, Russel and Faulkner (2004) pointed out that while livelihoods can be severely disrupted by crisis and disaster, entrepreneurial activity, contrastingly, may thrive. They argued that it is often in times of crisis that innovation is triggered as entrepreneurs find a gap amid the chaos, create an opportunity, and try to change the status quo, creating new products or services (Russel & Faulkner, 2004)

As it was previously shown, unpredictable times of crisis, can affect the entrepreneurial level of a country in different ways. It has been previously noted that the literature has struggled to fully comprehend how entrepreneurial activity is impacted by crisis episodes (Muñoz, Cacciotti, & Ucbasaran, 2020). To better understand the concept of crisis, I present some examples of it.

2.4.3 Examples of times of crisis and their relation to entrepreneurship

As examples of times of crisis, their consequences and how governments acted to mitigate their impact in the economy, I present the Vietnam War and the 2007-2008 Global Financial Crisis.

2.4.3.1 The Vietnam war

The Vietnam War was one of the most intense and brutal conflicts of the twentieth century (Clodfelter, 1995). It lasted for two decades which demonstrates how intense the conflict was. Some war-related facts may shock people. For instance, the bombs dropped by the United States during the Vietnam War were more than double those dropped during World War II and the Korean War put together (Miguel & Roland, 2011). Data also shows that more than 3 million people were killed, and more than half of the dead were Vietnamese civilians (History, 2009).

In addition to these brutal effects, the war brought adverse health and education shocks, with significant implications for labor market outcomes. In fact, given the limited education during the war, as well as health implications of it, people later faced lower probabilities of securing wage-earning employment (Akbulut-Yuksel, 2014).

However, a few years after the war ended, a notably policy initiative promoting the business environment known as the 1986 Doi Moi Policy was created, which made the transition to a multi-sector economic system that encouraged private sector growth by promoting small enterprises (Freeman, 1996). This policy helped millions of people who were severely affected by the Vietnam War to engage in entrepreneurial activities. This policy together with Vietnamese people entrepreneurial action, helped Vietnam to grow at unprecedented rates, making it one of the biggest economic miracles of the past few centuries with a very high level of entrepreneurship activity.

2.4.3.2 The 2007/2008 Global Financial Crisis

Around 2007/2008, a mix of reckless mortgage lending practices targeting low-income homebuyers, excessive risk-taking by global financial institutions, the bursting of the United States housing bubble, and the use of innovative financial tools like derivatives (Hausman & Johnston, 2013) created a "perfect storm". Adding to this already difficult context, unethical banking practices and bad political decisions, such as the take-over of Merrell Lynch and allowing the failure of Lehman Brothers, resulted in a dramatic one-day loss of more than 500 points to the Dow Jones industrials on the US stock exchange, which caused the US stock market to fall by roughly 50% over the following few months (Peston, 2008). This recession quickly spread beyond US borders, bringing economic decline and unemployment to most nations of the world (Hausman & Johnston, 2013), and as so in early October of 2008 the crisis had already spread to Europe and to the emerging countries as the global interbank market ceased functioning.

The financial crisis of 2007/2008 not only showed that a (financial) crisis originating in a country could contaminate other countries, but also challenged the prevailing economic thinking. Until then, economists stated less government interference, because buyers and sellers will meet at the right price, and millions of buyers and sellers are far better than a few government officials at determining it (Fox, 2013). However, in the summer of 2007, the markets for some mortgage securities stopped functioning, buyers and sellers couldn't agree on price anymore, and this impasse spread to other debt markets.

Soon after that, banks began to doubt one another's solvency and trust disappeared. Only when governments got involved to prevent banks from failing, did the financial markets start to settle down and begin to properly function again (Fox, 2013).

This global crisis caused great uncertainty and instability in political, economic, financial, and social systems (Williams & Vorley, 2015). Unemployment scaled and the affected economies faced growth problems. To deal with the crisis consequences, most European countries opted for promoting entrepreneurial-favoring policies (Xu et al., 2021), showing once again that some of the main elements of entrepreneurship are required to handle times of crisis.

2.5 The COVID-19 (Coronavirus/ Sars-Cov2) pandemic

In December 2019, a new highly contagious virus was found in Wuhan, China (Cortez & Johnston, 2020). Despite the initial controversy regarding its origin (Alon, Farrell, & Li, 2020), it has recently been proved that the Huanan live animal market of Wuhan was the epicenter of the COVID-19 pandemic (Worobey et al., 2022). Following the rapid proliferation of the virus, the Chinese government announced the city lockdown and restrained the inhabitants' moves. Still, there are suspicions that right after this announcement around five million Wuhan residents fled the city (Alon et al., 2020).

By the beginning of 2020, the situation escalated to a global pandemic. According to Kuckertz, Brändle, Gaudig, Hinderer, Reyes, Prochotta, Steinbrink and Berger (2020), the term "pandemic" generally refers to the transmission of a disease with a wide geographic reach, and while health pandemics rarely occur, when they do, they usually have severe economic consequences (Ratten, Braga & Marques, 2021). COVID-19 quickly spread worldwide, affecting people from every country on the planet. Due to the ever-increasing number of people affected, as well as the effects of the virus itself, many healthcare systems around the world collapsed (Feuer, 2020), which also had flow-on effects to other sectors of the economy. European countries such as Spain, as well as bigger countries such as the USA faced a very high and rapidly increasing number of daily infections, which was overwhelming for the existing healthcare systems (Ratten, 2020). Since there was no known cure or therapy for this disease, people had to start employing nonpharmaceutical tactics including social distancing, hand washing, and personal hygiene (Ratten, 2020; Silva & Pena, 2021). These measures initially helped in slowing the spread of the disease, but they also led to more severe social restrictions, such

as mobility restrictions and the closing of playgrounds, schools, and universities. Individual nations started to close their borders as a result of this deglobalization strategy (Gordon, Grafton & Steinshamn, 2021), which was unprecedented and contrasted with the earlier advocacy for open borders and unrestricted international travel (Ratten, 2020).

The COVID-19 pandemic changed our planet in an unparalleled way. It surpassed previous challenges or crisis experienced given its political, economic, and psychological effects (Zahra, 2021). In recent years, there were other viral outbreaks, such as SARS and Ebola, which were also crises that arose from highly contagious virus transmission, wide negative media coverage, and increasing public fear. However, no pandemic in recent history has reached such broad and deep impacts on most sectors as the COVID-19 pandemic. Indeed, Kuckertz et al., (2020), proposed that the COVID-19 pandemic is a metaphorical 'Black Swan' event for entrepreneurship since it involves virtually every sector and every country spanning the entire global economy simultaneously (Goodell, 2020). Besides, unlike other crises, which have a specific duration, there is still a lot of economic and societal uncertainty associated with COVID-19 (World Health Organization, 2020). This results in great uncertainty for the business community. Baker, Bloom, Davis and Terry (2020) argued that the COVID-19 pandemic has created such a significant systemic economic shock, that not only has surpassed that of the Global financial Crisis of 2007-2008, but also its economic and societal consequences may represent the greatest crisis period facing humankind since the Second World War. For these reasons, the COVID-19 pandemic is one of the worst global health emergencies ever seen in modern history (Li, Zhang, Hua, & Wang, 2021).

Estimates of the effect of COVID-19 on the global economy are sketchy and vary widely (Congressional Research Service, 2021). The Congressional Research Service (2021, p.1) estimates that Covid "has affected the \$90 trillion global economy beyond anything experienced in nearly a century". According to the International Labor Organization (2020), vulnerabilities made by COVID-19 pandemic could also cause half of the workforce all over the planet to lose their jobs. They additionally gauge that 1.6 billion individuals working in the "informal economy" have experienced great harm to their ability to make a living and many people have been laid-off without any idea of when they could return to work. These progressions have made COVID-19 a national security crisis that nations additionally need to address to safeguard their people's health and prosperity (International Labor Organization, 2020). Due to the large number of employees who were confined to their homes, industries also started having problems

with their supply chains (Kraus, Clauss, Breier, Gast, Zardini, & Tiberius, 2020). As a result, certain industries have been forced to close, which has further disrupted the supply chains. Meanwhile, essential businesses that have continued to operate had to introduce new health policies such as personal protection equipment, physical distancing, and constant cleaning (Ratten, 2020). The “new normal” refers to a society in which physical and social distancing is often needed to help stop the spread of the disease. This has resulted in major cultural changes in terms of how individuals interact and behave in society.

COVID-19’s cost in terms of human lives has been staggering. According to data by the World Health Organization (2022), 613,410,796 people around the world have contracted COVID-19 (as of September 28th of 2022), leading to 6,518,749 deaths (as of September 28th of 2022), but the numbers continue to rise by the hour.

Given the uncertainty associated with this type of crisis existing approaches and tactics frequently fail and require a new and fresh approach (Ratten, 2020). At the same time, the deep impacts caused by the COVID-19 pandemic are likely to push most industries to participate in tremendous and in-depth innovations to survive.

3. Research model and hypothesis development

According to the institutional theory (North, 1990), organizations must adhere to a country's institutional framework in order to acquire support and legitimacy. This national institutional framework is made up of the fundamental political, social, and legal rules that constitute the basis for production and distribution. North (1990) further argued that the existing institutional matrix most often determines a business's viability, profitability, and even sustainability. This suggests that the creation and development of companies can be aided or hindered by the nature of the institutions, as they can either act as barriers or as motivators for companies to grow, contract, or disappear (North, 1990).

These arguments are consistent with those made by supporters of Entrepreneurial Framework Conditions in the Global Entrepreneurship Monitor model (Levie & Autio, 2008a), who propose that the environment in which entrepreneurial activity and growth of companies occur has a significant impact on both. Entrepreneurial activity or entrepreneurship is defined as “any attempt at new venture or new business creation, such as self-employment, a new business organization or the expansion of an existing business, by an individual, a team of individuals, or an established business” (Reynolds, Hay & Camp, 1999, p.3). This entrepreneurial activity, namely the creation of entrepreneurial opportunities and the support of entrepreneurial individuals who are skilled and motivated to exploit these opportunities, is shaped by a set of social, cultural, political, and economic contextual factors that affect the national conditions for entrepreneurship (GEM, 2020; Reynolds et al., 2000). The framework conditions can be divided into two types: general “national framework conditions”, which directly influence the existing primary economy of established companies, and specific “entrepreneurial framework conditions”, which directly influence the emergence of new companies and entrepreneurial individuals (Reynolds et al., 2000).

For the purpose of this research, and considering I focused on the number of new companies created as representative of entrepreneurial activity, I only analyze Entrepreneurial Framework Conditions as antecedents since these factors are among the most relevant to policy decision making in the future (GEM, 2020).

Moreover, as Scott (1995) argued, the normative and cognitive dimensions of a nation's institutional profile are most closely associated with that nation's culture. Following the prevalent approach to cultural studies, I chose to examine Hofstede's Country Dimensions. Specifically, considering the topic in question, I focused on uncertainty

avoidance and long vs short-term orientation, as these dimensions are commonly used in the literature.

3.1 Access to entrepreneurial finance

Access to entrepreneurial finance refers to the existence or lack of sufficient funds available to new companies, whether coming from informal investment and bank loans to government grants and venture capital (GEM, 2020).

When opening a new business, some up-front investment is required to establish a new production function in the economy, which creates an obvious need for financial investment in the expectation of subsequent returns (Levie & Autio, 2008b). Schumpeter (1934) argued that entrepreneurship is more dependent on credit to fund access to resources than other types of businesses. Leibenstein (1968) also agreed that capital is crucial to entrepreneurs and that the access to finance as well as the sophistication of credit and lending systems would vary by country.

In the same way, access to finance is also the most well-known object of entrepreneurship policy, and lack of funding is one of the most cited reasons by non-entrepreneurs as a barrier to start a business (Robertson, Collins, Medeira, & Slater, 2003). Levie and Autio (2008b) further argue that the supply of finance for entrepreneurship should be considered in any model of structural conditions for entrepreneurship. Galindo-Martin, Castano-Martinez and Méndez-Picazo (2021) also proved in their research that monetary policy favors entrepreneurship, and a greater volume of credit and a low interest rate would help entrepreneurs in starting a business.

Considering the above mentioned, I propose the following:

H1: Access to entrepreneurial finance is positively related with company creation.

3.2 Governmental support and policies

Government support and policies refers to the policy interest towards entrepreneurship of a country's government (GEM, 2020). It represents an investment in entrepreneurial-related and "innovation" policies (Storey, 1994). In this regard, there is an ongoing debate regarding whether a distinctive entrepreneurship policy should exist or not. Some researchers argue that entrepreneurship is too broad-based to be bracketed into a dedicated policy box (Acs & Szerb, 2007), while others favor such bracketing

(Lundstrom & Stevenson, 2005). There have been suggestions that bureaucracy and taxes are obstacles for entrepreneurs as they encounter several difficulties to entry and growth (Van Stel, Storey & Thurik, 2007). Hence, policymakers addressing entrepreneurship, both at the regional and national levels, should increase awareness and attention and may allocate more effort into entrepreneurship (Audretsch, Grilo, & Thurik, 2007). Specifically, the existence of governmental support and policy development such as fiscal policies can promote market efficiency and an environment that is responsive to motivated entrepreneurs (Galindo-Martin et al., 2021; Leibenstein, 1968).

Nevertheless, different countries will have different optimal levels of entrepreneurship and that entrepreneurship, in general, may have different gap-filling functions in different stages of economic development. Therefore, rather than focusing on specific policies, researchers suggest focusing on the general prioritization of entrepreneurship in government's economic policy (Levie & Autio, 2008a).

Considering the above mentioned, I propose the following:

H2: Governmental support and policies are positively related with company creation.

3.3 Government entrepreneurship programs

Government entrepreneurship programs relates to whether there are quality support programs available to the new entrepreneur at local, regional, and national levels, which can help him in creating a new business (GEM, 2020).

Leibenstein (1968) argued that there should be some “nurturing” in building entrepreneurial activity, where this role can be conducted by government agents through dedicated programs, or by professional services advisors (Fischer & Reuber 2003). Particularly, Governments can promote entrepreneurial businesses by filling up resource and skill gaps through specialized support programs, either on a subsidized basis or by correcting the market's inability to meet these demands.

Some examples include governments helping entrepreneurs through specific programs that offer subsidies, supplies, and other forms of assistance to start-ups (Dahles, 2005). These initiatives might lower transaction costs for businesses (Shane, 2002) and improve entrepreneurs' human capital (Delmar & Shane, 2003).

Considering the above mentioned, I propose the following:

H3: Government entrepreneurship programs are positively related with company creation.

3.4 Entrepreneurship education

Entrepreneurship education refers to the inclusion of entrepreneurship themes and activities in education and training programs (GEM, 2020).

Entrepreneurship-specific training and education are expected to increase the supply of entrepreneurs through three different mechanisms: first, by providing them with the instrumental skills required to start up and grow a new company (Honig, 2004); second, through enhancing people's cognitive capacity to handle the complexity of opportunity recognition and assessment as well as the creation and expansion of new companies (DeTienne & Chandler, 2004); and third, through the influence of culture on students' attitudes and behavioral dispositions (Peterman & Kennedy, 2003). Furthermore, according to Leibenstein "training can do something to increase the supply of entrepreneurship. ...since entrepreneurship requires a combination of capacities, some of which may be vital gaps in carrying out the input-completing aspect of the entrepreneurial role, training can eliminate some of these gaps" (1968, p. 82).

Considering the above mentioned, I propose the following:

H4: Entrepreneurship education is positively related with company creation.

3.5 Research and development transfers

Research and development transfers refers to what extent can the research findings be translated into commercial ventures (GEM, 2020). It is related to the knowledge spill-over theory, that argues that while knowledge is necessary, it is not a sufficient requirement for economic growth. This view states that not every invention leads to innovation, and not all scientific research advances result in commercialized, economically useful knowledge (Acs, 2006). As Levie and Autio (2008a, p.243) argued, in order "to contribute to the economy, research knowledge needs to be converted into economically useful knowledge, and inventions need to be converted into innovations".

Government actions have a crucial role in R&D transfer to new and growing companies by establishing favorable framework conditions, which include laws, rules, regulations, and government policies supporting new businesses (Busenitz et al., 2000). Countries characterized by higher activities of knowledge transfer tend to appeal to

entrepreneurs, given the potential speed, cost and facilitation of innovation commercialization and new businesses (GEM, 2020).

Considering the above mentioned, I propose the following:

H5: Research and development transfers are positively related with company creation.

3.6 Commercial and professional infrastructure

Commercial and professional infrastructure refers to the access to business services that are vital for the management of entrepreneurial companies to support the new venture, within a framework of property rights (GEM, 2020).

These business services can include availability of subcontractors, suppliers, consultants and legal, accounting, advertising, financial and banking services. These professional or business services are helpful throughout the entrepreneurial process, especially in the management and operation of a company (Suzuki, Kim, & Bae, 2002). A good availability of business services enables entrepreneurial companies to concentrate on their core competencies, resulting in efficiency and specialization gains (Ruef, 2005). The existence of such services, such as legal services, are helpful to company formation and its shortage could be a barrier for entrepreneurs (Brenner, 1992).

Considering the above mentioned, I propose the following:

H6: Commercial and professional infrastructure is positively related with company creation.

3.7 Ease of entry

Ease of entry refers to the extent to which companies can enter a market (GEM, 2020). Companies can more easily enter a market if there are no entry barriers or other deterrents. Even government economic development agencies have started to acknowledge the need of a dynamic, entrepreneurial environment for economic growth (Sobel, Clark & Lee, 2007).

Lee (1991) argued that for entrepreneurship to flourish and produce the fruits of economic progress, it must be fed by the right mixture of freedom and accountability, which can only be provided by a free market economy. This means that no matter how

fertile the seeds of entrepreneurship are, they will always wither without the proper economic soil.

Many economists identify market dynamics and industry structure as motivating factors of entrepreneurial activity (Leibenstein 1968). On the other hand, costly regulations impede the setting up of businesses and stand in the way of economic growth (World Bank, 2004). According to the public choice theory, market regulations are used as a way for politicians to gain rents for their own gain and is a burden for new and existing companies (Ardagna & Lusardi, 2008).

Considering the above mentioned, I propose the following:

H7: Ease of entry is positively related with company creation.

3.8 Physical infrastructure

Physical infrastructure refers to the extent to which such infrastructures are adequate and accessible to entrepreneurs (GEM, 2020). Physical infrastructures can include transportation, such as roads, land or operating space, and communication facilities such as Internet access, telephone, and postal services, which are vital for the successful operation of entrepreneurial activities and venture start-up and growth (Liao, Welsch, & Pistrui, 2001). When starting a new business, an entrepreneur usually needs access to physical infrastructure such as an office and operating space, equipment, and basic utilities. Therefore, the availability or lack of it of such utilities will encourage or hamper the creation of new ventures (Carter, Gartner, & Reynolds, 1996).

Considering the above mentioned, I propose the following:

H8: Physical infrastructure is positively related with company creation.

3.9 Social and cultural norms

Social and cultural norms relate to whether national culture stifle or encourage and celebrate entrepreneurship, including providing role models, mentors, and social support for taking risks (GEM, 2020).

Culture is one of the most cited determinants of entrepreneurial behavior (George & Zahra, 2002). However, it is important to distinguish between general national culture and context-specific norms. National culture relates to universal values, more general

values (Hofstede, 1980). Context-specific norms, as for instance, Entrepreneurial Social and Cultural Norms, cover context-specific beliefs about and attitudes towards entrepreneurship, which is treated as an EFC (GEM, 2020). Context-specific beliefs about entrepreneurship and its legitimacy can change very rapidly (Etzioni, 1987). At the individual level, entrepreneurial intentions are influenced by the societal acceptability of particular entrepreneurial behaviors (Ajzen, 1991). The perception of entrepreneurship's desirability and, consequently, the allocation of effort into it will likely be influenced by positive cultural dispositions towards self-initiative, independence, innovativeness, and individual effort, whereas negative attitudes towards entrepreneurship have been studied in several countries as a barrier to entrepreneurial activity (Helms, 2003).

As so, a related potential determinant of entrepreneurial motivations and actions is social legitimation (Etzioni, 1987) or national respect for entrepreneurship. National respect for entrepreneurs, as showed by peoples' attitudes towards those who have obtained personal wealth through entrepreneurial actions, as well as positive publicity and media on the topic, is likely to influence peoples' perceptions of the social desirability of entrepreneurial actions, and hence, their entrepreneurial motivations and intent (Levie & Autio, 2008b).

Considering the above mentioned, I propose the following:

H9: Social and cultural norms regarding entrepreneurship are positively related with company creation.

3.10 National culture

Following the examination of EFCs, and the distinction between context-specific norms and national culture, I also study this last one, based on the Hofstede's work. Hofstede's perspective is considered one of the most influential models in the study of cultural differences (Kirkman, Lowe, & Gibson, 2006). In 1980, Geert Hofstede suggested that cultural differences between societies could be captured by quantifiable dimensions, including power distance, individualism, uncertainty avoidance and masculinity. Later on, he added long-term orientation and indulgence (Hofstede, 1980; Hofstede & Minkov, 2010). These cultural characteristics affect the way the country nationals think and operate as individuals (Hofstede & Minkov, 2010).

A few empirical studies have reported statistical associations of Hofstede's (1980) scales of culture and entrepreneurial activities (Hayton, George, & Zahra, 2002; Uhlaner & Thurik 2007). Nonetheless, two dimensions, uncertainty avoidance and long-term vs short-term orientation, appear to have a potential role in how entrepreneurs think or act, especially in times of change. In situations characterized by unpredictability and instability, cultures that are more risk avoidant tend to act differently than risk-embracing cultures. Specifically, risk-taking propensity of cultures may be a good predictor of entrepreneurial intention and activities (Wijaya, Sukidjo & Sunarta, 2019). Long-term vs short-term orientation may also connect to greatest or lowest propensity to entrepreneurship (Chuang, Yeh, Huang, & Hsin, 2019).

3.10.1 Uncertainty Avoidance

Uncertainty avoidance refers to a country's tolerance for uncertainty and ambiguity. A country's level of uncertainty avoidance defines the extent to which its nationals feel comfortable or uncomfortable taking risks (Hofstede, 1980). Creating a business venture is often a novel, unknown, and unpredictable situation and becoming a successful entrepreneur carries high levels of intrinsic uncertainty which makes it hard to manage (Hofstede, 1980).

In countries with low scores of this dimension, the people are considered most receptive to approach a new challenge, they are adaptable and entrepreneurial and are very comfortable with ambiguity and change (Hofstede, 1984). On the other hand, people from countries which score really high on this dimension show a very high preference for avoiding uncertainty, maintaining rigid codes of belief and being mostly intolerant of unorthodox behavior and ideas (Hofstede, 1984). With such a high uncertainty avoidance, there is an emotional need for rules, even if these rules do not work properly, innovation is resisted, and adaptability is not a common strength (Hofstede, 1984).

Considering the above mentioned, I propose the following:

H10a: Uncertainty avoidance is negatively related with company creation.

3.10.2 Long VS Short-term orientation

Long-term vs short-term orientation reflects the country's orientation towards the future.

In long-term oriented cultures, values such as learning, honesty, self-discipline, persistence, perseverance, and adaptability are valued, an individual often invests in life-long personal networks and leisure time is not important because the focus is on market position (Hofstede & Minkov, 2010). Nationals from long-term oriented countries easily adapt to different situations and are willing to sacrifice and delay short-term gratification to create a better future, which are some of the main traits of an entrepreneur.

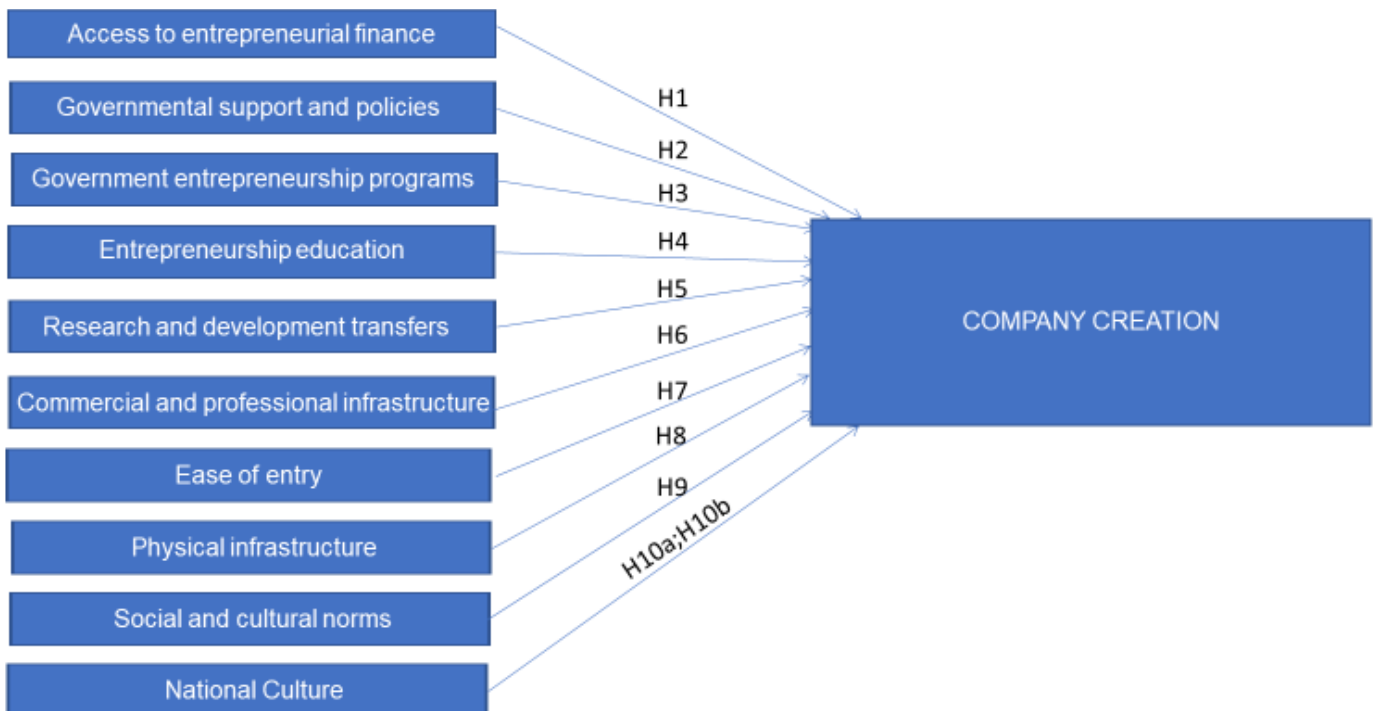
On the other hand, in short-term oriented cultures, values such as freedom, rights and thinking for oneself are valued. Personal loyalties also vary according to business needs (Hofstede & Minkov, 2010). Nationals from short-term oriented countries are focused on the present or past, which they consider more important than the future. In short-term oriented cultures, values such as leisure time, relaxation, tradition, and the current social hierarchy are valued.

Considering the above mentioned, I propose the following:

H10b: Long-term orientation is positively related with company creation.

Below I present figure 1, which shows the conceptual model proposed.

Figure 1: Conceptual Model.



Source: Author.

4. Methodology

4.1 Research setting

This study was conducted within the context of a pandemic situation, the COVID-19 pandemic. It is a multi-country study, in order to allow comparisons. Specifically, 28 countries (see full list at appendix 1) are included in the study, and all of them possess distinct institutional profiles and cultural characteristics.

4.2 Research design and data collection

This study applies a secondary data-based research design. Although recognizing that employing secondary data can have a variety of disadvantages since the data was collected for a different purpose and therefore may not be optimal for this research problem or may not be easy to interpret without more explicit information on the informants and the context, it still presents critical advantages. Specifically, its lower cost and faster access to a wider base of data (Hox & Boejie, 2005).

I combined data from multiple data bases. Data on the independent variables came from GEM database and Hofstede Insights, whereas the information regarding the dependent variable came from the World Bank and the UHY's global new business creation league table. The data from the Global Entrepreneurship Monitor regarding EFCs analyses country entrepreneurship data, not through the lens of registered economic entities and their results, but through the actual actions and attitudes exhibited in a given society, which makes it one of the best data sources in the relevant literature (GEM, 2020). Additionally, these scales, and the individual questionnaire items from GEM have been heavily utilized in the development of national analysis and reports as well as specialized cross-national analyses (Reynolds, Bosma, Autio, Hunt, De Bono, Servais, Lopez-Garcia, & Chin, 2005), as this dataset forms a unique and distinctive set of internationally comparative data on national-level entrepreneurial activity (Levie & Autio, 2007).

In order to provide rigor, I followed some requirements in the data collection. Specifically, I focused on countries which had independent variables information regarding the year of 2019 and dependent variable information regarding the year of 2020 – the first year of the pandemic, and where the effects were most severe. The information was collected in 2022. Hence, I first obtained the list of countries with 2019 EFC information from GEM 2020 (GEM, 2020). Secondly, I crossed this information with the

data from the World Bank Website (The World Bank, 2022) to see which of those countries had information regarding the number of new businesses registered in 2020. Still, having noted that this website, for China, only presented the number of new companies created in its two major cities, Beijing and Shanghai, I decided to use the UHY's global new business creation league table, which encloses the total number for the country (Jones, 2021). The same was done with the data referring to the number of new companies in the United States of America and Russia, which lacked updated information. Then, I collected data regarding cultural dimensions using Hofstede insights website (Hofstede Insights, 2022). This combination of data bases resulted in a total sample of 28 countries.

4.3 Measures

4.3.1 Entrepreneurial Framework Conditions

The employed EFC values are derived from GEM's national expert survey (NES). The national expert survey was originally designed by GEM to provide qualitative data on exogenous factors that might, in theory, impact entrepreneurial activity in a given national context (Levie & Autio, 2007; Reynolds et al., 2005). This survey employs multi-item scales that assess a range of entrepreneurial framework conditions (EFCs), which are shown on table 2.

The survey has been carefully designed to ensure high-quality data and it is conducted annually among national experts of entrepreneurial conditions. In each country, an effort was made to choose experts from a wide variety of backgrounds and fields of expertise. This selection of experts is carried out by GEM's national teams using a carefully designed sampling procedure (Levie & Autio, 2007). The national teams are instructed to choose at least four experts who are considered exceptionally knowledgeable in each one of the entrepreneurial framework conditions in order to ensure a balance of opinions. This selection process should result in at least 36 respondents per country annually, with at least four experts per framework condition (considering the nine main EFCs) (Levie & Autio, 2007). At least one of the four experts per each framework condition should be an active entrepreneur. The remaining three experts per framework condition are selected from among entrepreneurship academics, government policymakers, and providers of public and private services to entrepreneurs, such as venture capitalists (Levie & Autio, 2007). Additionally, the teams are required to select a

certain number of fresh experts each year for interviews, ensuring that the database of knowledgeable experts grows over time. Almost all national experts normally consent to take part in the survey or interview after being approached and given a thorough explanation of the project (Levie & Autio, 2007).

After the survey, the expert's responses are combined into multi-item scales for each EFC. For example, the financing for entrepreneurs EFC index was created from the experts' responses to items on a 5-point Likert scale (where "completely true" = 1 and "completely false" = 5). Factor analysis is used to check that all factor items loaded on a single scale and that no important cross-loadings existed for individual items. As a result, three of the original EFCs, "Government policies", "Education and training", and "Ease of entry", were found to have two separate components as it can be seen in Table 2. In what concerns "governmental support and policies", they are divided into two factors: support and relevance, which seeks to analyze if government policies promote entrepreneurship and support those starting a new business venture; taxes and bureaucracy, which seeks to analyze if business taxes and fees are affordable for the new enterprise and if the existent rules and regulations are easy to manage, or an undue burden on the new business. Regarding "education and training", it is divided into during or post-schooling: during schooling, when schools are fostering entrepreneurial ideas and teaching entrepreneurial values including enquiry, opportunity recognition, and creativity to children and teenagers; post-schooling, when the entrepreneurial training is done in universities, colleges, and business schools, which provide effective courses in entrepreneurial subjects, together with hands-on training in how to start a business. Regarding "ease of entry", it is divided into: market dynamics, which analyses whether there are free, open, and growing markets where there are no large businesses control entry or prices, focusing on the rapidity of market change; market openness: burdens and regulations, which analyses the ease of entry to a market by checking if regulations facilitate or restrict entry. Factor loadings of individual scale items were used as weights when computing the resulting multi-item scale (Levie & Autio, 2008a). A very detailed account of GEM's expert survey method is provided in Reynolds et al. (2005).

4.3.2 National Culture

To measure national culture, specifically the dimensions chosen, I used Hofstede's country scores (Hofstede, Hofstede, & Minkov, 2010; Hofstede Insights, 2022).

Specifically, for uncertainty avoidance index, where the scores are between “0” which represents countries with an extremely low degree of uncertainty avoidance and “100” to countries with an extremely high degree of uncertainty avoidance. Long-term orientation index scores are between “0” for short-term orientation societies and “100” for long-term orientation societies.

It is crucial to mention that these scores represent relative, rather than absolute, values of the countries, and that a country's score in one dimension does not depend on the score obtained in the other dimensions, although there may be some relationship between them (Hofstede et al., 2010).

4.3.3 Company creation

Regarding the dependent variable, company creation, I measured it as the number of new companies registered in each country for the year of 2020. I assured a time lag of one year (independent variables refer to the year of 2019 while the dependent variable refers to the year of 2020) for additional rigor in explaining the relationship between the independent and dependent variables.

Table 2: Variables and measurement.

Type	Variable	Measurement
Independent Variables	Access to entrepreneurial finance	GEM financing for entrepreneurs index
	Governmental support and policies: 1- Support and relevance 2- Taxes and bureaucracy	1- GEM governmental support and policies factor 2- GEM taxes and bureaucracy factor
	Government entrepreneurship programs	GEM governmental programs index
	Entrepreneurship education: 1- During schooling 2- Post-schooling	1- GEM basic school entrepreneurial education and training factor 2- GEM post-school entrepreneurial education and training factor
	Research and development transfers	GEM R&D transfer index
	Commercial and professional infrastructure	GEM commercial and professional infrastructure index
	Ease of entry: 1- Market dynamics 2- Market openness	1- GEM internal market dynamics factor 2- GEM internal market openness factor
	Physical infrastructure	GEM physical and services infrastructure index
	Social and cultural norms	GEM social and cultural norms index
	National Culture a. Uncertainty avoidance b. Long vs short-term orientation	a. Hofstede uncertainty avoidance score b. Hofstede long-term orientation score
Dependent Variable	Company creation	Number of new companies registered in 2020

Source: Author.

4.4 Data analysis

To analyze the data and test the proposed model, I used the IBM SPSS Statistics software (version 28.0). To test the hypotheses, I used a linear regression model. Regression is a statistical model commonly used to predict the behavior of a variable (Pestana

& Gageiro, 2005), in this case company creation, in a sample of 28 countries, to see how different national institutional frameworks and cultural characteristics affect it.

4.4.1 Descriptive Statistics

Analyzing the descriptive statistics of the variables used in the model (Table 3), “access to entrepreneurial finance”, which was measured by GEM financing for entrepreneurs index shows a minimum value of 2.20, a maximum value of 3.47 and a mean value of 2.8450. Regarding “Governmental support and policies- support and relevance”, which was measured by GEM governmental support and policies factor shows a minimum value of 1.89, a maximum value of 3.72 and a mean value of 2.6818. Regarding “Governmental support and policies- taxes and bureaucracy”, which was measured by GEM taxes and bureaucracy factor shows a minimum value of 1.85, a maximum value of 3.52 and a mean value of 2.5757. Regarding “Government entrepreneurship programs”, which was measured by GEM governmental programs index shows a minimum value of 2.07, a maximum value of 3.56 and a mean value of 2.7796. “Entrepreneurship education during schooling”, which was measured by GEM basic school entrepreneurial education and training factor shows a minimum value of 1.59, a maximum value of 3.23 and a mean value of 2.1468. “Entrepreneurship education post-schooling”, which was measured by GEM post-school entrepreneurial education and training factor shows a minimum value of 2.17, a maximum value of 3.46 and a mean value of 2.8571. “Research and development transfers”, which was measured by GEM R&D transfer index shows a minimum value of 1.97, a maximum value of 3.28 and a mean value of 2.5221. “Commercial and professional infrastructure”, which was measured by GEM commercial and professional infrastructure index shows a minimum value of 2.49, a maximum value of 3.59 and a mean value of 3.0182. “Ease of entry- Market dynamics”, which was measured by GEM internal market dynamics factor shows a minimum value of 2.58, a maximum value of 3.83 and a mean value of 3.1482. “Ease of entry- Market openness”, which was measured by GEM internal market openness factor shows a minimum value of 2.14, a maximum value of 3.12 and a mean value of 2.7493. “Physical infrastructure”, which was measured by GEM physical and services infrastructure index shows a minimum value of 3.23, a maximum value of 4.22 and a mean value of 3.8421. “Social and cultural norms”, which was measured by GEM cultural and social norms index shows a minimum value of 1.98, a maximum value of 4.19 and a

mean value of 2.9896. “Uncertainty avoidance”, which was measured by Hofstede uncertainty avoidance score shows a minimum value of 29, a maximum value of 100 and a mean value of 69.79. “Long vs short-term orientation”, which was measured by Hofstede long-term orientation score shows a minimum value of 13, a maximum value of 88 and a mean value of 45.68. “Company creation”, which was measured by Number of new companies registered in 2020, shows a minimum value of 3265, a maximum value of 25020000 and a mean value of 1134025.68.

Table 3: Descriptive Statistics.

	N	Minimum	Maximum	Mean	Std. Deviation
Access to entrepreneurial finance	28	2,20	3,47	2,8450	,33947
Governmental support and policies- Support and relevance	28	1,89	3,72	2,6818	,43037
Governmental support and policies- Taxes and bureaucracy	28	1,85	3,52	2,5757	,48441
Government entrepreneurship programs	28	2,07	3,56	2,7796	,42132
Entrepreneurship education- During schooling	28	1,59	3,23	2,1468	,38704
Entrepreneurship education- Post-schooling	28	2,17	3,46	2,8571	,33006
Research and development transfers	28	1,97	3,28	2,5221	,33985
Commercial and professional infrastructure	28	2,49	3,59	3,0182	,30563
Ease of entry- Market dynamics	28	2,58	3,83	3,1482	,33264
Ease of entry- Market openness	28	2,14	3,12	2,7493	,25396
Physical infrastructure	28	3,23	4,22	3,8421	,30332
Social and cultural norms	28	1,98	4,19	2,9896	,54625
Uncertainty avoidance	28	29	100	69,79	21,678
Long vs short-term orientation	28	13	88	45,68	22,752
Company creation	28	3265	25020000	1134025,68	4754428,904
Valid N (listwise)	28				

Source: Author.

4.4.2 Correlations

Regarding correlations, the Pearson's correlation coefficient is one of the most popular methods used in statistics to quantify a relationship between two variables. It shows a value between -1 and 1, where -1 indicates the presence of a perfectly negative linear correlation between two variables, 0 indicates no linear correlation between two variables and 1 indicates a perfectly positive linear correlation between two variables (Zach, 2020). Some researchers such as Marôco (2018) propose that a recommended Pearson's correlation coefficients in a range from 0 to 1 should be lower than 0.7, while others argue that the correlation between two variables is considered to be strong only if the absolute value of r is greater than 0.75 (Zach, 2020). Considering the results indicated on Table 4, I find some values around that threshold. However, it is important to mention that there is no universally accepted set rule for defining the strength, moderateness, or weakness of a correlation since the topic of the study will always affect how the coefficient is interpreted (Zach, 2020) and higher correlations are expected when researching variables that are simpler to quantify. Besides, regardless of the strength of the correlation, it accurately represents the data used and an accurate representation is always the best-case scenario for using a statistic to describe an entire dataset (Frost, 2022).

Table 4: Correlations.

	Correlations														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Access to entrepreneurial finance	1														
Governmental support and policies- Support and relevance	,406*	1													
Governmental support and policies- Taxes and bureaucracy	,401*	,613**	1												
Government entrepreneurship programs	,507**	,753**	,500**	1											
Entrepreneurship education- During schooling	,478*	,473*	,513**	,426*	1										
Entrepreneurship education- Post-schooling	,280	,523**	,400*	,547**	,617**	1									
Research and development transfers	,635**	,705**	,559**	,759**	,493**	,706**	1								
Commercial and professional infrastructure	,482**	,266	,537**	,462*	,509**	,417*	,578**	1							
Ease of entry- Market dynamics	,424*	,295	,248	,183	,129	-,070	,405*	,140	1						
Ease of entry- Market openness	,565**	,444*	,634**	,593**	,570**	,492**	,699**	,601**	,353	1					
Physical infrastructure	,237	,189	,399*	,097	,356	,289	,282	,344	,179	,239	1				
Social and cultural norms	,495**	,592**	,721**	,477*	,699**	,594**	,582**	,456*	,123	,603**	,277	1			
Uncertainty avoidance	-,569**	-,117	-,381*	-,298	-,584**	-,311	-,270	-,269	-,136	-,500**	,002	-,542**	1		
Long vs short-term orientation	,078	-,250	,084	-,184	-,197	-,190	,061	,127	,444*	,259	,278	-,263	,035	1	
Company creation	,393*	,311	,414*	,177	,240	,308	,453*	,153	,374*	,285	,226	,370	-,404*	,322	1

*. Correlation is significant at the 0,05 level (2-tailed).

**.. Correlation is significant at the 0,01 level (2-tailed).

Source: Author.

4.4.3 Skewness and kurtosis

Skewness and kurtosis allow to examine the normality of the data. Hair, Black, Babin and Anderson (2010) and Byrne (2010) argued that data is considered to be normal if skewness is between -2 to +2 and kurtosis is between -7 to +7. The variables show acceptable values for skewness and kurtosis. The exception is the dependent variable, which has a skewness of 5.059 and a kurtosis of 26.124 (table 5).

Table 5: Testing asymmetry and kurtosis.

	N	Skewness		Kurtosis	
	Statistic	Statistic	Std. Error	Statistic	Std. Error
Access to entrepreneurial finance	28	-,273	,441	-,630	,858
Governmental support and policies- Support and relevance	28	,557	,441	,336	,858
Governmental support and policies- Taxes and bureaucracy	28	,028	,441	-,942	,858
Government entrepreneurship programs	28	,235	,441	-,740	,858
Entrepreneurship education- During schooling	28	1,450	,441	2,070	,858
Entrepreneurship education- Post-schooling	28	-,040	,441	-,282	,858
Research and development transfers	28	,373	,441	-,127	,858
Commercial and professional infrastructure	28	,153	,441	-,340	,858
Ease of entry- Market dynamics	28	,173	,441	-,760	,858
Ease of entry- Market openness	28	-,617	,441	,219	,858
Physical infrastructure	28	-,657	,441	-,627	,858
Social and cultural norms	28	,231	,441	-,686	,858
Uncertainty avoidance	28	-,508	,441	-,875	,858
Long vs short-term orientation	28	,506	,441	-,826	,858
Company creation	28	5,059	,441	26,124	,858
Valid N (listwise)	28				

Source: Author.

Having encountered indications of non-normality in the referred variable, the most common procedure suggested by the literature is to apply the logarithm to the variable (e.g., Vorhies, Orr & Bush, 2011).

4.4.2 Multicollinearity

When two independent variables are highly correlated like it was shown in some examples in Table 4, this results in multicollinearity issues. Multicollinearity indicates if the independent variables are strongly correlated with each other. To assess it I examined the Variance Inflation Factor (VIF). James, Witten, Hastie and Tibshirani (2013) proposed that a recommended VIF value should be below the threshold of 10. From the results showed on Table 6, it can be seen that only the variable “Research and development transfers” has multicollinearity issues. Multicollinearity can affect the interpretability of a regression model because it compromises the statistical significance of independent variables (Ayuya, 2021).

Table 6: Collinearity Statistics.

Model		Collinearity Statistics	
		Tolerance	VIF
1	Access to entrepreneurial finance	,254	3,938
	Governmental support and policies- Support and relevance	,138	7,270
	Governmental support and policies- Taxes and bureaucracy	,214	4,678
	Government entrepreneurship programs	,191	5,247
	Entrepreneurship education- During schooling	,232	4,307
	Entrepreneurship education- Post-schooling	,179	5,590
	Research and development transfers	,094	10,615
	Commercial and professional infrastructure	,341	2,936
	Ease of entry- Market dynamics	,383	2,611
	Ease of entry- Market openness	,232	4,317
	Physical infrastructure	,484	2,067
	Social and cultural norms	,194	5,162
	Uncertainty avoidance	,224	4,464
	Long vs short-term orientation	,303	3,301

a. Dependent Variable: LNCompanycreation

Source: Author

To solve this problem, the most straightforward method to correct multicollinearity is to remove the variable which shows a high correlation (Ayuya, 2021). For that reason, “Research and development transfers” was removed.

4.4.5 Homoscedasticity

Homoscedasticity reflects the fact that the dependent variable does not focus only on a limited range of values of the independent variable, which means that the variance of each of the random variables is finite, being always the same for each observation, indicating that the dispersion around of the regression line is constant (Pestana & Gageiro, 2005). The graph showed that the residuals do not maintain an approximately constant amplitude with respect to the horizontal zero axis, showing both an increasing and decreasing trend when moving to the right side of the graph, so the hypothesis of homoscedasticity is rejected, and the model presents heteroscedasticity. However, I can not proceed with the linear regression if one or more of the assumptions are violated. Following the relevant literature, at first, I tried to redefine the variables and run the test again but there was still homoscedasticity present. Hence, I followed the recommendations of the literature and I opted to use a weighted least squares regression rather than the linear regression. A weighted least squares regression is a method that assigns each data point a weight based on the variance of its fitted value. The idea is to give small weights to observations associated with higher variances to shrink their squared residuals. This minimizes the sum of the weighted squared residuals, so by using the correct weights, heteroscedasticity is replaced by homoscedasticity.

5. Results

Following the analysis and procedures taken in the previous section, I tested the proposed model using a weighted least squares regression. For that, I used the IBM SPSS Statistics software (version 28.0).

An important way that was used to assess the quality of the model under study is through the F test of the ANOVA table. The ANOVA table analyses the existence of significant differences between the mean of several samples of a variable and checks whether the variance explained by the model is significantly greater than the model error. The F test validates the model in global terms and not each of the parameters in isolation. Considering the values obtained, this model presents a F-value of 12.710 and for a significance level of 5%, the F test has a $p\text{-value} < 0.001$. By analyzing these values, I can consider that the model is statistically significant.

Next, I analyzed the intensity of the linear association between variables through Pearson's linear correlation coefficient. Pearson's R determines the strength of linear relationships between the dependent variable and the independent variables, varying between -1 and 1, respectively indicating a perfect negative or positive association between the variables (Pestana & Gageiro 2005). The closer the Pearson correlation coefficient R is to -1 or to 1, the better the quality of the model and the stronger the relationship between the variables under analysis. In this study, I obtained a R of 0.960, so I concluded that there is a strong linear relationship between the variables under study. Another measure to assess the significance of the model is the analysis of the coefficient of determination, or R^2 . The R^2 measures how much of the variation of Y is explained by the model and varies between 0 and 1, with the closer to 1 the better the model, and in this study, I obtained a R^2 of 0.922. However, the coefficient of determination R^2 tends to be influenced by the size of the sample and by the dispersion in the data, so I used the adjusted R^2 to solve this problem, being, on the other hand, the most appropriate for models with more than one independent variable (Pestana & Gageiro, 2005). The adjusted R^2 also varies between 0 and 1, with a value closer to 1 meaning a higher quality model. I found that the adjusted R^2 value is 0.849, which means that 84,9% of the average variation in the creation of companies is explained by the model, which leads me to conclude that the model offers a good prediction of the variable Y.

After validating the model's suitability, it is now important to analyze the statistical significance of the independent variables, in order to confirm or not the

formulated hypotheses (Table 7). This is followed by the exposition of the results of the regression.

Table 7: Weighted least square regression with test of variables.

		Coefficients^{a,b}				
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	11,899	3,280		3,628	,003
	Access to entrepreneurial finance	3,125	,806	,886	3,876	,002
	Governmental support and policies- Support and relevance	1,245	,982	,324	1,269	,225
	Governmental support and policies- Taxes and bureaucracy	,506	,597	,296	,848	,411
	Government entrepreneurship programs	-1,020	,855	-.375	-1,194	,252
	Entrepreneurship education- During schooling	-2,946	,700	-.863	-4,208	<,001
	Entrepreneurship education- Post-schooling	3,610	,607	,836	5,948	<,001
	Commercial and professional infrastructure	-1,184	,870	-.223	-1,361	,195
	Ease of entry- Market dynamics	,264	,608	,051	,434	,671
	Ease of entry- Market openness	-3,564	1,267	-.660	-2,812	,014
	Physical infrastructure	-1,231	,720	-.473	-1,710	,109
	Social and cultural norms	,980	,523	,361	1,874	,082
	Uncertainty avoidance	-.034	,011	-.683	-3,019	,009
	Long vs short-term orientation	,022	,014	,444	1,617	,128

a. Dependent Variable: LNCompanycreation

b. Weighted Least Squares Regression- Weighted by weight

Source: Author.

Hypothesis 1 argued that access to entrepreneurial finance is positively related with company creation. The findings showed a $\beta=0.886$ and a $p\text{-value}<0.01$, specifically at 0.00, so hypothesis 1 was confirmed.

Hypothesis 2 argued that governmental support and policies are positively related with company creation. The findings showed a $\beta=0.324$ and a $p\text{-value}$ of 0.225 for support and relevance and a $\beta=0.296$ and a $p\text{-value}$ of 0.411 for taxes and bureaucracy, so hypothesis 2 was not confirmed.

Hypothesis 3 argued that government entrepreneurship programs are positively related with company creation. The findings showed a $\beta=-0.375$ and a p-value of 0.252, so hypothesis 3 was not confirmed.

Hypothesis 4 argued that entrepreneurship education is positively related with company creation. The findings showed a $\beta=-0.863$ and a p-value <0.001 for during schooling, and a $\beta=0.836$ and a p-value <0.001 for post-schooling. Given these opposite and significant effects, hypothesis 4 was only partially confirmed.

Hypothesis 6 argued that commercial and professional infrastructure is positively related with company creation. The findings showed a $\beta=-0.223$ and a p-value of 0.195, hence not supporting the hypothesis 6.

Hypothesis 7 argued that ease of entry is positively related with company creation. The findings showed a $\beta=0.051$ and a p-value of 0.671 for market dynamics and a $\beta=-0.660$ and a p-value <0.05 , specifically of 0.014 for market openness. Even though the relationship between market openness and company creation is significant, it is contrary to expectations, so hypothesis 7 was not confirmed.

Hypothesis 8 argued that physical infrastructure is positively related with company creation. The findings showed a $\beta=-0.473$ and a p-value of 0.109, so hypothesis 8 was not confirmed.

Hypothesis 9 argued that social and cultural norms regarding entrepreneurship are positively related with company creation. The findings showed a $\beta=0.361$ and a p-value of 0.082. Considering a 10% significance threshold hypothesis 9 was confirmed.

Hypothesis 10a argued that uncertainty avoidance is negatively related with company creation. The findings showed a $\beta=-0.683$ and a p-value <0.01 , specifically of 0.009, so hypothesis 10a was confirmed.

Hypothesis 10b argued that Long-term orientation is positively related with company creation. The findings showed a $\beta=0.444$ and a p-value of 0.128, so hypothesis 10b was not confirmed.

Table 8 summarizes the results of the hypotheses:

Table 8: Results of the hypotheses.

Hypothesis	Relationship	Conclusion
H1: Access to entrepreneurial finance is positively related with company creation.	Positive Significant	Supported
H2: Governmental support and policies are positively related with company creation.	Positive not significant Positive not significant	Not supported
H3: Government entrepreneurship programs are positively related with company creation.	Negative not significant	Not supported
H4: Entrepreneurship education is positively related with company creation.	Negative Significant Positive Significant	Partially supported
H5: Research and development transfers are positively related with company creation.	Eliminated	Eliminated
H6: Commercial and professional infrastructure is positively related with company creation.	Negative not significant	Not supported
H7: Ease of entry is positively related with company creation.	Negative not significant Negative Significant	Not supported
H8: Physical infrastructure is positively related with company creation.	Negative not significant	Not supported
H9: Social and cultural norms regarding entrepreneurship are positively related with company creation.	Positive Significant	Supported
H10a: Uncertainty avoidance is negatively related with company creation.	Negative Significant	Supported
H10b: Long-term orientation is positively related with company creation.	Positive not significant	Not supported

Source: Author.

6. Discussion

Business and innovation literature have long posited the importance of entrepreneurship (e.g. Aquino, 2005; Khyareh & Rostami, 2018). While its relevance to countries' economy and growth is visible in the literature (e.g. Toma et al., 2014), it may be more in challenging times, such as times of crisis. This study analyzes the role of entrepreneurial framework conditions and cultural characteristics during the COVID pandemic. A discussion of the results follows.

Over the years the literature suggested that access to entrepreneurial finance had a key role on entrepreneurial activity, or that the lack of such access was one of the main barriers for it (e.g. Foster, 1986; Robertson et al, 2003). Examining this condition in a context of crisis, this study's findings are along the suggested lines, confirming that the access to entrepreneurial finance is important for company creation.

Regarding governmental support and policies, my findings are not significant. Governmental support and policies are not related to company creation during the COVID-19 pandemic crisis. A possible explanation for this insignificant finding may be the timing frame I used in the study (1 year) and the fact that governmental support and policies may take longer to operate. Besides, governmental support programs which are intended to address the urgent situation caused by the COVID-19 crisis pandemic might be disproportionate or difficult to phase down if they are not adequately conceived, not obtaining the expected results (OECD, 2021). Nevertheless, the results obtained are consistent with the ones obtained by Levie and Autio (2007), in which study government support and policies failed to predict general entrepreneurial activity.

Similarly, government entrepreneurship programs are not significant to company creation during the COVID-19 pandemic crisis. This is in accordance with Levie and Autio (2007), who also had insignificant results on the government entrepreneurship programs-general entrepreneurial activity link. As in governmental support and crisis, the one-year gap may not be enough to examine the relationship.

The findings concerning entrepreneurship education bring an interesting insight. Both during schooling and post-schooling education results are significant, but in opposite ways. While post-schooling entrepreneurial education favors company creation, during-schooling entrepreneurial education has a negative effect. The post-schooling result is consistent with the suggestion that post-schooling entrepreneurship education can promote entrepreneurial activity by enhancing the population's level of opportunity

perception (Levie & Autio, 2008). In fact, this is in line with Leibenstein's (1968) point of view. Considering the dependent variable chosen, the actual number of new companies registered, it makes sense that post schooling rather than during schooling education has positive effect. To incur into actual behavior of creating a firm, one may need a higher level of maturity that younger students have not yet achieved. Further, legally, to create a firm, there are requirements that adults, rather than children, have to comply with. Whereas with during-schooling education, students may find the spark to their entrepreneurial spirit, they are often too young to seriously consider starting a business.

According to this study's results, commercial and professional infrastructure failed to relate to company creation. This is consistent with the findings of Levie and Autio (2007). The costs or accessibility to professional services such as accountants, consultants or lawyers does not seem to contribute to entrepreneurial activity.

In the case of ease of entry, the findings show no significance of market dynamics and negative significance of market openness. Although it may seem odd at first, this result is consistent with the ones obtained by other researchers. This result is consistent with the one obtained by Van Stel et al. (2007) where the authors concluded that just reducing the "burdens" of entry regulations in "heavy regulated" countries is not enough to make that country more entrepreneurial friendly and enterprising, because it seems that entry regulations directly influence the distribution of business activity between the formal and informal economy and not the total entrepreneurial activity. On the other hand, Klapper, Laeven and Rajan (2004) showed that market openness has distinct effects in developed and developing countries. These authors referred that entry regulations have other costs besides the direct costs of compliance and enforcement and that in developing countries or countries where corruption is a serious problem, entry regulations are not so helpful and sometimes can even increase the cost of entry, through the payment of bribes, which proves that entry regulations can have significant adverse effects (Klapper et al, 2004). Additionally, when a country has a high market openness, the entrepreneur usually has more freedom to choose where to open a company or an office, which he might choose to do in a different country for other reasons, such as fiscal benefits.

In what regards physical infrastructure, it is not significant for company creation during the COVID-19 pandemic crisis. The specific context analyzed may have something to do with this. During the COVID-19 pandemic, especially in 2020, companies' conditions and operations were rather distinct than "normal conditions and operations". Most infrastructures were closed, or people could not access them because

of the national lockdowns. Most firms worked online, which reduced the need for and relevance of some physical infrastructure. Still, the result obtained is also consistent with the one obtained by Levie and Autio (2007).

Social and cultural norms, on their hand, had a positive and significant relationship with company creation during the COVID-19 pandemic crisis. This result emphasizes the influence of positive cultural dispositions towards entrepreneurial characteristics, such as self-initiative, independence, innovativeness, and individual effort, as per Helms (2003).

Finally, considering national culture, the findings indicated a negative significance of uncertainty avoidance and a non-significance of long-term orientation on company creation. The negative relationship between uncertainty avoidance and company creation makes sense given that company creation represents an unknown, and unpredictable situation, which is less tolerated by cultures with high uncertainty avoidance (Hofstede, 1980). Whereas this may happen in “normal days”, it may be more evident during times of crises, given the increased unpredictability of these times. During a crisis, people who are uncertainty averse will be even more reluctant to start a business and the ones which welcome challenges will be more motivated to start a business. The non-significance of long-term orientation may be related to the difficulties of planning for the future during times of crisis, which usually request for immediate actions. Still, the result obtained is consistent with the one obtained by Busenitz et al (2000), that found that this measure of culture alone could not describe cross-country differences in company creation.

7. Conclusion

7.1 Importance of the study

Entrepreneurship is critical for a country's economic health since it drives innovation, reduces unemployment, develops human potential, and helps satisfy new customer demands (European Commission, 2003). Its role becomes increasingly important during times of crisis, when unpredictability takes over countries and the old methods no longer work. This was the case of the COVID-19 crisis. In the midst of this health crisis, entrepreneurship has provided a way for individuals, businesses, and governments to cope with the COVID-19 crisis (Ratten, 2020). While entrepreneurial studies have been elucidating researchers and managers over the years, studies like this one, that examine institutional and cultural factors-entrepreneurial activity relationship during times of crisis will provide a new perspective. More than analyzing the situation, the study provides insights regarding how to deal with adverse situations and prepare for the future. For this reason, more studies in this area are needed to better understand this phenomenon.

7.2 Implications of the study

This study presents several theoretical implications. First, it is the first paper, to my knowledge, that simultaneously uses Global Entrepreneurship Monitor's Entrepreneurial Framework Conditions and Hofstede's dimensions to analyze their effect on company creation during times of crisis. Second, this study takes on a national perspective and, using a multi-country data, allows to study the effect of COVID-19 in the creation of new companies around the world. Third, it shows how certain cultural differences and dissimilar institutional frameworks can reduce or increase the rate of new business creation in a country during times of crisis. As such, it contributes to both entrepreneurship and business research areas.

This study presents some practical implications. Times of crisis are more challenging to firms and managers than "normal" times. Specifically, given the recency of the pandemic, little is known about the real long-term effects of the COVID-19 crisis. Still, this study analysis and results can assist managers and entrepreneurs worldwide understanding these contexts and better prepare for the future. According to this study, it is noted that the access to entrepreneurial finance positively influences company creation,

so I advise entrepreneurs to use this type of programs to support their entrepreneurial activities. An interesting result with practical implications refers to the positive impact of post-schooling entrepreneurial education on entrepreneurial activity, so it is beneficial for managers to get involved in this type of training and educational programs and to involve their employees in them. For example, companies and managers can invest in their employees' training via MBAs and executive training programs as a way to enhance their entrepreneurial capabilities. According to this study, it is noted that social and cultural norms positively influence company creation. With this information I encourage managers around the world to create initiatives that congratulate and reward employees for their innovative entrepreneurial decisions and ideas within the company. Lastly this study showed that uncertainty avoidance is negatively related with company creation during times of crisis. Although companies and managers cannot promote activities that alter national culture, they can think about activities that, acknowledging characteristics such as uncertainty avoidance, deal with it or overcome some potential limitations of it. For instance, I encourage companies, governments, and other external entities to develop or get involved with such activities and programs. Examples of such programs are initiatives such as "Link Me Up-1.000 ideias" or "Poliempreende", which encourage graduate and postgraduate students to think outside the box in order to solve real life problems, therefore promoting their entrepreneurial spirit.

This study also presents several implications for policymakers. As companies evolve and adapt to this new reality, national governments will continue to play a crucial role in supporting companies and the economy (GEM, 2020). As Paul Romer once said, "A crisis is a terrible thing to waste", so policymakers must look at the presented data and prepare communities against future times of crisis, whether it is another pandemic, a climate change crisis or an even harsher reality where resources will become much scarcer. These scenarios involve both risk and opportunity to entrepreneurs and policymakers can assist in the promotion of a vivacious entrepreneurial environment. If the requisite and appropriate policy steps and measures are not taken, both the quantity and the quality of entrepreneurship will be severely impacted in the future (GEM, 2020). This study shows that some factors, such as access to entrepreneurial finance, post-schooling entrepreneurial education and social and cultural norms regarding entrepreneurship, positively affect company creation, so policymakers should focus in improving domains such as the availability to different types of financing for entrepreneurs, the quality of post-schooling entrepreneurial education and ways to reward citizens for thinking outside

the box in a problem-solving way, while finding ways of enhancing the quality of the other factors.

7.3 Limitations and future research

Despite its contributions, as with every research paper, this study still presents some limitations. The first limitation refers to the subjectivity of the data used. The GEM data is provided by project experts (Martinez-Fierro, Biedma-Ferrer & Ruiz-Navarro, 2016; Pfeifer et al, 2021). This data includes respondents' qualitative information, and the categorization of such information by the members of the national GEM teams (Martinez-Fierro et al, 2016). Still, consistency of experts' opinions regarding each nation over the GEM project's more than 20-year existence minimizes the potential hazard of such limitation (Martinez-Fierro et al, 2016). Still, as Levie and Autio (2007) argued, the wording of the expert survey may need to be modified if the consortium wants to measure EFCs that relate to new company creation, rather than just new and growing companies. For future research, I recommend researchers to include harder measures of EFCs, such as the regulatory burdens studied by Djankov, La Porta, Lopez-de-Silanes and Shleifer (2002) in addition to the opinions of experts used by NES, giving it more credibility (Levie & Autio, 2007).

Other limitation of this study is related with the use of "company creation" as a dependent variable. Company creation accounts for the number of new companies created in 2020. One may argue that actual registered companies is a step further to intention to be entrepreneur/start a new business. Still, not all new registered companies will turn into real businesses. In fact, the American Census Bureau alerted that not all applications turn into real-world businesses or result in hiring (Casselman, 2021). On the other hand, many businesses can take place without being officially registered. Due to the immediate action required to deal with crisis such as the COVID-19 pandemic, some businesses may have started even before the official registration. For future research I recommend that researchers use a different way of measuring company creation, both nationally and internationally.

Lastly, another limitation might be that this study only assesses the first year of the COVID-19 pandemic crisis. I used a one-year gap between the independent and the dependent variables, but some independent variables effect may take more time to be felt. For future research I recommend researchers to analyze company creation across the same

countries for the years of 2021 and 2022. Since national policies changed very quickly as the COVID-19 situation progressed, results might be very different from the ones obtained here. For example, China, which was progressing and fighting COVID-19 very well until the beginning of 2022, had a recent setback with the number of infected cases rising again and requiring new lockdowns.

As a conclusion, this research examined the how different types of institutional frameworks and cultural characteristics related to company creation in the COVID-19 context. From the analysis developed, I could identify some EFCs importance in this regard, such as access to entrepreneurial finance (positive), post-schooling entrepreneurial education (positive), social and cultural norms (positive), basic-schooling entrepreneurial education (negative) and market openness (negative). Further, uncertainty avoidance, as a dimension of national culture limits entrepreneurial activity, namely company creation. Overall, this study is a step further in understanding entrepreneurship activity in a crisis situation. I hope that this study encourages further research on entrepreneurship during times of crisis as this theme is as relevant as understudied.

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8. Post-hoc

8.1 Comparing two very distinct countries

After analyzing the 28 countries above, I decided to look further into two countries, so as to be able to analyze them into more detail and enrich the understanding of the situation. To do so, I chose Portugal and China. The choice of these two specific countries had to do with a variety of reasons. First, as it was previously mentioned, the COVID-19 appeared for the first time as a local epidemic in Wuhan, China, but it quickly spread to the rest of the world in the beginning of 2020, becoming a global pandemic (The Washington Post, 2021). By studying these two countries in more detail, I'm studying the country which was first affected by the pandemic, and another country which was later greatly affected by the virus but had the chance to learn from other countries' mistakes. Moreover, Portugal was considered as a model country and was praised for the way it fought the COVID-19 pandemic in the beginning of 2020 (e.g., Aljazeera, 2020; Der Spiegel, 2020; RTL Nieuws, 2020; The Guardian, 2020; China Global Television Network, 2020). Second, by studying the case of these two countries, I am investigating one developed country, Portugal, and one developing country, which not only is an emerging economy but has also already reached the status of second biggest world economy. Third, these two countries have a very different political and economic sphere, as China is a republic strictly ruled by their only political party, the Chinese Communist Party, while Portugal is a Republic and a Parliamentary Democracy. The difference on how these countries are ruled, as well as their own entrepreneurial frameworks and cultural characteristics can also affect how these two countries are affected by the COVID-19 pandemic.

Pandemic-wise, as both countries have suffered from a high number of daily infections and have implemented strict restrictions, the effects of the pandemic in entrepreneurship in both countries should be similar. However, these countries have distinct intrinsic characteristics, such as institutional frameworks and cultural characteristics, which may have contributed to their different reaction to the pandemic.

For this post-hoc study, I first present both countries and then compare their EFCs values and cultural dimensions. Considering that there are clear differences in dimension, and that such differences could interfere with the comparison, I included the number of companies created in both countries in 2019 and 2020, to have a reference point.

8.1.1 Portugal

Portugal is a coastal country located in south-western Europe. It is formed by the mainland country located on the Iberian Peninsula and the Atlantic archipelagos of Azores and Madeira. Portugal has a total area of 92 090 km² and it's only land borders are with Spain in the east and north (European Environment Agency, 2014).

Regarding population, Portugal has around 10.627.250 inhabitants and a population density of 115 inhabitants per km², being the biggest agglomerations in the 2 main cities, Lisboa, and Porto. The capital city of Portugal, Lisboa, is also the most populated city in the country (Ministry of foreign affairs, 2022). The asymmetric occupation of the territory, where most of the population live along the coast, resulted in the abandonment of agricultural and forestry areas. The Portuguese population has grown slightly in recent years, but this growth, however, happens mostly because of the immigration than because of the growth of natality inside the country. For this reason and due to the decrease of the birth rate, the Portuguese population is ageing fast, and it is expected to face serious implications for the future generations (European Environment Agency, 2014). The country's official language is Portuguese (Ministry of foreign affairs).

Regarding the political system, Portugal is a unitary multi-party semi-presidential representative democratic republic since 1910. However, the origins of the Portuguese nation can be traced back to 1139. Since 2016, the current President is Marcelo Rebelo de Sousa, which acts as the Chief of state and commander in chief of the armed forces and is elected by absolute majority vote through a two-round system. The Prime Minister is António Costa, which is the Head of the government and is elected every 4 years, being in the office since 2015. Portugal has a multi-party system, where the members of the Portuguese Assembly are elected through a closed-list proportional representation system.

Regarding economy, Portugal was ranked 34th in the World Economic Forum's Global Competitiveness Report for 2019, where the great majority of the international trade is done within the European Union (EU). In the past few decades, Portugal has become a diversified and increasingly service-based economy. The Portuguese economy contracted in 2009, and fell again from 2011 to 2013, as the government implemented spending cuts and tax increases to comply with conditions of an EU-IMF financial rescue package. Before the coronavirus pandemic, some of the most important sectors in the Portuguese economy included services and tourism. In 2020, Portugal had a total GDP of around 231.000.000.000 US dollars and a GDP per capita of around 20.000 US dollars.

Portugal's currency is the Euro, which was officially adopted in 1999. Portugal's central bank is the Banco de Portugal, which is part of the European System of Central Banks, and the major stock exchange of the country is the Euronext Lisbon, which belongs to the NYSE Euronext, the first global stock exchange. Regarding the Human Development Index, Portugal is considered a high-income country and a developed country (United Nations, 2021; World Bank, 2021).

Regarding international cooperation, Portugal has been a member of the European Union since 1986 (União Europeia, 2022). Portugal is also a member of the Schengen area since 1995 (União Europeia, 2022). It is also a member of the North Atlantic Treaty Organization (NATO) military alliance since 1949 (Ministério dos Negócios Estrangeiros, 2022).

8.1.2 Entrepreneurship support in Portugal

In the past few years, the Portuguese Government as well as players in the entrepreneurial ecosystem have been encouraging entrepreneurship with a range of policy actions and regulations having been implemented (GEM 2020). An example of that, was the launching of the StartUp Portugal program in 2016, which aims to create and support a new entrepreneurial ecosystem in the country, attracting new national and foreign investors to co-fund startups and to promote them in international markets (GEM 2020). The program has significantly boosted the entrepreneurial ecosystem by supporting several activities to stimulate entrepreneurial behavior, driving an increase in the number of companies and incubators, and promoting global awareness. More recently, the government announced new supportive actions for entrepreneurship under this program that are valued at around €300 million (GEM, 2020).

8.1.3 The first impacts of the COVID-19 pandemic in Portugal

When the pandemic hit Portugal, government actions were taken to restrict travel, encourage remote work, and only allow the operation of vital services, such as bakeries, grocery stores, supermarkets, gas stations, pharmacies, and newsstands. As a direct result, multiple entrepreneurs consequently experienced a sharp decline in revenue (GEM, 2020).

As expected, entrepreneurship ecosystems were greatly affected by the circulation restrictions (GEM, 2020). At first, entrepreneurs complained that it was very difficult to manage teams remotely. They also had a hard time keeping workers interested and

motivated at a period of significant uncertainty. However, as the months went by, both entrepreneurs and employees discovered effective home office strategies, mostly with the help of online platforms (GEM, 2020). Luckily, the majority of businesses have since claimed an increase in productivity (GEM, 2020).

Some innovative companies have also changed their business strategies to focus on producing goods that are in high demand as a result of the pandemic (GEM, 2020). Some examples are companies which used to operate in the textile sector that transferred some of their production capacity to create masks and protective apparel, others produced protective visors, and alcoholic beverage companies which started manufacturing hand sanitizers (GEM, 2020).

8.1.4 Immediate response

The COVID-19 crisis response in Portugal has been handled quite differently from previous interventions (GEM, 2020). The primary concern has been maintaining business operations, even if just partially, since the COVID-19 epidemic has caused a significant reduction in worldwide demand for goods and services (GEM, 2020). This has been accomplished via the implementation of a system designed to maintain employment even during the period in which businesses have very little or no sales (GEM, 2020). In this situation, employees have been able to receive two-thirds of their normal salary, where the government pays 50% of this amount and the company pays the rest (GEM, 2020). Banks have also permitted deferments of loans for those who experienced pay reductions. Lastly, businesses have been allowed to delay paying their tax and fiscal obligations (GEM, 2020).

8.2 China

The People's Republic of China (PRC), mostly known as China, is located in East Asia, on the western shore of the Pacific Ocean. China is the 3rd largest country on planet earth, with 9,6 million km², next only to Russia and Canada. China has vast land borders, which are shared with 14 countries: Korea, the People's Republic of Mongolia, Russia, Kazakhstan, Kirghizstan, Tajikistan, Afghanistan, Pakistan, India, Nepal, Bhutan, Vietnam, Laos, and Myanmar (The State Council, 2022).

Regarding population, China is the world's most populous country, with more than 1,4 billion inhabitants with a population density of 153 inhabitants per km² (The State Council, 2022). China's capital city is Beijing, which is also one of the most populous cities in the world, with 20.186 million residents (The State Council, 2022). The country's official language is Mandarin Chinese.

Regarding the political system, China has a "socialist consultative democracy" which started in 1949 (The State Council, 2022). The country is ruled by a single party, the Chinese Communist Party (CCP), headed by the CCP General Secretary who serves as the paramount leader of China. The main figures in the government are the President and CCP General Secretary, the Premier and the Vice-President. Both the President and the vice-president of China shall be elected by the National People's Congress. The current President of China and CCP General Secretary is Xi Jinping, which started in 2012. Some of his duties include to promulgate laws, to appoint or remove the premier, vice-premiers, state councilors, ministers of ministries, ministers of commissions, the auditor general and the secretary-general of the State Council, to confer national medals and titles of honor, to issue orders of special pardon, to declare a state of emergency, to declare a state of war, and to issue mobilization orders. The Premier, also known as the Prime minister, is the head of government and leader of the State Council of China, as well as the principal advisor to the president of the country and holds the highest rank in the civil service of the central government. The Premier of China is Li Keqiang, and he has been in power since 2013. The vice-president of the People's Republic of China is Wang Qishan, who took office in 2018, and he assists the president in his work. Moreover, China has two special administrative regions (SAR), Hong Kong and Macau, which have independent multi-party systems and are separate from the mainland's one-party system (The State Council, 2022).

Regarding economy, China was ranked 28th in the World Economic Forum's Global Competitiveness Report for 2019. China has a developing market-oriented economy, that incorporates economic planning through industrial policies and strategic five-year plans. China remained one of the poorest countries in the world until the end of the 80's. However, since China began to open up and reform its economy in 1978, GDP growth has averaged almost 10 percent a year, and more than 800 million people have been lifted out of poverty (The World Bank in China, 2022). Alongside the GDP growth, there have also been significant improvements in access to health, education, and other services over the same period (The World Bank in China, 2022). However, during the

past few years, China's growth has moderated in the face of structural constraints, including declining labor force growth, diminishing returns to investment, and slowing productivity, and with the Coronavirus pandemic, the real GDP growth was only of 2.3 percent in 2020. One of the main challenges going forward will be not only to find new drivers of growth while addressing the social and environmental legacies of China's previous development path but also put forward important institutional reforms and strengthening the regulatory system and the rule of law to further support the market system, which China needs to ensure a high-quality and sustainable growth (The World Bank in China, 2022). In 2020, China had a total GDP of around 14.700.000.000.000 US dollars and a GDP per capita of around 10.430 US dollars. The national currency is the Renminbi, which was introduced in 1948. China's Central Bank is the People's Bank of China and its major stock exchanges are the Shanghai Stock Exchange, Beijing Stock Exchange, and Shenzhen Stock Exchange. Regarding the Human Development Index, China is still considered an upper-middle-income country and a developing country (United Nations, 2021; World Bank, 2021).

Regarding international cooperation, China is a member of the Asia-Pacific Economic Cooperation (APEC) and has active trade and cooperation agreements with more than 100 countries.

8.2.1 Entrepreneurship support in China

Entrepreneurship is critical for the economic development of every country, and it is even more important for countries such as China as it transitions from central planning and large state-owned enterprises, although China continues to support many of those favored enterprises, to a more open system (Puffer, McCarthy, & Biosot, 2010).

The economic reforms initiated in 1978, despite being sanctioned by the Chinese leadership, were in certain ways a response to a bottom-up entrepreneurial dynamic that was driven by the near destitution of the Chinese peasantry. Most of the reform measures adopted since that time have been favorable to the development of a richer entrepreneurial climate (Kshetri, 2007). The government in China has also remained focused on attempting to create more private market-driven entrepreneurial efforts (Ahlstrom & Bruton, 2002).

As an example, it can be seen that the Chinese government is pushing its mass entrepreneurship and innovation strategy, especially around promoting the business environment as well as job creation driven by entrepreneurship (GEM 2020).

8.2.2 The first impacts of the COVID-19 pandemic in China

The largest issue faced by entrepreneurs in China since the pandemic struck was liquidity difficulties (GEM, 2020). It immediately became extremely challenging for entrepreneurs to pay loans, interest, taxes, salaries, and rent. Moreover, due to the government's stay-at-home policy, it made it difficult for entrepreneurs to reach their workplaces and staff (GEM, 2020). This was especially problematic since the virus outbreak started during the Spring Festival, which is the biggest family holiday in China and it is also known as the period when hundreds of millions of Chinese people who work away from their hometowns return home to see their relatives, and due to the disruption of public and other forms of transportation, some employees were even unable to travel back to their hometowns or to their homes (GEM, 2020).

For entrepreneurs it also became very difficult to gain access to funding, because venture capitalists and other financial institutions were no longer willing to invest in entrepreneurs while the economy confronted other formidable challenges that were given higher priority (GEM, 2020). At the same time, some entrepreneurs also had to deal with a decline in market demand and a shortage of necessary supplies at this time. As a consequence of the “new reality” brought by the COVID-19 outbreak, the digital transformation of startups and micro, small, and medium-sized businesses' happened faster. Some innovative and creative companies, together with the help of government support, have adapted to the new reality and have innovated and changed their business models, as some good examples are online medical services and smart delivery (GEM, 2020).

8.2.3 Immediate response

The policies put in place by the Chinese government to fight the COVID-19 impact include tax incentives, the waiver of administration fees, the simplification of processes, reducing costs, and the provision of differentiated financial services (GEM, 2020). Additionally, measures have been taken to ease the financial burdens faced by entrepreneurs, such as social security premium incentives and reducing rent for

entrepreneurs (GEM, 2020). Additional actions taken to increase financial support include stabilizing loans for entrepreneurs and developing new financial services and products (GEM, 2020).

Policies aimed at stabilizing employment have prioritized refunding unemployment insurance premiums, lowering recruitment costs, providing training, and resolving employee rehire issues. To optimize business services, extraordinary policies have included the improvement of government digital services, establishing a list of SMEs for which epidemic prevention and control is crucial, making full use of SME public service platforms, and strengthening insurance services (GEM, 2020).

Reducing operational expenses, encouraging SMEs to participate in public procurement, supporting SMEs' export operations, and encouraging large corporations to work with SMEs are some of the new policies that have been implemented to support business development (GEM, 2020). Lastly, policy measures, such as encouraging SMEs to engage in innovation of technologies and products related to epidemic prevention and control, as well as accelerate their own digital transformation were created to enhance innovation and entrepreneurship (GEM, 2020).

8.3 Comparing these two countries

8.3.1 Comparing their Institutional Framework and cultural characteristics

The two countries chosen are very diverse. Following the study of entrepreneurial framework conditions and cultural characteristics on company creation of the 28 countries, and the deeper understanding of these elements in the two chosen countries, I next present table 9, which encloses that information and the number of new companies created for each country.

Table 9: Comparing EFCs and Hofstede scores for Portugal and China with number of new companies created.

Entrepreneurial Framework Conditions (2019) + Hofstede dimensions + Number of new companies created in 2019 and 2020	Portugal	China
Access to entrepreneurial finance	2,92	3,41
Governmental support and policies- Support and relevance	2,68	3,36
Governmental support and policies- Taxes and bureaucracy	1,85	3,52
Government entrepreneurship programs	2,74	3,18

Entrepreneurship education- During schooling	1,94	2,56
Entrepreneurship education- Post-schooling	2,86	3,32
Research and development transfers	2,43	3,28
Commercial and professional infrastructure	3,02	3,2
Ease of entry- Market dynamics	2,61	3,83
Ease of entry- Market openness	2,4	3,11
Physical infrastructure	3,95	4,16
Social and cultural norms	2,34	3,81
Uncertainty avoidance	99	30
Long-term orientation	28	87
Number of new companies in 2019	46 880	23 770 000
Number of new companies in 2020	36 076	25 020 000

Source: Author.

When analyzing the number of companies created in both countries in 2020, it is easy to see that there is a huge discrepancy in this number. This happens because these two countries have a huge size difference and a huge difference in population and market conditions. For that reason, I chose to include the number of companies created in these two countries in 2019 as a reference to compare with the same number for the year of 2020. As we previously studied the impact of EFCs and Hofstede dimensions during the COVID-19 pandemic, in this section we will see how these two countries compare.

In this study we found that access to entrepreneurial finance positively influences company creation. In this particular factor, Portugal scores 2.94 and China 3.41, which shows that China has better conditions for access to finance for entrepreneurs.

Previously we also found that post-schooling entrepreneurship education positively influences company creation. In this factor, Portugal scores 2.86 and China scores 3.32, which shows that China has better conditions of entrepreneurial education at college and university levels.

Previously we also found that social and cultural norms positively influence company creation. In this factor, Portugal scores 2.34 and China scores 3.81, which shows that China has more positive social and cultural norms regarding entrepreneurship.

Lastly, previously we found that uncertainty avoidance negatively influences company creation. In this index, Portugal scores 99 and China scores 30, which shows that Chinese culture and people are more receptive to approach a new challenge, they are adaptable and entrepreneurial and are very comfortable with ambiguity and change.

As expected, these differences are reflected in the number of new companies created in those two years, where there was a sharp decrease in the number of companies

in Portugal and a huge increase in the number of companies in China. As it can be seen on the table, Portugal scores significantly lower than China in all the Entrepreneurial Framework Conditions, which shows that China has more supportive conditions for entrepreneurs, which resulted in the increase of the number of new companies. Following this idea and according to international accountancy network UHY, China is the leader in a global study of new business creation creating 25 million new businesses during the COVID-19 pandemic driven by the government's entrepreneurialism-focused policy (Mingjie, 2021).

8.3.2 Comparing these two countries with their local averages

When looking at the results of GEM EFCs and comparing these two countries with their local averages, it is important to mention that Portugal scored below average on several EFCs, particularly cultural and social norms where its 2.3 is more than a point below the European average of 3.4. Portugal also scores quite low on taxes and bureaucracy (1.9) compared to a European regional average of 2.7. Portugal's taxes and bureaucracy score is among the lowest of GEM countries (GEM, 2020). Many experts in the 2019 survey identified high tax rates and excessive bureaucracy as a constraint on Portuguese entrepreneurs. The lack of an "entrepreneurial spirit" was also noted by several experts in the survey, which is counter to Portugal's Adult Population Survey (APS) results in which nearly 73% thought entrepreneurship was a good career choice (GEM, 2020).

On the other hand, China outperforms its regional and middle-income peers on all EFCs, particularly in the areas of R&D transfer, taxes and bureaucracy, and internal market dynamics (GEM, 2020). The high R&D transfer score (3.3) is expected considering the Chinese government's spending on R&D, which is second in the world behind the United States. The Chinese government has also recently introduced several measures to reduce bureaucratic obstacles for entrepreneurs, which has improved its score on taxes and bureaucracy (3.5). China's internal market dynamics score is near the top of all countries but fell from over 4.0 in 2018 to 3.8 in 2019 (GEM, 2020).

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10. Appendices

Appendix 1: Countries and variables.

Country name	Access to entrepreneurial finance	Governmental support and policies- Support and relevance	Governmental support and policies- Taxes and bureaucracy	Government entrepreneurship programs	Entrepreneurship education- During schooling	Entrepreneurship education- Post-schooling	Research and development transfers	Commercial and professional infrastructure	Ease of entry- Market dynamics	Ease of entry- Market openness	Physical infrastructure	Social and cultural norms	Uncertainty avoidance	Long vs short-term orientation	Company creation
ARMENIA	2,48	2,69	3,19	2,42	2,06	2,37	2,16	3,35	3,12	2,76	3,91	3,55	88	61	5700
AUSTRALIA	3,1	2,62	2,7	2,82	2,43	2,81	2,52	3,09	2,7	2,88	3,53	3,15	51	21	236447
BELARUS	2,2	2,28	2,73	2,12	2	2,86	2,3	3,1	3,28	2,67	4,08	2,39	95	81	7204
BRAZIL	2,93	2,5	1,87	2,56	1,78	2,67	2,25	2,82	3,44	2,49	3,23	2,47	76	44	405049
BULGARIA	2,75	1,89	2,8	2,07	1,95	2,53	2,17	3,03	3,1	2,68	4,09	2,5	85	69	6220
CHILE	2,42	2,88	2,85	3,24	1,85	2,92	2,41	2,7	2,58	2,51	4,21	3,13	86	31	158583
CHINA	3,41	3,36	3,52	3,18	2,56	3,32	3,28	3,2	3,83	3,11	4,16	3,81	30	87	25020000
COLOMBIA	2,23	2,97	2,16	2,77	2,11	3,25	2,35	2,52	2,75	2,55	3,3	2,88	80	13	68749
CROATIA	2,7	2,14	1,92	2,27	1,77	2,17	1,97	2,49	3,21	2,21	3,58	1,98	80	58	11539
GERMANY	3,13	2,6	2,64	3,56	1,97	2,93	2,89	3,59	3,43	3,08	3,63	2,92	65	83	72774
GREECE	2,52	2,4	1,88	2,3	1,93	2,71	2,68	3,02	3,08	2,61	3,47	2,73	100	45	12047
IRELAND	2,93	2,56	2,76	3,16	2,13	2,85	2,63	2,95	3	2,92	3,23	3,35	35	24	21873
JAPAN	3,03	3,03	2,62	2,73	1,83	2,85	2,77	2,56	3,49	2,77	4,05	2,67	92	88	33411
MEXICO	2,6	2,55	2,38	2,75	2,2	3,46	2,67	2,91	2,9	2,77	3,94	3,5	82	24	68114
MOROCCO	2,37	2,41	2,45	2,45	1,8	2,66	2,05	2,9	2,83	2,14	3,63	2,43	68	14	54250

Country name	Access to entrepreneurial finance	Governmental support and policies- Support and relevance	Governmental support and policies- Taxes and bureaucracy	Government entrepreneurship programs	Entrepreneurship education- During schooling	Entrepreneurship education- Post-schooling	Research and development transfers	Commercial and professional infrastructure	Ease of entry- Market dynamics	Ease of entry- Market openness	Physical infrastructure	Social and cultural norms	Uncertainty avoidance	Long vs short-term orientation	Company creation
(cont.)															
NORWAY	3,27	3,06	2,8	3,23	3,13	3,36	2,84	3,56	3,02	2,88	4,22	3,59	50	35	33128
PAKISTAN	2,4	2,25	1,96	2,28	2,07	2,71	2,04	2,57	2,96	2,7	3,75	2,86	70	50	19791
POLAND	3	2,62	2,07	2,68	1,59	2,25	2,35	2,74	3,68	2,55	3,89	2,53	93	38	41143
PORTUGAL	2,92	2,68	1,85	2,74	1,94	2,86	2,43	3,02	2,61	2,4	3,95	2,34	99	28	36076
SAUDI ARABIA	3	3,5	3,07	3,14	2,09	2,59	2,62	2,87	3,41	2,85	3,65	3,39	64	27	15920
SLOVAK REPUBLIC	2,72	2,01	1,99	2,35	1,94	2,7	2,07	3,01	2,81	2,79	4,04	2,32	51	77	18969
SLOVENIA	2,81	2,61	2,37	3,04	2,07	2,66	2,55	3,1	3,17	2,92	3,92	2,47	88	49	3265
SPAIN	3	3,26	3,1	3,53	1,95	3,32	3,24	3,58	3,18	3,06	3,94	2,93	86	48	77541
SWEDEN	3,07	2,37	2,37	2,86	2,7	2,93	2,66	3,13	3,57	2,9	4,05	3,09	29	53	57682
THAILAND	3,03	2,77	2,62	2,67	2,21	2,94	2,66	3,02	3,56	2,8	4,21	3,43	64	32	63340
UNITED ARAB EMIRATES	3,04	3,72	3,37	3,49	3,23	3,27	2,9	3,3	3,5	3,09	4,13	3,74	66	22	19050
UNITED KINGDOM	3,13	2,61	3,05	2,76	2,31	2,86	2,42	3,01	3	3,12	3,66	3,37	35	51	774854
UNITED STATES OF AMERICA	3,47	2,75	3,03	2,66	2,51	3,19	2,74	3,37	2,94	2,77	4,13	4,19	46	26	4410000

Source: Author.