International Studies in Entrepreneurship

David Urbano
Sebastian Aparicio
David B. Audretsch

Institutions, Entrepreneurship, and Economic Performance

Springer

International Studies in Entrepreneurship

Volume 41

More information about this series at http://www.springer.com/series/6149

David Urbano • Sebastian Aparicio
David B. Audretsch

Institutions, Entrepreneurship, and Economic Performance

Springer

David Urbano
Department of Business
Universitat Autònoma de Barcelona
Bellaterra, Barcelona, Spain

Sebastian Aparicio
Durham University Business School
Durham University
Durham, UK

David B. Audretsch
Institute for Development Strategies
School of Public and Environmental Affairs
Indiana University
Bloomington, IN, USA

ISSN 1572-1922 ISSN 2197-5884 (electronic)
International Studies in Entrepreneurship
ISBN 978-3-030-13372-6 ISBN 978-3-030-13373-3 (eBook)
https://doi.org/10.1007/978-3-030-13373-3

Library of Congress Control Number: 2019933726

This Springer imprint is published by the registered company Springer Nature Switzerland AG
The registered company address is: Gewerbestrasse 11, 6330 Cham, Switzerland

Preface

Mainly motivated by Veblen's ideas about the role of institutions in the social configuration process and its consequences toward a more progressive society, this book is an attempt to understand how institutions condition the way productive behavior such as entrepreneurial activity explains economic performance across countries. We also seek to contribute to the theoretical, managerial, and policy discussion, placing emphasis on the importance of entrepreneurship for the development process.

Extant literature shows a consensus about the importance of entrepreneurship for economic development. Building upon this idea, we believe that entrepreneurial activity is a policy mechanism that is affected by a countless amount of factors. That is why, among other reasons, scholars and policymakers have been exploring those variables that might determine entrepreneurial activity. Although a vast amount of disciplines has analyzed entrepreneurship antecedents, the institutional approach has gained relevance due to their capacity to provide a framework in which entrepreneurs make decisions based on the context where they are embedded. Particularly, this theoretical perspective was designed to explain the economic performance differences across countries. Therefore, it turns out that institutional economics is useful for comprehending why individuals decide to become entrepreneurs and, at the same time, how they contribute to the economic and social progress.

Thus, this book explores the institutional factors that encourage entrepreneurial activity to achieve higher economic performance across developing and developed countries. The methodology used is quantitative and mostly regards the estimations of various equations simultaneously (multiple regression, instrumental variables, and three-stage least square). Thus, for the equation dealing with institutions and entrepreneurship, this research employed data from Global Entrepreneurship Monitor (GEM) to measure different variables of entrepreneurial activity. Concerning the institutional factors, this book used data from Doing Business, Worldwide Governance Indicators, World Values Survey, Indices of Social Development, The Hofstede Centre, the United Nations Development Programme, the National Experts Survey of GEM, and the Center for System Peace. Regarding the equation of entrepreneurship and economic development, information was used

from the World Development Indicators (World Bank) and Social Progress Imperative.

The main findings of this book suggest that there is a causal chain that runs from the institutional context, affecting entrepreneurship and ultimately economic performance. In this sense, it is found that the informal institutions are more important for entrepreneurship than the formal ones.

This book is targeted to both academic scholars and a broader readership consisting of thought leaders in business and policy. Scholars and general audience might find the book interesting and important because of its pathbreaking research linking institutional analysis to entrepreneurship and ultimately economic performance, as this is still a nascent field of study in some aspects. In particular, this book is expected to advance and contribute to the entrepreneurship literature generally and the application of institutional economics to the analysis of entrepreneurship as a key determinant for economic performance in particular. In addition, the book might be of interest to thought leaders in business and public policy by identifying a policy approach that promotes and fosters entrepreneurship, which ultimately enhances economic performance and development.

As the development of this book has been a long joy, in which many friends and colleagues have contributed through comments in conferences, seminars, meetings, etc., we are grateful to all of them that have read and attended sessions where we had the opportunity to present our preliminary findings. Also, many thanks to the anonymous reviewers and editors who, through their comments, have enhanced this book.

David Urbano acknowledges the Universitat Autònoma de Barcelona for all their support. He also acknowledges the financial support from projects ECO2017-87885-P (Spanish Ministry of Economy & Competitiveness), 2017-SGR-1056 (Economy & Knowledge Department, Catalan Government), and ICREA under the ICREA Academia programme. Meanwhile, Sebastian Aparicio acknowledges Durham University Business School for constant help and support. He also thanks Colciencias; Enlaza Mundos, Municipio de Medellín; and Fundación ECSIM for the financial support to complete Ph.D. studies. Finally, David Audretsch is grateful to the Institute for Development Strategies at Indiana University for constant assistance. He also acknowledges support from the School of Public and Environmental Affairs at Indiana University.

Last but not least, we are very grateful to Aishwarya Chandramouleeswaran, Maria David, Nitza Jones-Sepulveda, Nicholas Philipson, Sindhuraj Thulasingam, and Susan Westendorf from Springer for constant support and encouragement. We appreciate their enthusiastic help, as well as their wisdom, care, and effort in guiding and motivating us to move this passionate project forward.

Bellaterra, Barcelona, Spain — David Urbano
Durham, UK — Sebastian Aparicio
Bloomington, IN, USA — David B. Audretsch

Contents

List of Figures

List of Tables

Chapter 1
General Introduction

During the last two decades, as a research field, entrepreneurship has expanded its frontiers toward new knowledge in academia, managerial learning and public policies design (Audretsch, 2012; Audretsch, Kurato, & Link, 2015; Blackburn & Kovalainen, 2009; Welter, Baker, Audretsch, & Gartner, 2017). Although most literature has provided evidence for developed countries, there has been a growing interest in exploring entrepreneurial activity on emerging economies, which enables an international comparison (Bruton, Ahlstrom, & Li, 2010). The explorations at a theoretical level from different disciplines have allowed pioneer scholars to define a starting point by exploring those factors that affect entrepreneurial activity, as well as those ones caused by entrepreneurship (Thornton, Ribeiro-Soriano, & Urbano, 2011; Carlsson et al., 2013). For instance, it has been argued that there is a relationship between entrepreneurship and psychological (McClelland, 1961), economical (Schumpeter, 1911) and managerial (Shane & Venkataraman, 2000) elements. Bruton et al. (2010) and Alvarez, Young, and Woolley (2015), among others, have suggested that there is still a factor drawing the attention of many scholars in the recent past years. Accordingly, formal and informal institutions have found it to be crucial to understand how individuals behave and make decisions in order to become entrepreneurs, especially if differences across countries are taking place and shaping entrepreneurial activity (Alvarez et al., 2015; Veciana & Urbano, 2008). In this regard, Ács, Autio, and Szerb (2014) and Bruton, Ahlstrom, and Puky (2009) have argued that institutional barriers might explain the existing gap of entrepreneurship between developing and developed countries, in which the former group tends to exhibit an endurable and better quality of entrepreneurship, while the latter is plagued by a high rate of unofficial economy and higher corruption levels.

The type and quality of entrepreneurship that is conditioned by the institutional context has prompted questions at the public policy level, since entrepreneurship is linked to economic growth and development (Desai, 2016). Although in this book there is awareness that economic growth is a necessary condition (but not

D. Urbano et al., *Institutions, Entrepreneurship, and Economic Performance*,
International Studies in Entrepreneurship 41,
https://doi.org/10.1007/978-3-030-13373-3_1

sufficient) for economic development, it is believed that measures such as gross domestic product (GDP) (aggregated and per capita), labor productivity and the recent index of social progress are accurate approaches of development (Acemoglu, 2008; Barro & Sala-i-Martin, 2003; Porter, Stern, & Green, 2014). In this sense, Acs, Audretsch, Braunerhjelm, and Carlsson (2012), Audretsch (2007), Audretsch and Keilbach (2004a, 2004b, 2004c, 2005, 2007, 2008), and Audretsch, Bönte, and Keilbach (2008), among others, have provided empirical evidence about the importance of entrepreneurship in enhancing economic change and progress. Accordingly, entrepreneurship contributes to cluster formation (Rocha, 2004) and new jobs creation (van Praag & Versloot, 2007; van Stel & Storey, 2004). In this regard, many scholars have been interested in exploring whether entrepreneurial activity affects the economic development of developing and developed countries alike (Blackburn & Smallbone, 2008; Valliere & Peterson, 2009). Some studies in this line of research have tackled this question by analyzing different samples at a country level. For instance, Carree, van Stel, Thurik, and Wennekers (2002, 2007) and van Stel, Carree, and Thurik (2005) have found that entrepreneurship and GDP per capita have a U-shaped relationship. This means that at a certain point in the distribution of countries, entrepreneurial activity might not exert any influence on economic development. Nonetheless, from a certain point onwards, entrepreneurship relates positively to economic change. Wong, Ho, and Autio (2005), Wennekers, van Stel, Thurik, and Reynolds (2005), and van Stel et al. (2005) suggest that, depending on the type of entrepreneurship, national productivity (as another measure of development) might be further enhanced. Arshed, Carter, and Mason (2014), Reynolds et al. (2005), and Shane (2009) discuss the importance of analyzing why some countries are encouraging the entrepreneurial activity that tends to survive across time, while others are interested in increasing only the global rates. The previous evidence has shown that those countries with a lower income level exhibit larger rates of entrepreneurship driven by necessity, while more developed countries have an entrepreneurial structure based upon opportunity recognition and innovation (Acs, Desai, & Hessels, 2008).

From the extant literature in entrepreneurship and economic development, it is suggested that scholars are effectively facing a complex phenomenon (Terjesen, Hessels, & Li, 2016; Urbano, Aparicio, & Audretsch, 2018). One important conclusion derived from these studies concerns the necessity of an institutional framework to explain how entrepreneurial activity is configured in each location. This idea is also claimed by Bjørnskov and Foss (2013) and Nissan, Martín, and Picazo (2011), who find that institutions affect economic growth, specifically legal institutions, such as procedures or the time needed to create a new business, indicating that regulation can influence the context in which entrepreneurship affects social and economic progress. Audretsch and Keilbach (2008) and Baumol and Strom (2007) discuss the importance of understanding how entrepreneurship is configured by considering culture, beliefs and social values, among other factors, to obtain the best understanding of the role of entrepreneurship in economic development. In that sense, Bruton et al. (2010), Thornton et al. (2011), and Urbano et al. (2018), among others, suggest that institutional economics could be useful for understanding which

socio-cultural factors encourage entrepreneurship behavior in order to increase the economic growth rate.

In terms of the causal chain that goes from institutions to entrepreneurship and economic performance, there are studies that have theoretically and empirically analyzed this complexity (cf. Aparicio, Urbano, & Audretsch, 2016; Bjørnskov & Foss, 2012, 2016; Castaño-Martínez, Méndez-Picazo, & Galindo Martín, 2015; Castaño, Méndez, & Galindo, 2016; Méndez-Picazo, Galindo Martín, & Ribeiro-Soriano, 2012; Terjesen, Hessels, & Li, 2016). Although this literature has been useful for expanding the knowledge frontier in entrepreneurship research, many questions remain in terms of the importance that institutions bring to entrepreneurial activity within each country. Effectively, Bjørnskov and Foss (2016), Terjesen, Hessels, & Li (2016), and Urbano et al. (2018) discuss that entrepreneurship is conditioned by institutions, which in turn affects economic growth. However, what types of institutions do these authors refer to? Are these effects similar between developed and developing countries? So far, the extant literature has addressed the causal chain by empirically exploring the simultaneity between institutions, entrepreneurship and economic growth only in developed economies (e.g. European countries); and only analyzing formal institutions such as economic freedom (Bjørnskov & Foss, 2012) and policies and governance structure (Castaño-Martínez et al., 2015; Castaño et al., 2016; Méndez-Picazo et al., 2012).

Despite the previous findings and theoretical discussions, there are some aspects in the literature of this causal chain that might require further understanding. Although it is not purely entrepreneurship, there are works discussing and providing evidence about the importance of productive factors, which absorb institutional changes in order to contribute to the national productivity and progress. Basically, Acemoglu, Gallego, and Robinson (2014) and Glaeser, La Porta, Lopez-de-Silanes, and Shleifer (2004) argue that institutions do not cause growth. Instead, according to these authors, institutions condition those mechanisms that are directly linked to growth and development (e.g. human capital).Here, any law and cultural settingcreate a distortion in the relationship between the productive factors and economic growth. Translating this idea into the entrepreneurship field, Baumol and Strom (2007) and Aghion and Festré (2017) argue that laws, regulations, etc. are important for defining a legal framework needed forentrepreneurial activity. Nonetheless, the role of some conditioning factors such culture, beliefs, progress intention and so on, also take place in the environment where entrepreneurs are constantly making decisions. Hence, the few works found in this regard suggest that more empirical studies dealing with the sequence from institutions and entrepreneurship to economic development are needed (Thornton et al., 2011). Studies along this line might serve to integrate the thus-far separated streams within entrepreneurship research (Carlsson et al., 2013). By analyzing this causal chain, policy and theoretical implications could be discussed regarding institutional economics as a framework for understanding the link between entrepreneurship and economic progress (Bruton et al., 2010).

Overall, the main objective of this book is to explore the institutional factors that encourage entrepreneurial activity to achieve higher economic performance

across developing and developed countries. In this regard, this book places particular emphasis on different types of entrepreneurship and economic performance measures, as well as on specific contexts. Specifically, the research is developed according to different chapters, which contain their own particular objectives. First, we explore the content and evolution of entrepreneurship is linked to economic progress as well as the whole causal chain that goes from institutions to entrepreneurship and economic performance. Second, we examine the influence of social intentionality, as a particular informal institution, on different types of entrepreneurship. Third, we analyze the effect of entrepreneurship types, as capital factors, on economic growth. And finally, we seek to comprehend the complex view of economic progress influenced by entrepreneurship, which depends on institutional factors.

1.1 Research Contribution

The objectives established above address some areas explored in entrepreneurship research, which may generate further knowledge for the policy debate and theoretical discussion. In particular, this section presents some existing gaps that create the opportunity to continue investigating the entrepreneurship phenomenon. In this sense, some explanations and motivations of each specific goal are provided.

First, given the growing recognition of entrepreneurship to achieve higher economic growth, as well as the fertile grounds that extend our understanding of institutions and entrepreneurial activity (Bruton et al., 2010; Carlsson et al., 2013), recent literature analysis is needed to look at and comprehend the existing trends in the field. By conducting a systemic literature review it is possible to identify what previous scholars have defined as possible pathways to keep exploring. In this regard, the first specific objective of this research (Chap. 2) explores the content and evolution of both the isolated relationships between institutions and entrepreneurship, and how the latter is linked to economic progress, as well as the whole causal chain that goes from institutions, entrepreneurship and economic development. Along with bibliometric indicators (the number of authors dealing with these topics, the journals publishing related works and the amount of theories, methods, etc. used), the literature analysis enables observation of the most accurate frameworks to support the empirical exercises, which in turn, allow the discussion of future research lines, public policy agenda and managerial implications. Although Bjørnskov and Foss (2016) conduct a similar literature analysis, the discussion on the type of institutions, in which the informal factors are highlighted (cf. Urbano & Alvarez, 2014), might serve to explore further their influence on the link between entrepreneurship and development.

Second, the works of Uhlaner and Thurik (2007) and Stephan and Uhlaner (2010) have served to argue that different characteristics of a society define the level and quality of entrepreneurship, as well as the social support for this activity. Accordingly, Thornton et al. (2011) and Urbano and Alvarez (2014) suggest that

this social thinking and behavior turns out to have a higher relevance to entrepreneurship than governmental strategies to increase (or improve) the rate of new business creation. However, the idea of intentionality toward progress is still implicit in the analysis conducted so far. In this regard, the second specific objective aims to examine the influence of social intentionality, as a particular informal institution, on different types of entrepreneurship (Chap. 3). To this end, institutional economics is used as a theoretical framework, which is suggested to be the most accurate one, according to the previous chapter. Thus, social progress orientation might be the concept that moves forward the idea of intentionality, which could establish the long-term basis to achieve and perform hard and complex activities such as, among others, entrepreneurship.

Third, it is argued that the traditional long-term analysis of growth and development has mostly relied upon neo-classical growth models (Solow, 1956; Swan, 1956). Drawing on this, Audretsch and Keilbach (2004a, 2004b, 2004c, 2005, 2007, 2008) developed the concept of entrepreneurship capital. Accordingly, this new capital factor suggests that depending on how economic agents (households, government, incumbent firms, etc.) are articulated, economic growth might be more affected. Based upon the idea of social capital (which is considered another informal institution –cf. Aidis, Estrin, & Mickiewicz, 2008; De Clercq, Danis, & Dakhli, 2010), entrepreneurship capital is included in the traditional growth models to empirically assess the effect of entrepreneurial activity on economic growth. Although Audretsch and Keilbach (2004a, 2004b, 2004c, 2005, 2007, 2008) have explored this new capital factor in depth, the analysis remained at a regional level (in Germany) and tested only the startup density rate as entrepreneurship capital. Thus, total entrepreneurial activity (TEA), and its driving motivations (opportunity and necessity TEA) might be used and proposed as other capital types that could be assessed in the production function. On these bases, the third specific objective aims to analyze the effect of entrepreneurship types as alternative measures on economic growth. Complementary to the previous specific objective, which posits that society defines the entrepreneurial behavior, through Chap. 4 it is possible to provide evidence on how entrepreneurship capital types may differ between developed and developing countries, and therefore, how it may serve to discuss policy implications depending on the development stage of each country.

Finally, Bjørnskov and Foss (2016), Baumol and Strom (2007), and Terjesen, Hessels, & Li (2016), among others, make an important attempt to discuss and suggest the relevance of embracing the complexity that exists between the antecedents of entrepreneurs and their aggregated effect on economic development. Similar to Rodrik (2003), the complex economic growth and development process may be approached through the inclusion of institutions as conditioning factors of those productive elements (in which entrepreneurship and international trade take place) that are contained within the national production function. Based on these ideas, the fourth specific objective aims to comprehend the complex view of economic development influenced by entrepreneurship, which depends on institutional factors. By empirically testing this, it is possible to combine the two previous specific objectives in one single model. This might allow the understanding of how the endoge-

nized entrepreneurial activity (through institutions) becomes a factor affecting growth and development. Hence, this book delivers a series of chapters that seek to address such analyses on institutions, entrepreneurship and economic development (Chaps. 5 and 6). Although literature exists that conducts analysis on institutions, entrepreneurship and economic growth, these chapters provide further evidence regarding the higher importance of informal institutions on increasing entrepreneurial activity driven by innovation and opportunity recognition, which at the same time influences statistically and positively economic growth as well as alternative measures of development (i.e. inclusive growth and social progress).

1.2 Institutional Economics: The Eyes We See Entrepreneurship Through

As mentioned before, institutional economics as a theoretical framework could provide an accurate perspective for understanding the institutional determinants of entrepreneurial activity and its differences across countries (Carlsson et al., 2013). This section presents an illustrative scheme of the growth/development process guided by entrepreneurship, which is, at the same time, affected by institutions.

In general terms, institutions define the environment in which individual intentionality is created and developed (North, 2005). According to North (North, 1990, 2005), institutions are the "rules of the game in a society, or more formally, […] the constraints that shape human interaction" (North, p. 3). These institutions can be either formal, such as regulations, contracts, procedures, etc., or informal, such as the culture, values or social norms of a particular society. As North (1990) suggests, formal institutions intend to reduce the transaction costs based on regulations, whereas informal institutions exist to reduce the uncertainty caused by the decision making of all individuals (North). One additional conclusion of this framework is related to the interactions between formal and informal institutions, whereby some regulations could be efficient depending on the cultural values and the intentionality of a society. Thus, informal institutions constrain the nature of formal institutions and vice versa. Meanwhile, formal institutions can change in a short period of time; however, informal institutions change more slowly (Williamson, 2000).

By considering institutional economics, Bruton et al. (2010) have analyzed the relevance of institutions to boost or hamper entrepreneurial behavior, which is related the level of economic development. Thereby, future research lines could provide a broader comprehension of the link between institutions, entrepreneurship and economic development (Bjørnskov & Foss, 2016). In what follows, this research explains very briefly how institutions are conceived to determine entrepreneurial activity, as well as how they create an environment to channelize the aggregated effort of entrepreneurs toward socioeconomic outcomes (for further information see Chap. 2).

1.2.1 The Institutional Determinants of Entrepreneurship

The intentionality of individuals toward entrepreneurial decisions could depend on the context in which they are involved and it can lead to different patterns of growth (Bruton et al., 2010, p. 426). As mentioned before, the entrepreneurial decisions made by human behavior are influenced by institutional factors (Thornton et al., 2011). This idea has been expanded into the field of entrepreneurship research, in the sense that both formal and informal institutions could either constrain or foster the decision to create a new business based on opportunity perceptions (Urbano & Alvarez, 2014). Thus, some scholars propose the application of institutional economics to the analysis of entrepreneurship (Aidis et al., 2008; Salimath & Cullen, 2010; Thornton et al., 2011; Urbano & Alvarez, 2014; Veciana & Urbano, 2008; Welter, 2005; among others).

From a theoretical perspective within the entrepreneurship and organizational fields, authors such as Gnyawali and Fogel (1994) and Scott (2008) suggest that the institutional pillars may frame entrepreneurial activity. For instance, Gnyawali and Fogel (1994) discuss the importance of government policies and procedures, social and economic factors, entrepreneurial and business skills, financial assistance to businesses and non-financial assistance, whereas Scott (2008) suggests dimensions such as cognitive, normative and regulative structures, which provide stability and meaning in social behavior. In a general sense, these pillars are under the frame of institutional economics. Here, formal institutions are subordinated to informal ones. It implies that formal settings are used to structure the interactions of a society in line with the norms and values. The long-term results of these social actions lead again to the evolution of informal institutions. North's definition implies that the strategies and policies designed to change formal institutions regardless of the measures taken to adjust the informal institutions in compatible ways will have only marginal success (Thornton et al., 2011).

The balance between institutional settings, entrepreneurship and economic development is relevant to design effective and particular policies according to the context of each country or region (Ács et al., 2014). Some authors have related institutional capacity to the level of economic development in order to explain the differences of entrepreneurship rates across countries (Amorós, Fernández, & Tapia, 2012; Terjesen & Amorós, 2010), and other authors have found that entrepreneurial activity has a U-shaped relationship with economic growth (Carree et al., 2002, 2007; Wennekers et al., 2005). However, these authors do not differentiate between the impact of institutions on entrepreneurship and the relative importance of this factor on economic growth. Similarly, van Stel, Storey, and Thurik (2007) have studied the effect of business regulation on nascent and established entrepreneurs, whose decision of regulation depend on political legacy and development stage of each country. Some important conclusions could be derived from these works: (i) there is correlation between institutions and economic development, (ii) given the capacity and efficiency to create norms and laws, the entrepreneurial activity would increase or decrease, and therefore (iii) entrepreneurship would have a higher

impact in some countries than others. Thus, institutions may represent an accurate framework to explore how entrepreneurial activity and development interact, as well as how entrepreneurship, as an intermediary, may transfer the effects of institutions into the development process.

1.2.2 Institutions: The Backward Link of Entrepreneurship and Economic Development

As Audretsch and Keilbach (2004a, 2004b, 2004c, 2005, 2008) and Audretsch et al. (2008) claim, the endowment of entrepreneurship capital and its consequences on economic growth could depend upon the institutional settings of each country. However, according to the neo-classical theory, economic growth relies upon physical capital and labor as driving factors to achieve higher rates (Solow, 1956; Swan, 1956). This perspective has changed since Romer's (1986) study, which included new variables in the neo-classical model in order to improve the way for analyzing national productivity through a new family of growth models. Following the evolution of this approach, many scholars have emphasized the importance of the accumulation of knowledge in the process, and hence the creation of knowledge capital (Romer, 1986). Therefore, this new class of growth model recognizes some aspects of social factors that are also important in the generation of economic growth. According to this literature, entrepreneurship could be an important factor that explains the rates of growth at national and regional level (Audretsch & Keilbach, 2004a; Minniti & Lévesque, 2010), and therefore it should be encouraged where investments in social capital are greater (Amin, 2000; Lawton Smith, 2003; Simmie, 2003).

Authors such as Minniti and Lévesque (2010) use this idea to incorporate entrepreneurship behavior into the Solow-Swan growth model. They develop a mathematical framework for demonstrating how different types of entrepreneurship could lead to a long-term equilibrium, and therefore, achieve convergence across countries. Other studies, such as those by Audretsch and Keilbach (2004a, 2004b, 2004c, 2005, 2008), Bjørnskov and Foss (2013), and Iyigun and Owen (1999), provide empirical evidence concerning the effect of entrepreneurship on economic growth, and its differences or similarities in regions or countries. In the case of Audretsch and Keilbach (2008) and Audretsch et al. (2008), they show that entrepreneurship based on knowledge tends to have a higher influence on regional economic growth than entrepreneurship driven by necessity and survival reasons. These authors assess entrepreneurship as a new input into the Solow-Swan model to find its weight in the growth process and convergence. Additionally, Carree et al. (2002, 2007) determine how disequilibrium in the entrepreneurship rate could affect growth in OECD countries.

Looking at the history of economic thought, the relationship between entrepreneurial decisions and economic growth was explored by Schumpeter (1911), who argued that innovative entrepreneurs are capable of generating shocks in the economy, creating new and higher long-term equilibria. This author also suggested

that these innovations implemented within the markets lead to new path dependency and encourage new entrepreneurs, which will sustain the development process. However, some other papers have used institutions as direct determinants to understand the economic growth and development process. In fact, North (1990) suggests that institutions might affect the growth and explain the differences across countries. Following this idea, Acemoglu (2006) and Acemoglu and Robinson (2008) explore the development path of several countries based upon their institutional settings. According to these authors, institutions affect the individuals and firms in the regions and countries. Nevertheless, Rodrik (2003) suggests that institutions are an antecedent of those factors that affect economic development directly. According to Rodrik (2003), economic development has three main components: (i) endogenous factors, which contain the determinants that are directly related to national income, (ii) partly endogenous, which could have some interactions prior to affecting economic development, and (iii) exogenous which concern geography and natural resources. One of the endogenous factors suggested by this author deals with entrepreneurial behavior, especially behavior that is based on knowledge that is capable of generating employment and diversifying the national production. By understanding this process, we can embrace the impact of institutions on entrepreneurship that allows achievement of social progress as well, entering into the broader concept of economic development. Drawing on these ideas, Bjørnskov and Foss (2012, 2013, 2016), Castaño et al. (2016), Castaño-Martinez et al. (2015), Méndez-Picazo et al. (2012), and Nissan et al. (2011) open new directions to study the interplay between institutions, entrepreneurship, and economic growth.

1.3 Structure of the Book

In this section, the contents of the book are briefly presented, in which we offer an analysis on institutions, entrepreneurship, and economic performance, along seven chapters (including introduction and conclusions). Specifically, the objectives, methodologies and main results of each chapter are highlighted.

After the introduction chapter, to identify the main trends and discussions within the entrepreneurship field, this book continues with a literature review, which explores the extant research at the theoretical and empirical level of analysis. Motivated by some of those gaps found, Chap. 3 focuses on the role of institutional factors for different entrepreneurship types, in which the concept of social progress orientation becomes relevant for underlining the importance of informal institutions to increase the entrepreneurial activity. In Chap. 4, an analysis is provided of entrepreneurship types as key factors for achieving economic growth in developed and developing countries, as well as for before and after the economic crisis. The whole causal chain is assessed in Chaps. 5 and 6, which both estimate simultaneously the effects of institutions on different types of entrepreneurship and their consequences on socioeconomic performance. Finally, Chap. 7 concludes and highlights implications, limitations and future research lines.

Particularly, through analyzing isolated research strands over the period 1992–2016, Chap. 2 identifies an emergent stream of research that dissentangle the institutional factors that shape entrepreneurial activity and their effect on economic growth. This analysis integrates disparate literature, allowing the identification of two different research lines in the entrepreneurship field. The main results of this chapter enable a broader understanding of these two isolated lines of research, which enable to explore the interaction between institutions, entrepreneurship and economic development.

By identifying that informal institutions have been less explored by current research, Chap. 3 examines the influence of social progress orientation, as an informal institution, on entrepreneurship. Through a multiple linear regression model with cross-sectional information from the Global Entrepreneurship Monitor, the Indices of Social Development, the World Values Survey, the Hofstede Centre, the United Nations Development Programme and World Development Indicators, this chapter finds that social progress orientation dimensions such as voluntary spirit, survival versus self-expression values and masculinity vs. femininity are related to the innovative entrepreneurial activity. More specifically, the main findings demonstrate that high voluntary spirit has a positive and statistically significant impact on entrepreneurship (innovative and opportunity/necessity TEA), self-expression influence positively the prevalence of opportunity/Necessity TEA, while high masculinity affects negatively the entrepreneurship related with opportunity/Necessity TEA. The study advances the literature by introducing and analyzing the concept of social progress orientation, to assist with the understanding of the factors that influence innovative entrepreneurial activity in the light of institutional approach. Also, this research could be useful for designing policies to foster entrepreneurial activity in different environments.

Chapter 4 analyzes the effect of entrepreneurship on economic growth. In this chapter, an augmented Cobb-Douglas production function is used, which allows for the introduction of variables such as entrepreneurship as a capital input into the analysis of growth as an endogenous factor. In particular, this Chapter seeks to be differentiated from the previous studies by using panel data analysis, with 43 countries in the period from 2002 to 2012, and different measures of entrepreneurship capital.

Chapter 5 examines how social progress orientation (SPO) through entrepreneurship driven by opportunity recognition affects economic development. Using a pooled data of 81 observations (56 countries) and the three-stage least-squares method (3SLS), this chapter seeks to provide empirical evidence that SPO measured through civic activism, voluntary spirit, and inclusion of minorities might exert a positive effect on opportunity entrepreneurship, which in turn, affect the development process.

Chapter 6 examines how a country's institutional context influences the way in which entrepreneurial activity affects social progress. Following the theoretical approach of institutional economics, the hypothesis is tested using pooled data from 62 countries (2012 and 2014) and a simultaneous-equation model estimation. In this respect, it may be possible that business regulations decrease entrepreneurial

activity, while established democracies provide a government context conducive to entrepreneurship. Additionally, the chapter hypothesizes that the entrepreneurial activity is positively linked to the Social Progress Index, which is an alternative measure of economic development.

References

Acemoglu, D. (2006). Modeling inefficient institutions. In R. Blundell, W. Newey, & T. Persson (Eds.), *Advances in economic theory* (Proceedings of 2005 World Congress) (pp. 341–380). New York: Cambridge University Press.

Acemoglu, D. (2008). Oligarchic versus democratic societies. *Journal of the European Economic Association, 6*(1), 1–44.

Acemoglu, D., Gallego, F., & Robinson, J. A. (2014). Institutions, human capital and development. *The Annual Review of Economics, 6*, 875–912.

Acemoglu, D., & Robinson, J. A. (2008). Persistence of power, elites, and institutions. *The American Economic Review, 98*(1), 267–293.

Acs, Z., Desai, S., & Hessels, J. (2008). Entrepreneurship, economic development and institutions. *Small Business Economics, 31*(3), 219–234.

Acs, Z. J., Audretsch, D. B., Braunerhjelm, P., & Carlsson, B. (2012). Growth and entrepreneurship. *Small Business Economics, 39*(2), 289–300.

Ács, Z. J., Autio, E., & Szerb, L. (2014). National systems of entrepreneurship: Measurement issues and policy implications. *Research Policy, 43*(3), 476–494.

Aghion, P., & Festré, A. (2017). Schumpeterian growth theory, Schumpeter, and growth policy design. *Journal of Evolutionary Economics, 27*(1), 25–42.

Aidis, R., Estrin, S., & Mickiewicz, T. (2008). Institutions and entrepreneurship development in Russia: A comparative perspective. *Journal of Business Venturing, 23*(6), 656–672.

Alvarez, S. A., Young, S. L., & Woolley, J. L. (2015). Opportunities and institutions: A co-creation story of the king crab industry. *Journal of Business Venturing, 30*(1), 95–112.

Amin, A. (2000). Industrial districts. In E. Sheppard & T. Barnes (Eds.), *Companion to economic geography* (pp. 149–168). Oxford: Blackwell.

Amorós, J. E., Fernández, C., & Tapia, J. (2012). Quantifying the relationship between entrepreneurship and competitiveness development stages in Latin America. *International Entrepreneurship and Management Journal, 8*(3), 249–270.

Aparicio, S., Urbano, D., & Audretsch, D. (2016). Institutional factors, opportunity entrepreneurship and economic growth: Panel data evidence. *Technological Forecasting and Social Change, 102*, 45–61.

Arshed, N., Carter, S., & Mason, C. (2014). The ineffectiveness of entrepreneurship policy: Is policy formulation to blame? *Small Business Economics, 43*(3), 639–659.

Audretsch, D. (2012). Entrepreneurship research. *Management Decision, 50*(5), 755–764.

Audretsch, D. B. (2007). Entrepreneurship capital and economic growth. *Oxford Review of Economic Policy, 23*(1), 63–78.

Audretsch, D. B., Bönte, W., & Keilbach, M. (2008). Entrepreneurship capital and its impact on knowledge diffusion and economic performance. *Journal of Business Venturing, 23*(6), 687–698.

Audretsch, D. B., & Keilbach, M. (2004a). Does entrepreneurship capital matter? *Entrepreneurship Theory and Practice, 28*(5), 419–429.

Audretsch, D. B., & Keilbach, M. (2004b). Entrepreneurship capital and economic performance. *Regional Studies, 38*(8), 949–959.

Audretsch, D. B., & Keilbach, M. (2004c). Entrepreneurship and regional growth: An evolutionary interpretation. *Journal of Evolutionary Economics, 14*(5), 605–616.

Audretsch, D. B., & Keilbach, M. (2005). Entrepreneurship capital and regional growth. *The Annals of Regional Science, 39*(3), 457–469.

Audretsch, D. B., & Keilbach, M. (2007). The localisation of entrepreneurship capital: Evidence from Germany. *Papers in Regional Science, 86*(3), 351–365.

Audretsch, D. B., & Keilbach, M. (2008). Resolving the knowledge paradox: Knowledge-spillover entrepreneurship and economic growth. *Research Policy, 37*(10), 1697–1705.

Audretsch, D. B., Kuratko, D. F., & Link, A. N. (2015). Making sense of the elusive paradigm of entrepreneurship. *Small Business Economics, 45*(4), 703–712.

Barro, R. J., & Sala-i-Martin, X. (2003). *Economic growth*. Cambridge, MA: MIT Press.

Baumol, W. J., & Strom, R. J. (2007). Entrepreneurship and economic growth. *Strategic Entrepreneurship Journal, 1*(3–4), 233–237.

Bjørnskov, C., & Foss, N. (2013). How strategic entrepreneurship and the institutional context drive economic growth. *Strategic Entrepreneurship Journal, 7*(1), 50–69.

Bjørnskov, C., & Foss, N. J. (2012). How institutions of liberty promote entrepreneurship and growth. In *Economic freedom of the world: 2012 annual report* (pp. 247–270).

Bjørnskov, C., & Foss, N. J. (2016). Institutions, entrepreneurship, and economic growth: What do we know and what do we still need to know? *The Academy of Management Perspectives, 30*(3), 292–315.

Blackburn, R., & Kovalainen, A. (2009). Researching small firms and entrepreneurship: Past, present and future. *International Journal of Management Reviews, 11*(2), 127–148.

Blackburn, R. A., & Smallbone, D. (2008). Researching small firms and entrepreneurship in the UK: Developments and distinctiveness. *Entrepreneurship Theory and Practice, 32*(2), 267–288.

Bruton, G. D., Ahlstrom, D., & Li, H.-L. (2010). Institutional theory and entrepreneurship: Where are we now and where do we need to move in the future? *Entrepreneurship Theory and Practice, 34*(3), 421–440.

Bruton, G. D., Ahlstrom, D., & Puky, T. (2009). Institutional differences and the development of entrepreneurial ventures: A comparison of the venture capital industries in Latin America and Asia. *Journal of International Business Studies, 40*(5), 762–778.

Carlsson, B., Braunerhjelm, P., McKelvey, M., Olofsson, C., Persson, L., & Ylinenpää, H. (2013). The evolving domain of entrepreneurship research. *Small Business Economics, 41*(4), 913–930.

Carree, M., van Stel, A., Thurik, R., & Wennekers, S. (2002). Economic development and business ownership: An analysis using data of 23 OECD countries in the period 1976–1996. *Small Business Economics, 19*(3), 271–290.

Carree, M., van Stel, A., Thurik, R., & Wennekers, S. (2007). The relationship between economic development and business ownership revisited. *Entrepreneurship and Regional Development, 19*(3), 281–291.

Castaño, M. S., Méndez, M. T., & Galindo, M. Á. (2016). The effect of public policies on entrepreneurial activity and economic growth. *Journal of Business Research, 69*(11), 5280–5285.

Castaño-Martínez, M.-S., Méndez-Picazo, M.-T., & Galindo Martín, M. Á. (2015). Policies to promote entrepreneurial activity and economic performance. *Management Decision, 53*(9), 2073–2087.

De Clercq, D., Danis, W. M., & Dakhli, M. (2010). The moderating effect of institutional context on the relationship between associational activity and new business activity in emerging economies. *International Business Review, 19*(1), 85–101.

Desai, S. (2016). Measuring entrepreneurship: Type, motivation, and growth. *IZA World of Labor, 327*, 1–10.

Glaeser, E. L., La Porta, R., Lopez-de-Silanes, F., & Shleifer, A. (2004). Do institutions cause growth? *Journal of Economic Growth, 9*(3), 271–303.

Gnyawali, D. R., & Fogel, D. S. (1994). Environments for entrepreneurship development: Key dimensions and research implications. *Entrepreneurship Theory and Practice, 18*(4), 43–62.

Iyigun, M. F., & Owen, A. L. (1999). Entrepreneurs, professionals, and growth. *Journal of Economic Growth, 4*(2), 213–232.

Lawton Smith, H. (2003). Knowledge organizations and local economic development: The cases of Oxford and Grenoble. *Regional Studies, 37*(9), 899–909.

McClelland, D. C. (1961). *The achieving society*. Princeton, NJ: Van Nostrand.

Méndez-Picazo, M.-T., Galindo Martín, M. Á., & Ribeiro-Soriano, D. (2012). Governance, entrepreneurship and economic growth. *Entrepreneurship and Regional Development, 24*(9–10), 865–867.

Minniti, M., & Lévesque, M. (2010). Entrepreneurial types and economic growth. *Journal of Business Venturing, 25*(3), 305–314.

Nissan, E., Martín, M. Á. G., & Picazo, M. T. M. (2011). Relationship between organizations, institutions, entrepreneurship and economic growth process. *International Entrepreneurship and Management Journal, 7*(3), 311–324.

North, D. C. (1990). *Institutions, institutional change and economic performance*. Cambridge, MA: Cambridge University Press.

North, D. C. (2005). *Understanding the process of economic change*. Princeton, NJ: Princeton University Press.

Porter, M. E., Stern, S., & Green, M. (2014). *Social progress index 2014*. Washington, D.C.: Social Progress Imperative.

Reynolds, P., Bosma, N., Autio, E., Hunt, S., De Bono, N., Servais, I., et al. (2005). Global entrepreneurship monitor: Data collection design and implementation 1998–2003. *Small Business Economics, 24*(3), 205–231.

Rocha, H. O. (2004). Entrepreneurship and development: The role of clusters. *Small Business Economics, 23*(5), 363–400.

Rodrik, D. (2003). Introduction: What do we learn from country narratives? In D. Rodrik (Ed.), *In search of prosperity: Analytic narratives on economic growth* (pp. 1–19). Princeton, NJ: Princeton University Press.

Romer, P. M. (1986). Increasing returns and long-run growth. *Journal of Political Economy, 94*(5), 1002–1037.

Salimath, M. S., & Cullen, J. B. (2010). Formal and informal institutional effects on entrepreneurship: A synthesis of nation-level research. *International Journal of Organizational Analysis, 18*(3), 358–385.

Schumpeter, J. A. (1911). *The theory of economic development: An inquiry into profits, capital, credit, interest, and the business cycle*. London: Transaction Books.

Scott, W. R. (2008). *Institutions and organizations: Ideas and interests* (Foundations for Organizational Science Series) (3rd ed.). London: Sage Publications.

Shane, S. (2009). Why encouraging more people to become entrepreneurs is bad public policy. *Small Business Economics, 33*(2), 141–149.

Shane, S., & Venkataraman, S. (2000). The promise of entrepreneurship as a field of research. *Academy of Management Review, 25*(1), 217–226.

Simmie, J. (2003). Innovation and urban regions as national and international nodes for the transfer and sharing of knowledge. *Regional Studies, 37*(6–7), 607–620.

Solow, R. M. (1956). A contribution to the theory of economic growth. *The Quarterly Journal of Economics, 70*(1), 65–94.

Stephan, U., & Uhlaner, L. M. (2010). Performance-based vs socially supportive culture: A cross-national study of descriptive norms and entrepreneurship. *Journal of International Business Studies, 41*(8), 1347–1364.

Swan, T. W. (1956). Economic growth and capital accumulation. *The Economic Record, 32*(2), 334–361.

Terjesen, S., & Amorós, J. E. (2010). Female entrepreneurship in Latin America and the Caribbean: Characteristics, drivers and relationship to economic development. *European Journal of Development Research, 22*(3), 313–330.

Terjesen, S., Hessels, J., & Li, D. (2016). Comparative international entrepreneurship: A review and research agenda. *Journal of Management, 42*(1), 299–344.

Thornton, P. H., Ribeiro-Soriano, D., & Urbano, D. (2011). Socio-cultural factors and entrepreneurial activity: An overview. *International Small Business Journal, 29*(2), 105–118.

Uhlaner, L., & Thurik, R. (2007). Postmaterialism influencing total entrepreneurial activity across nations. *Journal of Evolutionary Economics, 17*(2), 161–185.

Urbano, D., & Alvarez, C. (2014). Institutional dimensions and entrepreneurial activity: An international study. *Small Business Economics, 42*(4), 703–716.

Urbano, D., Aparicio, S., & Audretsch, D. (2018). Twenty-five years of research on institutions, entrepreneurship, and economic growth: What has been learned? *Small Business Economics, 7*, 84–91. https://doi.org/10.1007/s11187-018-0038-0

Valliere, D., & Peterson, R. (2009). Entrepreneurship and economic growth: Evidence from emerging and developed countries. *Entrepreneurship and Regional Development, 21*(5), 459–480.

van Praag, C. M., & Versloot, P. H. (2007). What is the value of entrepreneurship? A review of recent research. *Small Business Economics, 29*(4), 351–382.

van Stel, A., Carree, M., & Thurik, R. (2005). The effect of entrepreneurial activity on national economic growth. *Small Business Economics, 24*(3), 311–321.

van Stel, A., & Storey, D. (2004). The link between firm births and job creation: Is there a Upas tree effect? *Regional Studies, 38*(8), 893–909.

van Stel, A., Storey, D. J., & Thurik, A. R. (2007). The effect of business regulations on nascent and young business entrepreneurship. *Small Business Economics, 28*(2–3), 171–186.

Veciana, J. M., & Urbano, D. (2008). The institutional approach to entrepreneurship research. Introduction. *International Entrepreneurship and Management Journal, 4*(4), 365–379.

Welter, F. (2005). Entrepreneurial behavior in differing environments. In D. Audretsch, H. Grimm, & C. W. Wessner (Eds.), *Local heroes in the global village* (pp. 93–112). New York: Springer US.

Welter, F., Baker, T., Audretsch, D. B., & Gartner, W. B. (2017). Everyday entrepreneurship – a call for entrepreneurship research to embrace entrepreneurial diversity. *Entrepreneurship Theory and Practice, 41*(3), 311–321.

Wennekers, S., van Stel, A., Thurik, R., & Reynolds, P. (2005). Nascent entrepreneurship and the level of economic development. *Small Business Economics, 24*(3), 293–309.

Williamson, O. E. (2000). The new institutional economics: Taking stock, looking ahead. *Journal of Economic Literature, 38*(3), 595–613.

Wong, P. K., Ho, Y. P., & Autio, E. (2005). Entrepreneurship, innovation and economic growth: Evidence from GEM data. *Small Business Economics, 24*(3), 335–350.

Chapter 2
Institutional Antecedents of Entrepreneurship and Its Consequences on Economic Growth: A Systematic Literature Analysis

2.1 Introduction

The analysis of entrepreneurship has drawn the attention of the students, researcher and policy makers, who have observed the phenomenon from totally different social sciences (Blackburn & Kovalainen, 2009; Fried, 2003; Landström, Harirchi, & Åström, 2012; Teixeira, 2011) in terms of cross-national variation in entrepreneurial activity, the explanations behind its development, and its potential affects on economic growth and development (Baumol & Strom, 2007; Carlsson, Acs, Audretsch, & Braunerhjelm, 2009; Terjesen, Hessels, & Li, 2016). On the one hand, it is suggested that part of the explanations is grounded on the country-specific institutional contexts during, in which entrepreneurs make decisions (Aidis, Estrin, & Mickiewicz, 2008; Busenitz, Gómez, & Spencer, 2000; Dana, 1987; Mueller & Thomas, 2001; Reynolds, Camp, Bygrave, Autio, & Hay, 2001; Reynolds, Hay, Bygrave, Camp, & Autio, 2000; Reynolds, Hay, & Camp, 1999 and Urbano & Alvarez, 2014; among others). On the other hand, Wennekers and Thurik (1999) and van Praag and Versloot (2007) have thoroughly analyzed extant literature on how entrepreneurship affects the economic process.

Even though previous works targeted independently on the institutional factors as antecedents of entrepreneurship, and on its potential effects on growth and development, there is a restricted comprehension about the role institutions have in economic process through the influencing of entrepreneurship. For example, Bjørnskov and Foss (2016), Wennekers and Thurik (1999) and van Praag and Versloot (2007) agree that the institutional context has to be specific so as to grasp

---

Another version of this chapter has been published in Urbano, D., Aparicio, S., & Audretsch, D. (2018). Twenty-five years of research on institutions, entrepreneurship, and economic growth: What has been learned? *Small Business Economics*. In Press, https://doi.org/10.1007/s11187-018-0038-0.

D. Urbano et al., *Institutions, Entrepreneurship, and Economic Performance*,
International Studies in Entrepreneurship 41,
https://doi.org/10.1007/978-3-030-13373-3_2

why the result of entrepreneurship on growth differs across regions and countries. Aidis et al. (2008), Bradley and Klein (2016), Bruton, Ahlstrom, and Li (2010), and Thornton, Ribeiro-Soriano, and Urbano (2011), among others, have suggested that institutions are particularly useful in understanding how entrepreneurship is formed and the way it enhances the economy. Though there are a significant number of works exploring how entrepreneurial activity is affected by institutions, Naudé (2011) claims that the understanding of the entire causal chain from institutions to socioeconomic process remains unknown. Audretsch, Bönte, and Keilbach (2008) agree with this, suggesting the requirement to incorporate entrepreneurship into the classical production function to assess its contribution to the economic process. Though Audretsch et al. (2008) notice that entrepreneurship incorporates a positive impact on growth, they recognize that limitations exist in measuring (and instrumenting) entrepreneurial activity, so that a new research in this regard may emerge to provide a different view on this phenomenon. Indeed, Audretsch et al. (2008) that one possible way to overcome this limitation is through institutions, which are required to explain the endowment of entrepreneurship across regions and countries. According to Acs, Desai, and Klapper (2008), this idea may be useful to comprehending how differences entrepreneurship explain differences in growth across countries. Similarly, Audretsch (2012) asserts that to understand the development of entrepreneurship and economic process together could encourage even more the dynamic in both entrepreneurship and the economic field (at micro and macro levels). In this sense, not only is understanding the interaction of these variables, particularly their possible sequence, useful for the policy detabe, but it is also important for spreading our comprehension of these research fields, in which complementarities can emerge.

Our objective, thereby, in this chapter is to identify past and current research about the institutional context shaping entrepreneurial activity and its effect on economic growth. We are particularly interested in exploring extant research on: (a) the institutional factors influencing entrepreneurship; (b) the effects of entrepreneurship on economic growth; and (c) the complete sequence running from institutions to the relationship between entrepreneurship and economic growth.

Our methodology consisted of selecting articles from those journals listed in the Web of Science (WoS) database. This systematic approach enable us to explore the current literature from 1992 to 2016. Journals with a 5-year impact factor higher than 0.1 according to Journal Citation Reports (JCR) for 2015 were considered. The reason why we rely on this criterion is because of certain limitations may exist when impact factos is solely considered, as self-citations may distor the index (Buela-Casal & Zych, 2012; Leydesdorff, 2012; Merigó & Yang, 2017). The WoS has considered 5-year impact factor to control for such issues. Three types of searches were conducted to identify relevant papers. First, we used keywords related to institutions and entrepreneurship. Second, we searched for those papers tackling the relationship between entrepreneurship and economic growth. Finally, in order to consider the complete sequence, we combined all keywords from institutions to economic growth. In this particular case, 451 articles were found, which are most commonly contained within the second relationship. Different keywords found in the title,

abstract, and text of the articles were employed to identify papers focused on the first relationship: "institutions," "institutional theory," "institutional economics," "institutional approach," "institutional dimensions," "institutional perspective," "institutional pillars," "institutional drivers," and "institutional economic theory" which were combined with "entrepreneurship capital," "entrepreneurial activity," "ownership firms," "self-employment," "business ownership," "entrepreneurship," "new firm creation," "new firm formation," "new business creation," and "new venture creation." This initial search allowed us to obtain 5459 articles. To narrow down our selection, different filters were applied (Merigó, Cancino, Coronado, & Urbano, 2016). First, only articles contained within the Web of Science Core Collection only were considered. Second, we filtered for business economics and related research areas; the documents considered were only articles and reviews, which were written in English only. After this process, we obtained 4071 results to be used for this literature review. Similar to other scholars (cf. Aliaga-Isla & Rialp, 2013; Jones et al., 2011), we exluded those articles that were not electronically available. We then read carefully the abstract and the introduction (in some cases were necessary to look for information in the remaining sections of the paper) to assure those best fitting the purpose of the study. Since we follow the North's (1990) institutional approach, we have excluded those papers explore institutions from the organizational level (cf. DiMaggio & Powell, 1991). After all this, we have ontained 104 articles exploring the first relationship. The same criteria and process were used to collect information for the second relationship, in which the following keywords were used: "entrepreneurship capital," "entrepreneurial activity," "ownership firms," "self-employment," "business ownership," "entrepreneurship," "new firm creation," "new firm formation," "new business creation," and "new venture creation," which were combined with "economic growth," "economic development," "economic performance," "economic outcome," "regional growth," and "regional development." Our initial search allowed us to retrieve 4457 papers. After conducting a similar depuration, 2684 articles were obtained. In this case, after reading the papers in a similar manner as in the first relationship, we identified 81 articles, which dealt with the impact of entrepreneurship on economic growth.[1]

After this brief introduction, the chapter is structured as follows. In Sect. 2.2, we explain the theoretical lenses, which is helpful for understanding what institutional factors influence entrepreneurship by impriving economic growth. In Sect. 2.3, we analyze the results in terms of the two relationships we are exploring (institutions-entrepreneurship and entrepreneurship-economic growth), also discussing the importance of putting together these relationships. Additionally, we identify in the selected papers relevant authors and journals, theoretical frameworks, and techniques utilized. Finally, Sect. 2.4 is devoted for some final remarks and future research lines.

[1] It is important to highlight that we only focus on articles dealing with a country's or region's gross domestic product (GDP—total or per capita) or GDP growth, as well as labor productivity or total factor productivity (TFP) (van Praag & Versloot, 2007).

2.2 Theoretical Framework: Institutional Factors of Entrepreneurship and Economic Growth

It is still open the debate on what factors may affect the economic growth process (Easterly & Easterly, 2001; Helpman, 2004). Even before the pioneering works by Solow (1956) and Swan (1956), there had existed a need for comprehending the complexity behind growth and development, whose initial factors such as physical, human capital, labor force, among others, enable the comprehension of why there is an economic growth and why differences across countries exist. In addition to these classical factors, the decade of 1980s has served to move forward the debate towards other types of determinants that can be assessed into the classical production function (Aghion & Howitt, 1992; Romer, 1986). For example, after the debate of classical factors, research by North (1990, 2005) served as a theoretical advance on the importance of institutions for economic growth. Accordingly, institutions define the intentionality of individuals in each society towards progress. Given this perspective, a new discussion emerged to understand the importance of institutions in the economic growth process (Rodrik, 2003). For example, Rodrik (2003) explains that institutions are indirectly linked with the aggregated production, in which different factors take place to connect institutions to economic growth. In this sense, it is suggested that the institutional context, apart from influencing the traditional factors (i.e. labor, human capital, and physical capital), it also affects the individual decisions that generate economic dynamics. Authors such as Rodrik (2003) and Hausmann and Rodrik (2003) suggest that additional productive factors such as entrepreneurship and industrial development are highly influenced by the institutional environment, therefore explaining the differences of economic growth across countries.

Particularly within entrepreneurship research, Wennekers and Thurik (1999) have explore the possible connections between business start-up and economic growth. Since then, entrepreneurial activity has been considered as an important element to generate economic growth (Acs, Audretsch, Braunerhjelm, & Carlsson, 2012; Audretsch & Keilbach, 2004a; Audretsch & Keilbach, 2008). Audretsch and Keilbach (2004b) concretely assessed whether effectively entrepreneurship as a capital factor affects economic growth. Given their results, a series of evidence was provided to demonstrate that the relationship does exist (Audretsch et al., 2008; Audretsch & Keilbach, 2004a, 2004b, 2005, 2007). Nonetheless, in all of this evidence, they noticed a possible limitation, in which entrepreneurship capital only assumes the institutional context, but no test was performed to empirically explore the influence of institution on this relationship. In this regard, Audretsch et al. (2008) suggest for future research to include new measures of entrepreneurship capital that at the same time allow for the understanding of how different institutions help to draw entrepreneurship that affects economic growth positively. Hence, the institutional approach[2] provides a broad perspective into comprehending how

[2] In this chapter, we use indistinctively institutional approach, institutional perspective, institutional theory, institutional economics and institutional economic theory.

institutions affect entrepreneurial activity, as well as which institutions are more conducive for entrepreneurship that enhances economic growth (Veciana & Urbano, 2008). From a general point of view, this theoretical framework argues that both the legal and socio-cultural environment explain the individual's decision to create a new venture (Aldrich & Zimmer, 1986; Berger, 1991; Busenitz et al., 2000; Manolova, Eunni, & Gyoshev, 2008; Shapero & Sokol, 1982; Stephen, Urbano, & Hemmen, 2009; Steyaert & Hjorth, 2006; van Stel, Storey, & Thurik, 2007; among others).

Thus, this chapter uses institutional economics (1990, 2005), as foundations to comprehend the institutional context that affects entrepreneurship (Aidis et al., 2008; Aidis, Estrin, & Mickiewicz, 2012; Bruno, Bytchkova, & Estrin, 2013; Bruton et al., 2010; Busenitz et al., 2000; Thornton et al., 2011; Welter & Smallbone, 2011; among others). By looking through these lenses, institutions are the driving conditions for entrepreneurial activity, distinguishing between formal factors (e.g., procedures and costs to create a business, support mechanisms for new firm creation, etc.) and informal factors (e.g., entrepreneurial culture, attitudes towards entrepreneurship, etc.). On the one hand, North (1990) suggests that former institutions (i.e. property rights, contracts, procedures, political structure, etc.) are related to the reduction of transaction costs, which improve market performance, and the interaction between suppliers and customers. Thus, formal institutions serve to remove market imperfections, assymetries and rigid administrative regulations (Djankov, La Porta, Lopez-De-Salines, & Shleifer, 2002). It is worth noticing that formal institutions tend to change in the short term, as it facilitates (or hinders) individuals making productive decisions, among other things. On the other hand, latter institutions may be defined as belief systems (role models, independence and trust, among others), social norms/culture (community-wide normatives, embeddedness, a socially supportive culture, among others) and cognitive aspects (skills, risk taking and leadership, among others) (North, 2005). These institutions tend to stay for long time, and they exist to reduce uncertainty stemmed from individual and group decisions. In this regard, some productive decisions could be associated, among others, with entrepreneurial choices.

As institutions exist to better address economic growth, authors such as Acemoglu, Gallego, and Robinson (2014), Baumol (1990), and Rodrik (2003) conclude that institutions could be determinant for economic growth in an indirect way rather than through a direct effect. Based on this perspective, we understand institutions as antecedents of entrepreneurship, which is related to the proportion of companies (mostly SMEs) in a region or country and their influence on economic growth, and economic activity diversity (Aparicio, Urbano, & Audretsch, 2016; Sobel, 2008).

The next section provides the results according to the content of each article, which are analyzed under the institutional approach. Further details of our sample are presented in Appendices 1 and 2.

2.3 Results of the Literature Review

2.3.1 Entrepreneurship and Its Institutional Determinants

As it was explained before, 104 articles from the empirical (90), theoretical (10), and introduction special issues (4) literature were identified and selected to explore the association between institutions and entrepreneurship (see the details in Appendix 1). All these articles explicitly deal with hypotheses suggesting that institutions exert an effect on entrepreneurship. Some of these articles find compelling empirical evidence supporting those hypotheses. Therefore, our analysis is based on those results that identify journals, years, authors, theoretical frameworks, and methods utilized to link institutions with entrepreneurship. Moreover, according to the theoretical approach mentioned in the previous section, we examine those articles that use both types of institutions independently or together.

With regards to the authors who have published the most articles dealing with these variables, we found that Urbano has 16 articles, followed by Estrin (7), Mickiewicz (6), Guerrero (5), Stephan (5), Audretsch (4), Desai (4), Pathak (4), Stephan (4), Aidis (3), Alvarez (3), Aparicio (3), Chowdhury (3), De Clercq (3), Sobel (3), Toledano (3), and Uhlaner (3). Overall, 172 authors were found, who, apart from those already mentioned, have one or two articles published in this field.

Regarding the outlets where selected articles were published, we found that *Small Business Economics* has published the largest number (18.3%), followed by the *Journal of Business Venturing* (13.5%), *Entrepreneurship Theory and Practice* (8.7%), *International Entrepreneurship and Management Journal* (6.7%), and *International Small Business Journal* and the *Journal of Business Research* (3.9% each). Additionally, the *European Journal of Law and Economics*, the *Journal of Evolutionary Economics*, the *Journal of International Business Studies*, and the *Journal of Small Business Management* have 2.9% for each journal. The remaining journals have published one or two articles, representing 1 (21 journals) or 1.9% (7 journals) of the total works analyzed. It is worth noting that those articles hypothesizing that institutions exert an influence on entrepreneurship were published in the period between 2012 and 2016 (see Table 2.1). Also, it is important to highlight that in the period 2007–2011 the number of articles published reaches 33, followed by 54 in 2012–2016, indicating that this relationship is a vibrant and current research field of study by a growing number of academics and policy makers. Here it is important to underline that the *International Entrepreneurship and Management Journal* devoted a special issue published in December 2008 about the institutional approach to entrepreneurship. Likewise, other journals have paid a lot of attention to this relationship by proposing different special issues. For example, *Entrepreneurship Theory and Practice* published in May 2010 a special issue about institutional theory and entrepreneurship; whereas in April 2011 the *International Small Business Journal* published a special issue on socio-cultural factors and entrepreneurial activity; the *Journal of Business Venturing* dedicated a special issue to institutions, entrepreneurs, and community in January 2013; *Small Business*

Table 2.1 Journals and published articles per year regarding institutions and entrepreneurship

Articles/year	1992–1996	1997–2001	2002–2006	2007–2011	2012–2016	Total	%
Small Business Economics	1	0	0	6	12	19	18.27
Journal of Business Venturing	2	1	0	6	5	14	13.46
Entrepreneurship Theory and Practice	1	0	2	3	3	9	8.65
International Entrepreneurship and Management Journal	0	0	0	3	4	7	6.73
International Small Business Journal	0	0	1	2	1	4	3.85
Journal of Business Research	0	0	1	0	3	4	3.85
European Journal of Law and Economics	0	0	0	0	3	3	2.88
Journal of Evolutionary Economics	0	0	0	1	2	3	2.88
Journal of International Business Studies	0	0	0	2	1	3	2.88
Journal of Small Business Management	1	0	0	0	2	3	2.88
Academy of Management Perspectives	0	0	0	0	2	2	1.92
Entrepreneurship and Regional Development	0	0	0	1	1	2	1.92
International Business Review	0	0	0	1	1	2	1.92
Journal of Economic Behavior and Organization	0	0	0	1	1	2	1.92
Journal of Technology Transfer	0	0	0	0	2	2	1.92
Research Policy	0	1	0	0	1	2	1.92
Technological Forecasting and Social Change	0	0	0	0	2	2	1.92
Academy of Management Journal	0	1	0	0	0	1	0.96
Academy of Management Review	1	0	0	0	0	1	0.96
American Behavioral Scientist	0	1	0	0	0	1	0.96
American Economic Review	0	0	0	1	0	1	0.96
Asia Pacific Journal of Management	0	0	0	0	1	1	0.96
Canadian Journal of Administrative Science	0	0	0	1	0	1	0.96
Cybernetics and Systems	0	0	0	0	1	1	0.96
Economic Modelling	0	0	1	0	0	1	0.96
European Journal of International Management	0	0	0	1	0	1	0.96
Feminist Economics	0	0	0	1	0	1	0.96

(continued)

Table 2.1 (continued)

Articles/year	1992–1996	1997–2001	2002–2006	2007–2011	2012–2016	Total	%
Journal of Comparative Economics	0	0	0	0	1	1	0.96
Journal of Financial Economics	0	0	1	0	0	1	0.96
Journal of International Management	0	0	0	0	1	1	0.96
Journal of Public Economics	0	0	0	1	0	1	0.96
Management Science	0	1	0	0	0	1	0.96
Organization Science	0	0	0	0	1	1	0.96
Public Choice	0	0	0	1	0	1	0.96
Regional Studies	0	0	0	0	1	1	0.96
Review of Development Economics	0	0	0	0	1	1	0.96
Review of Economics and Statistics	0	0	0	0	1	1	0.96
Service Industries Journal	0	0	0	1	0	1	0.96
Total	6	5	6	33	54	104	100

Economics published a special issue about institutions and entrepreneurship in March 2014, and other articles regarding this relationship in April 2014. The *European Journal of Law and Economics* was focused on Regulation, firm dynamics and entrepreneurship in August 2015; and the *Academy of Management Perspectives* dedicated a symposium in August 2016 of institutions, economic freedom and entrepreneurship.

Regarding the theoretical framework utilized by selected papers, we found different approaches (see Table 2.2). As we are interested in institutions from the North's (1990) perspective, the main framework found in our literature review is the institutional approach (70.2%). This approach follows North's (1990, 2005) ideas in which formal and informal institutions and their effects on entrepreneurship are considered. However, we also found that other papers using the institutional approach refer to this theoretical perspective through different labels. The difference may exist because of the way of operationalizing each institutional variable (see Table 2.3). For instance, formal institutions are approached through policies, regulations, governmental variables, among others (Aidis et al., 2012; Baughn, Chua, & Neupert, 2006; Bruton, Ahlstrom, & Puky, 2009; Busenitz et al., 2000; Chowdhury, Desai, Audretsch, & Belitski, 2015; Chowdhury, Terjesen, & Audretsch, 2015; Estrin, Korosteleva, & Mickiewicz, 2013a; among others);while informal institutions could be measured as attitudes, values, social norms, religion, among others (Aidis et al., 2008; Estrin & Mickiewicz, 2012; Field, Jayachandran, & Pande, 2010; Levie & Autio, 2008; Meek, Pacheco, & York, 2010; Stephan, Uhlaner, & Stride, 2015; van Hemmen, Alvarez, Peris-Ortiz, & Urbano, 2015; among others). In the same vain of formal institutional (see Table 2.2), other approached such as contract theory (6.1%) offer a framework to comprehend how norms and regula-

Table 2.2 Theoretical framework used in articles

Theory	Articles		Author and year of publication
	No.	%	
Institutional approach	80	70.18	Aidis et al. (2008), Aidis et al. (2012), Aidis, Welter, Smallbone, and Isakova (2007), Aldrich and Fiol (1994), Álvarez, Urbano, and Amorós (2014), Aparicio, Urbano, and Audretsch (2016), Audretsch, Bönte, and Tamvada (2013), Autio and Fu (2015), Baughn et al. (2006), Bauke, Semrau, and Han (2016), Belitski, Chowdhury, and Desai (2016), Ben Letaifa and Goglio-Primard (2016), Bjørnskov and Foss (2016), Bradley and Klein (2016), Braunerhjelm, Desai, and Eklund (2015), Bruton et al. (2009), Bruton et al. (2010), Busenitz et al. (2000), Carbonara, Santarelli, and Tran (2016), Chowdhury, Desai, et al. (2015), Chowdhury, Terjesen, and Audretsch (2015), Davidsson, Hunter, and Klofsten (2006), Davis and Williamson (2016), De Clercq et al. (2010), de Lange (2016), Dutta and Sobel (2016), Eesley (2016), Estrin, Korosteleva, and Mickiewicz (2013a), Estrin and Mickiewicz (2011), Estrin and Mickiewicz (2012), Field et al. (2010), Fligstein (1997), García-Posada and Mora-Sanguinetti (2015), Gnyawali and Fogel (1994), Goltz, Buche, and Pathak (2015), Guerrero and Urbano (2012), Guerrero et al. (2014), Hayton, George, and Zahra (2002), Hechavarría (2016), Hechavarria and Reynolds (2009), Hoogendoorn, Rietveld, and van Stel (2016), Hopp and Stephan (2012), Huggins and Thompson (2016), Kibler and Kautonen (2016), Kim and Kang (2014), Kirby, Guerrero, and Urbano (2011), Krasniqi and Desai (2016), Krasniqi and Mustafa (2016), Kuckertz, Berger, and Mpeqa (2016), Lerner, Brush, and Hisrich (1997), Levie and Autio (2008), Lim, Oh, and De Clercq (2016), Liñán et al. (2011), Mair and Marti (2009), Manolova et al. (2008), Meek et al. (2010), Troilo (2011), Nyström (2008), Pathak and Muralidharan (2016), Pathak, Xavier-Oliveira, and Laplume (2013), Peng, Yamakawa, and Lee (2010), Shane and Foo (1999), Spencer and Gómez (2004), Stephan and Uhlaner (2010), Stephan and Pathak (2016), Stephan et al. (2015), Stenholm, Acs, and Wuebker (2013), Toledano and Urbano (2008), Thornton et al. (2011), Uhlaner and Thurik (2007), Urbano and Alvarez (2014), Urbano, Toledano, and Ribeiro (2010), Urbano, Toledano, and Ribeiro-Soriano (2011), Urbano, Aparicio, Guerrero, Noguera, and Torrent-Sellens (2016), Urbano, Aparicio, and Querol (2016), Valdez and Richardson (2013), van Hemmen et al. (2015), Veciana and Urbano (2008), Welter and Smallbone (2008), and Yeganegi, Laplume, Dass, and Huynh (2016)
Contract theory	7	6.14	Anokhin and Schulze (2009), Bruno et al. (2013), Calcagno and Sobel (2014), Klapper et al. (2006), Román et al. (2011), Stephen et al. (2009), and van Stel et al. (2007)
Occupational choice	6	5.26	Bauernschuster, Falck, and Heblich (2010), Gohmann (2012), Kanniainen and Vesala (2005), Lechner and Pfeiffer (1993), Malchow-Møller et al. (2010), and Maimone Ansaldo Patti, Mudambi, Navarra, and Baglieri (2016)

(continued)

Table 2.2 (continued)

Theory	Articles		Author and year of publication
	No.	%	
Others	21	18.42	Chowdhury, Terjesen, and Audretsch (2015), Collins, McMullen, and Reutzel (2016), Estrin, Mickiewicz, and Stephan (2013b), Da Rin, Di Giacomo, and Sembenelli (2011), Bauke et al. (2016), De Clercq and Dakhli (2009), De Clercq et al. (2010), Freire-Gibb and Nielsen (2014), Guerrero and Urbano (2012), Guerrero et al. (2014), Hafer and Jones (2015), Krasniqi and Mustafa (2016), Liñán et al. (2011), McGrath, MacMillan, and Scheinberg (1992), Sobel (2008), Storey and Tether (1998), Uhlaner and Thurik (2007), Van de Ven (1993), Watson and Everett (1996), Yeganegi et al. (2016), and Zhang (2015)
Total	114	100	

Some articles use various theoretical frameworks, while others do not use any one explicitly.

tionsare created and what the possible effects are on entrepreneurial activity. In this sense, Anokhin and Schulze (2009), Bruno et al. (2013), Calcagno and Sobel (2014), Klapper, Laeven, and Rajan (2006), Román, Congregado, and Millán (2011), Stephen et al. (2009), and van Stel et al. (2007) have employed this approach to comprehend how entrepreneurial activity can be configured during the initial stage and its subsequent growth. Concerning those antecedents more related with individual characteristics, occupational choice (5.3%) has been used to conduct microeconomic analysis of the decision to become an entrepreneur (Gohmann, 2012; Kanniainen & Vesala, 2005; Malchow-Møller, Markusen, & Skaksen, 2010). Finally, additional theories were also found, which include social capital theory (De Clercq, Danis, & Dakhli, 2010; Estrin, Mickiewicz, & Stephan, 2013b; Hafer & Jones, 2015; Liñán, Urbano, & Guerrero, 2011), resource-based view (Guerrero & Urbano, 2012; Guerrero, Urbano, Cunningham, & Organ, 2014), geographical economics (Freire-Gibb & Nielsen, 2014), a dissatisfaction perspective (Uhlaner & Thurik, 2007), Baumol's theory of productive and unproductive entrepreneurship (Sobel, 2008), among others. All of these together, which we classified as "others," represent 18.4% of the total articles in Table 2.2.

The use of these theories defines the strategy to explain why it is important to use a set of variables from institutions (or institutional environment) that affect entrepreneurial activity. In this sense, some scholars have tried to examine different institutional variables in the field of entrepreneurship. As North's (1990) theory suggests, factors such as contracts, procedures, political structure, and property rights are most commonly focused on reducing transaction costs based on regulations. In this regard, we found articles dealing with regulatory issues (Busenitz et al., 2000; Calcagno & Sobel, 2014; De Clercq et al., 2010; Manolova et al., 2008; Meek et al., 2010; Spencer & Gómez, 2004; Stenholm et al., 2013; Valdez & Richardson, 2013). In a similar line, we found articles looking at procedures that regulate the access to stock markets (Bruton et al., 2009), the financial system (Autio & Fu, 2015; Klapper et al., 2006; Peng et al., 2010), hiring and firing rules and controls (Goltz et al., 2015; Román et al., 2011; van Stel et al., 2007), political structure (specifically corruption)

Table 2.3 Operationalization of formal and informal institutions in analyzed articles

Institution	Type	Articles		Author and year of publication
		No.	%	
Formal	Political structure	34	19.43	Aidis et al. (2012), Aldrich and Fiol (1994), Autio and Fu (2015), Aparicio, Urbano, and Audretsch (2016), Bauke et al. (2016), Belitski et al. (2016), Bruno et al. (2013), Bruton et al. (2009), Chowdhury, Desai, et al. (2015), Chowdhury, Terjesen, and Audretsch (2015), Carbonara et al. (2016), Collins et al. (2016), Davis and Williamson (2016), De Clercq and Dakhli (2009), Dutta and Sobel (2016), Estrin and Mickiewicz (2011), Estrin, Korosteleva, and Mickiewicz (2013a), Estrin, Mickiewicz, and Stephan (2013b), Gohmann (2012), Goltz et al. (2015), Guerrero and Urbano (2012), Guerrero et al. (2014), Huggins and Thompson (2016), Kirby et al. (2011), Krasniqi and Mustafa (2016), Kuckertz et al. (2016), Malchow-Møller et al. (2010), Nyström (2008), Maimone Ansaldo Patti et al. (2016), Román et al. (2011), Stephan et al. (2015), Storey and Tether (1998), Urbano et al. (2010), Urbano, Aparicio, Guerrero, et al. (2016)
	Procedures - regulations	27	15.43	Aidis et al. (2012), Aparicio, Urbano, and Audretsch (2016), Autio and Fu (2015), Belitski et al. (2016), Bruton et al. (2009), Chowdhury, Terjesen, and Audretsch (2015), Chowdhury, Desai, et al. (2015), Eesley (2016), García-Posada and Mora-Sanguinetti (2015), Kirby et al. (2011), Klapper et al. (2006), Krasniqi and Desai (2016), Krasniqi and Mustafa (2016), Lechner and Pfeiffer (1993), Lim et al. (2016), Mair and Marti (2009), Malchow-Møller et al. (2010), Nyström (2008), Pathak et al. (2013), Peng et al. (2010), Román et al. (2011), Sobel (2008), Stephen et al. (2009), Toledano and Urbano (2008), Urbano and Alvarez (2014), van Stel et al. (2007), and Watson and Everett (1996)
	Contracts	24	13.71	Aidis et al. (2007), Baughn et al. (2006), Busenitz et al. (2000), Calcagno and Sobel (2014), Carbonara et al. (2016), Chowdhury, Terjesen, and Audretsch (2015), Davis and Williamson (2016), Da Rin et al. (2011), Davidsson et al. (2006), De Clercq and Dakhli (2009), De Clercq et al. (2010), Estrin and Mickiewicz (2011), Estrin & Mickiewicz (2012), Kanniainen and Vesala (2005), Malchow-Møller et al. (2010), Manolova et al. (2008), Román et al. (2011), Shane and Foo (1999), Spencer and Gómez (2004), Stenholm et al. (2013), Stephen et al. (2009), Valdez and Richardson (2013), van Stel et al. (2007), and Watson and Everett (1996)
	Property rights	8	4.57	Carbonara et al. (2016), Chowdhury, Desai, et al. (2015), Estrin, Korosteleva, and Mickiewicz (2013a), Estrin, Mickiewicz, and Stephan (2013b), Klapper et al. (2006), Nyström (2008), Pathak et al. (2013), and Yeganegi et al. (2016)

Institution	Type	Articles		Author and year of publication
		No.	%	
Informal	Social norms - culture	34	19.43	Aidis et al. (2012), Anokhin and Schulze (2009), Baughn et al. (2006), Bruton et al. (2009), Busenitz et al. (2000), Davis and Williamson (2016), De Clercq et al. (2010), Hayton et al. (2002), Hechavarría (2016), Hechavarria and Reynolds (2009), Hopp and Stephan (2012), Kibler and Kautonen (2016), Kim and Kang (2014), Kirby et al. (2011), Krasniqi and Desai (2016), Lerner et al. (1997), Lim et al. (2016), Liñán et al. (2011), Mair and Marti (2009), Manolova et al. (2008), McGrath, MacMillan, and Scheinberg (1992), Meek et al. (2010), Pathak and Muralidharan (2016), Spencer and Gómez (2004), Stenholm et al. (2013), Stephan and Uhlaner (2010), Stephan and Pathak (2016), Toledano and Urbano (2008), Uhlaner and Thurik (2007), Urbano et al. (2011), Urbano, Aparicio, Guerrero, et al. (2016), Urbano, Aparicio, and Querol (2016), Valdez and Richardson (2013), and Welter and Smallbone (2008)
	Cognitive dimension[a]	26	14.86	Aldrich and Fiol (1994), Aparicio, Urbano, and Audretsch (2016), Busenitz et al. (2000), Chowdhury, Desai, et al. (2015), Davidsson et al. (2006), De Clercq et al. (2010), Estrin and Mickiewicz (2012), Fligstein (1997), Guerrero and Urbano (2012), Guerrero et al. (2014), Hafer and Jones (2015), Kim and Kang (2014), Kirby et al. (2011), Lerner et al. (1997), Levie and Autio (2008), Lim et al. (2016), Liñán et al. (2011), Mair and Marti (2009), Manolova et al. (2008), Spencer and Gómez (2004), Stenholm et al. (2013), Stephan and Pathak (2016), Urbano and Alvarez (2014), Urbano et al. (2011), Urbano, Aparicio, and Querol (2016), and Valdez and Richardson (2013)
	Beliefs systems	21	12.00	Aidis et al. (2007), Aidis et al., 2008, Audretsch et al. (2013), Ben Letaifa and Goglio-Primard (2016), De Clercq and Dakhli (2009), Estrin, Mickiewicz, and Stephan (2013b), Estrin and Mickiewicz (2012), Field et al. (2010), Freire-Gibb and Nielsen (2014), Hoogendoorn et al. (2016), Kim and Kang (2014), Kanniainen and Vesala (2005), Lerner et al. (1997), McGrath, MacMillan, and Scheinberg (1992), Stephan et al. (2015), Stenholm et al. (2013), Urbano and Alvarez (2014), Urbano et al. (2011), Urbano, Aparicio, and Querol (2016), van Hemmen et al. (2015), and Zhang (2015)
Others		1	0.57	Davidsson et al. (2006)
Total		**175**	**100**	

Some articles use both formal and informal institutions, while others use either formal or informal to explain entrepreneurial activity.

[a]It is worth noting that although we classify cognitive dimension as informal institution, Scott (2008, 2014) suggest that cultural-cognitive dimension or pillar relates the external world of stimuli and the response of the individual. Here, we believe that cognitive elements are directly sensitive to the primary socialization process, and therefore, those variables associated with this dimension are classified as informal institutions.

(Chowdhury, Desai, et al., 2015; Chowdhury, Terjesen, & Audretsch, 2015; Estrin, Korosteleva, & Mickiewicz, 2013a), democracy (Bruno et al., 2013), and government size and capability (Autio & Fu, 2015; De Clercq & Dakhli, 2009; Estrin, Korosteleva, & Mickiewicz, 2013). Finally, we found that formal institutions such as property rights are less explored in the literature (Chowdhury, Desai, et al., 2015). In essence, Estrin, Korosteleva, and Mickiewicz (2013a), Estrin, Stephan, and Mickiewicz (2013b), Estrin and Mickiewicz (2011), Klapper et al. (2006), Nyström (2008), and Pathak et al. (2013) have made important endeavors to explain how this type of institution encourages entrepreneurial activity given the idea of warranties to protect goods and services based on knowledge.

Regarding informal institutions, it was followed North's (2005) emphasis on the importance that belief systems, social norms and culture, and cognitive dimensions bring to individual and groups when making decisions. In terms of belief systems, the proxy most used in our sample is role models, which capture the perception of the respondent on whether he or she knows another entrepreneur through the socialization process. In this regard, it has been proven that role models affect the decision to become entrepreneurs (Aidis et al., 2008; Estrin et al., 2013; Estrin & Mickiewicz, 2012; Urbano et al., 2011; Urbano & Alvarez, 2014); who are also affected welfare and society (Field et al., 2010; Kanniainen & Vesala, 2005; Urbano et al., 2011). Considering social norms and culture, poxies such as control of corruption (Anokhin & Schulze, 2009; Aparicio, Urbano, & Audretsch, 2016) and community-wide normatives (Bruton et al., 2009; Sobel, 2008), among others, were found. Instead, cognitive dimensions such as confidence, motivation, and opportunity perception are utilized by Estrin and Mickiewicz (2012), Hafer and Jones (2015), and Levie and Autio (2008). Thornton et al. (2011) suggest that variables under informal institutions, although they are less dynamic, could have higher effects on entrepreneurship, at least more than contracts, procedures, political structure, and property rights, which are related to formal institutions.

According to Blackburn and Kovalainen (2009) and Blackburn and Smallbone (2008), among others, the empirical evidence about entrepreneurship has grown tremendously in the past decade. This means that different scholars are utilizing different qualitative and quantitative methods to explore antecendents and consequences of entrepreneurship. In this sense, all the previous institutions were tested by a bunch of scholars in models where the dependent variable is entrepreneurship (see Table 2.4 and Appendix 1). Linear regression is the method most used by the authors (19.4%). Additionally, we found that authors are also estimating models with panel data (16.3%), binomial and multinomial techniques (logit and probit) (14.3%), single/multiple case studies and multilevel estimation (8.2%), structural equation models (6.1%), and descriptive statistics and hierarchical linear models (5.1%). We foud only two articles employing instrumental variables (2.0%) to overcome the endogeneity may exist between institutions and entrepreneurship. The rest of the methods presented in Table 2.4 are classified as "others" (15.3%).

Table 2.4 Techniques used in analyzed articles

Methods	Articles		Author and year of publication
	No.	%	
Linear regression	19	19.39	Bauke et al. (2016), Collins et al. (2016), Davidsson et al. (2006), Davis and Williamson (2016), De Clercq and Dakhli (2009), Hafer and Jones (2015), Hechavarría (2016), Hoogendoorn et al. (2016), Huggins and Thompson (2016), Kanniainen and Vesala (2005), Klapper et al. (2006), Lerner et al. (1997), Sobel (2008), Stephan and Uhlaner (2010), Stephen et al. (2009), Uhlaner and Thurik (2007), Urbano, Aparicio, Guerrero, et al. (2016), Valdez and Richardson (2013), and van Hemmen et al. (2015)
Panel data	16	16.33	Aidis et al. (2012), Anokhin and Schulze (2009), Aparicio, Urbano, and Audretsch (2016), Autio and Fu (2015), Belitski et al. (2016), Calcagno and Sobel (2014), Carbonara et al. (2016), Chowdhury, Terjesen, and Audretsch (2015), Chowdhury, Desai, et al. (2015), Da Rin et al. (2011), Dutta and Sobel (2016), García-Posada and Mora-Sanguinetti (2015), Krasniqi and Desai (2016), Levie and Autio (2008), Meek et al. (2010), and Nyström (2008)
Logit, Probit, multinomial, ordered	14	14.29	Aidis et al. (2008), Audretsch et al. (2013), Eesley (2016), Estrin and Mickiewicz (2012), Freire-Gibb and Nielsen (2014), Gohmann (2012), Hopp and Stephan (2012), Krasniqi and Mustafa (2016), Lechner and Pfeiffer (1993), Maimone Ansaldo Patti et al. (2016), Román et al. (2011), Urbano and Alvarez (2014), Urbano, Aparicio, and Querol (2016), and Zhang (2015)
Single/multiple-case studie(s)	8	8.16	Ben Letaifa and Goglio-Primard (2016), Fligstein (1997), Guerrero et al. (2014), Mair and Marti (2009), Toledano and Urbano (2008), Urbano et al. (2010, 2011), and Welter and Smallbone (2008)
Multilevel estimation	8	8.16	Estrin, Korosteleva, and Mickiewicz (2013), Estrin, Mickiewicz, and Stephan (2013), Estrin and Mickiewicz (2011), Kibler and Kautonen (2016), Lim et al. (2016), Pathak and Muralidharan (2016), Stephan and Pathak (2016), and Stephan et al. (2015)
Structural equation model	6	6.12	Guerrero and Urbano (2012), Kirby et al. (2011), Liñán et al. (2011), Manolova et al. (2008), Spencer and Gómez (2004), and Stenholm et al. (2013)
Descriptive statistics	5	5.10	Aidis et al. (2007), Peng et al. (2010), Storey and Tether (1998), Watson and Everett (1996), and Welter and Smallbone (2008)
Hierarchical (non) linear model	5	5.10	Baughn et al. (2006), Goltz et al. (2015), Hechavarria and Reynolds (2009), Pathak et al. (2013), and Yeganegi et al. (2016)
Instrumental variables	2	2.04	Field et al. (2010) and Hopp and Stephan (2012)

(continued)

Table 2.4 (continued)

Methods	Articles		Author and year of publication
	No.	%	
Others	15	15.31	Álvarez et al. (2014), Anokhin and Schulze (2009), Bjørnskov and Foss (2016), Bruno et al. (2013), Bruton et al. (2009), Bruton et al., 2010, Busenitz et al. (2000), De Clercq et al. (2010), Hayton et al. (2002), Kim and Kang (2014), Kuckertz et al. (2016), Malchow-Møller et al. (2010), McGrath, MacMillan, and Scheinberg (1992), Shane and Foo (1999), and van Stel et al. (2007)
Total	98	100.00	

Some articles use various methodologies, while others (not included) are merely theoretical.

2.3.2 Linking Entrepreneurship with Economic Growth

Regarding the second relationship, the number of articles identified was 81, divided by (a) empirical (57), (b) theoretical (16), and (c) introduction to special issues (8). As also mentioned, we considered only those articles dealing with a country's or region's GDP (total or per capita), GDP growth, labor productivity, or total-factor productivity (TFP) (van Praag & Versloot, 2007). In this sense, the main hypothesis we identified suggests that entrepreneurship affects positively on economic growth, which is supported by the different empirical studies. We therefore identify salient journals, periods of time, authors, theoretical frameworks, and methods that were focused on the association between entrepreneurship and economic growth. Table 2.5 shows a classification of those empirical and theoretical papers, as well as those introductions to special issues or editorials.

Based on Table 2.5, we find that the link between entrepreneurship and economic growth has been thoroughly analyzed (39 articles), while the relationship between entrepreneurship and sectorial growth reports only three articles. Concerning other approaches, we found that regional economic growth (16) or development (12) has been considered as a dependent variable in few studies that considered entrepreneurship as an explanatory variable. Additionally, six articles were focused on the relationship between entrepreneurship capital and regional economic growth, and five articles are about entrepreneurship capital and national economic growth.

The most salient authors exploring this relationship are Audretsch (16), Acs (7), Keilbach (7), and Urbano (6). Other authors such as Braunerhjelm, Carree, Thurik, and van Stel have five articles; whereas Desai, and Wennekers have four; and Aparicio, Carlsson, Fritsch, Galindo, Guerrero, and Méndez have three. Overall, 108 authors were identified in this relationship. The remaining authors have published one or two papers. It is worth higjlighting that Audretsch has the most articles published in this area, who proposes (alognside Keilbach) the concept of entrepreneurship capital as a new variable in the Solow-Swan model.

Table 2.5 Decision criteria for selecting papers

Criteria	No. articles
Entrepreneurship and National Economic Growth	39
Entrepreneurship and Regional Economic Growth	16
Entrepreneurship and Regional Economic Development	12
Entrepreneurship Capital on Regional Economic Growth	6
Entrepreneurship Capital and National Economic Growth	5
Entrepreneurship and Sectorial Growth	3
Total	81

With regards to journals that have published studies in this line, we found that *Small Business Economics* has 32.1% of the articles, followed by *Regional Studies* (7.4%), then *Annals of Regional Science* (4.9%), *Entrepreneurship & Regional Development*, *Industrial and Corporate Change* and *Strategic Entrepreneurship Journal* (3.7%). Other journals published one or two articles in this area. It is interesting to note that this relationship was more explored in the period 2012–2017, which indicates that scholars are still providing significant evidence about entrepreneurship and economic growth. Different from the previous topic, entrepreneurial activity and economic growth have been massively explored since early 2000s. For example, *Small Business Economics* and *Regional Studies* devoted special issues that gathered results from all over the world (see Table 2.6 and Appendix 2).

Sternberg and Wennekers (2005) organized a special issue devoted to explore the relationship between entrepreneurship and economic development. This number served to explore new empirical evidence using several measuresof entrepreneurship. In this case, most of the articles employed Global Entrepreneurship Monitor (GEM) datasets (van Stel, Carree, & Thurik, 2005; Wong, Ho, & Autio, 2005). Additionally, Acs and Storey (2004), Fritsch (2008), and Dejardin and Fritsch (2011) were guest editors of special issues that compiled different discussion about the role played by entrepreneurship in the regional development process. Acs and Szerb (2007), Acs et al. (2008), and Naudé (2010) also contributed to this line of research by organizing special issues dealing with the public policy discussion that emerges from the exploration of entrepreneurial activity as an antecedent of economic growth. Thereby, the relationship between entrepreneurship and economic growth has been largerly analyzed from different theoretical frameworks and methodologies.

In terms of theoretical frameworks, we find lots of approaches, though the predominant one is neoclassical economic growth theory. This approach identifies those factors that affect economic growth in the short and long run, and tens to be modeling driven. In this case, Minniti and Lévesque (2010) included entrepreneurship behavior in the Solow-Swan growth model comparing innovative and non-innovative entrepreneurs. Other authors such as Aparicio, Urbano, and Audretsch (2016), Audretsch and Keilbach (2004a, 2004b, 2005, 2008), Bjørnskov and Foss (2013), González-Pernía and Peña-Legazkue (2015), and Iyigun and Owen (1999)

Table 2.6 Journals and published articles per year

Articles/year	1992–1996	1997–2001	2002–2006	2007–2011	2012–2016	Total	%
Small Business Economics	1	1	5	14	5	26	32.10
Regional Studies	2	0	4	0	0	6	7.41
Annals of Regional Science	0	0	1	0	3	4	4.94
Entrepreneurship and Regional Development	0	0	0	2	1	3	3.70
Industrial and Corporate Change	0	1	0	1	1	3	3.70
Strategic Entrepreneurship Journal	0	0	0	2	1	3	3.70
Entrepreneurship Theory and Practice	0	0	1	0	1	2	2.47
Journal of Business Venturing	0	0	0	2	0	2	2.47
Journal of Evolutionary Economics	0	0	1	0	1	2	2.47
Journal of Technology Transfer	0	0	0	0	2	2	2.47
Management Decision	0	0	0	0	2	2	2.47
Research Policy	0	0	0	1	1	2	2.47
Technological Forecasting and Social Change	0	0	0	0	2	2	2.47
World Development	0	1	0	0	1	2	2.47
Academic of Management Perspective	0	0	0	0	1	1	1.23
Econometrica	1	0	0	0	0	1	1.23
Economic Development Quarterly	0	0	0	0	1	1	1.23
Economy and Society	0	0	0	1	0	1	1.23
European Planning Studies	0	0	0	0	1	1	1.23
Growth and Change	0	0	0	1	0	1	1.23
International Small Business Journal	0	0	1	0	0	1	1.23
Journal of Economic Growth	0	1	0	0	0	1	1.23
Journal of Business Research	0	0	0	0	1	1	1.23
Journal of Development Studies	1	0	0	0	0	1	1.23
Journal of Monetary Economics	1	0	0	0	0	1	1.23
Journal of Business Economics and Management	0	0	0	0	1	1	1.23

(continued)

Table 2.6 (continued)

Articles/year	1992–1996	1997–2001	2002–2006	2007–2011	2012–2016	Total	%
Oxford Bulletin of Economics and Statistics	0	0	1	0	0	1	1.23
Oxford Review of Economic Policy	0	0	0	1	0	1	1.23
Papers in Regional Science	0	0	0	1	0	1	1.23
R & D Management	0	0	1	0	0	1	1.23
Futures	0	0	0	0	1	1	1.23
International Regional Science Review	0	0	0	0	1	1	1.23
Journal of Economics	0	0	0	0	1	1	1.23
Labour Economics	0	1	0	0	0	1	1.23
Total	6	5	15	26	29	81	100.00

evaluated the influence of entrepreneurship on economic growth by estimating different econometric models on a Solow-Swan bases. Even though this theory is highly used, it does not take entrepreneurship as such into account, as it is assumed in production decisions.

There is though a theory that expliciely takes into account entrepreneurs and their behavior. In this case, Schumpeter (1911) suggests that entrepreneurship encourages an innovation process that affects development. By following these ideas, authors such as Agarwal, Audretsch, and Sarkar (2007), Aubry, Bonnet, and Renou-Maissant (2015), Audretsch and Fritsch (2002), Biondi (2008), Bjørnskov and Foss (2013), Bosma, Stam, and Schutjens (2011), Carree, van Stel, Thurik, and Wennekers (2002, 2007), Low and Isserman (2015), Rocha (2004), Sternberg and Wennekers (2005), van Stel and Carree (2004), van Stel et al. (2005), Wennekers and Thurik (1999), and Wong et al. (2005) suggested hypotheses that relate entrepreneurship not only to economic growth but also to economic development. The utility of this theory enables to consider the role of innovative entrepreneurs in growth and development processes, and to also include, with theoretical support, entrepreneurship variables in growth models.

By including new variables into the economic growth model, Baumol (1993) suggests that further evolutions of the traditional growth view can be achieved. Accordingly, entrepreneurship may be considered an important driver of growth and development. Complementing this idea with previous approaches allowed a growing number of published articles, in which different authors have tested their hypotheses with the most structured theory of growth. In this regard, authors such as Acs and Szerb (2007), Acs et al. (2012), Audretsch and Keilbach (2008), Berkowitz and DeJong (2005), Braunerhjelm, Acs, Audretsch, and Carlsson (2010), Braunerhjelm and Henrekson (2013), Carree and Thurik (2008), Carlsson et al. (2009), Dejardin (2011), Fritsch (2008), Giordani (2015), Gries and Naudé (2010), Guerrero, Cunningham, and Urbano (2015), Hessels and van Stel (2011), Mueller (2007), Noseleit (2013), Stephens and Partridge (2011), Valliere and

Peterson (2009), and van Praag and Versloot (2007) provided theoretical discussions and empirical evidence on the link between entrepreneurship and economic growth supported by endogenous growth theory. Nonetheless, authors such as Audretsch and Keilbach (2004b, 2005, 2008), who have used both neoclassical growth theory and endogenous growth theory, claim the importance not only of relating entrepreneurship with economic growth, but also the relevance of the context in which this relationship takes place.

By considering institutions, there are authors suggesting that this inclusion enhances new venture creation such that a positive effect on economic growth is achieved. In this case, these authors used institutional economic theory. For instance, Baumol and Strom (2007) and Naudé (2010) discuss the importance of this theory to advance our understanding about the link between entrepreneurship and economic growth, in which institutions can be key to explain existing differences across regions and countries (Aparicio, Urbano, & Audretsch, 2016). In this regard, Bjørnskov and Foss (2013) included institutions such as regulative institutions directly into the production function. Similarly, Liñán and Fernandez-Serrano (2014) test whether the interaction between culture and entrepreneurshipexplains the growth differences across European countries. These recent articles may suggest that institutional theory is an accurate framework for understanding the relationship between entrepreneurship and economic growth (see Table 2.7).

We identified not only traditional and non-traditional thinking in terms of theory, but also in terms of the methodology used. In this regard, depending on data (Wooldridge, 2010), scholars use cross section, time series, or panel data, which have different techniques of estimation. Table 2.8 shows the type of data and the technique used by each author(s). Table 2.8 also reports not only traditional econometrics techniques used, but also spatial econometrics and qualitative methods. We encountered that the techniques authors used most often are based on cross section, panel data, and time series datasets, with 17, 19, and 9 articles, respectively. In fact, it is worth noting that some authors focused on the endogeneity between entrepreneurship and economic growth. In this case, authors employed three-stage least-square (3SLS) (Audretsch & Keilbach, 2004c, 2008), and instrumental variables (IV) (Stephens & Partridge, 2011) in cross section analysis about regions and countries. Regarding the time series approach, different models were run based autoregressive techniques (AR) (Carree & Thurik, 2008; Johnson & Parker, 1996), least absolute deviations (LAD) (Berkowitz & DeJong, 2005), and two-stage least-square (2SLS) (Berkowitz & DeJong, 2005; Bjørnskov & Foss, 2013) were also found. In addition, models based on dynamic panel data (Dejardin, 2011), 2SLS or 3SLS in panel data (Aparicio, Urbano, & Audretsch, 2016; González-Pernía & Peña-Legazkue, 2015), and random/fixed effects (Aubry et al., 2015; Audretsch et al., 2015; Bosma et al., 2011; Braunerhjelm & Borgman, 2004; van Stel et al., 2005) were identified.

Throughout the empirical assessment and theoretical discussions, some important conclusions were found. For example, it is found that individuals choose to increase either their human capital or their experience through entrepreneurial activity (Iyigun & Owen, 1999). In either way, economic growth is affected positively.

Table 2.7 Theoretical framework used in articles

Theory	Articles		Author(s)
	No.	%	
Neoclassical economic growth theory	11	12.22	Audretsch (2007), Audretsch and Keilbach (2004b), Audretsch & Keilbach, 2005, Audretsch & Keilbach, 2007, Audretsch & Keilbach, 2008, Bjørnskov and Foss (2013), Capello and Lenzi (2016), Iyigun and Owen (1999), González-Pernía and Peña-Legazkue (2015), Minniti and Lévesque (2010), and Prieger, Bampoky, Blanco, and Liu (2016)
Schumpeterian theory	20	22.22	Agarwal et al. (2007), Aghion and Howitt (1992), Aparicio, Urbano, and Gómez (2016), Aubry et al. (2015), Audretsch (1997), Audretsch, Belitski and Desai (2015), Audretsch and Fritsch (2002), Biondi (2008), Bosma et al. (2011), Carree et al. (2002), Carree et al. (2007), Castaño-Martínez, Méndez-Picazo, and Galindo Martín (2015), Low and Isserman (2015), Rocha (2004), Sternberg and Wennekers (2005), van Oort and Bosma (2013), van Stel et al. (2005), van Stel and Carree (2004), Wennekers and Thurik (1999), and Wong et al. (2005)
Endogenous growth theory	29	32.22	Acs and Szerb (2007), Acs et al. (2012), Aparicio, Urbano, and Audretsch (2016), Audretsch et al. (2008), Audretsch and Keilbach (2004c), Audretsch & Keilbach, 2008, Berkowitz and DeJong (2005), Braunerhjelm et al. (2010), Braunerhjelm and Henrekson (2013), Capello and Lenzi (2016), Carree and Thurik (2008), Carlsson et al. (2009), Dejardin (2011), Etzkowitz and Klofsten (2005), Fritsch (2008), Giordani (2015), Gries and Naudé (2010), Guerrero et al. (2015), Guerrero, Urbano, and Fayolle (2016), Hessels and van Stel (2011), Huggins and Thompson (2015), King and Levine (1993), Mueller (2007), Noseleit (2013), Stephens and Partridge (2011), Urbano and Aparicio (2016), Urbano and Guerrero (2013), Valliere and Peterson (2009), and van Praag and Versloot (2007)
Economic development theory	3	3.33	Acs, Desai, and Hessels (2008), Acs et al. (2008), and Alvarez and Barney (2014)
Institutional economic theory	11	12.22	Aparicio, Urbano, and Audretsch (2016), Baumol and Strom (2007), Bjørnskov and Foss (2013), Bjørnskov & Foss, 2016, Castaño, Méndez, and Galindo (2016), Díaz Casero, Almodóvar González, de la Cruz Sánchez Escobedo, Coduras Martinez, and Hernández Mogollón (2013), Guerrero et al. (2016), Liñán and Fernandez-Serrano (2014), Méndez-Picazo, Galindo Martín, and Ribeiro-Soriano (2012), Naudé (2010), and Urbano and Guerrero (2013)
Other	16	17.78	Acs and Storey (2004), Aparicio, Urbano, and Gómez (2016), Audretsch and Keilbach (2004a), Belitski and Desai (2016), Blanchflower (2000), Braunerhjelm and Borgman (2004), Carmona, Congregado, Golpe, and Iglesias (2016), Chang and Kozul-Wright (1994), Danson (1995), Davidsson, Lindmark, and Olofsson (1994), Dejardin and Fritsch (2011), Johnson and Parker (1996), Müller (2016), Prieger et al. (2016), Urbano and Guerrero (2013), and Yu (1998)
Total	**90**	**100**	

Some articles use various theoretical frameworks, while others do not use anyone explicitly.

Table 2.8 Statistical techniques used in analyzed articles

Type of data[a]	Technique	Articles		Author(s)
		No.	%	
Time series	OLS	3	33.33	Blanchflower (2000), Bjørnskov and Foss (2013), and Hessels and van Stel (2011)
	AR	2	22.22	Carree and Thurik (2008) and Johnson and Parker (1996)
	2SLS	2	22.22	Berkowitz and DeJong (2005) and Bjørnskov and Foss (2013)
	Difference equations	1	11.11	Iyigun and Owen (1999)
	LAD	1	11.11	Berkowitz and DeJong (2005)
Cross section	OLS	10	58.82	Audretsch and Fritsch (2002), Audretsch and Keilbach (2004a, 2004b), Audretsch & Keilbach, (2005), Davidsson et al. (1994), Díaz Casero et al. (2013), Liñán and Fernandez-Serrano (2014), Noseleit (2013), Stephens and Partridge (2011), and Wong et al. (2005)
	Descriptive statistics	5	29.41	Acs et al. (2008, 2008), Braunerhjelm and Henrekson (2013), Fritsch (2008), and Valliere and Peterson (2009)
	2SLS/3SLS	2	11.76	Audretsch and Keilbach (2004c) and Audretsch & Keilbach (2008)
	IV	1	5.88	Stephens and Partridge (2011)
Panel data	Random/fixed effects, IV, 2SLS, 3SLS, EGLS, threshold, dynamic	11	57.89	Acs et al. (2012), Aparicio, Urbano, and Audretsch (2016), Aubry et al. (2015), Audretsch, Belitski, and Desai (2015), Braunerhjelm and Borgman (2004), Carmona et al. (2016), Carree et al. (2007), Dejardin (2011), González-Pernía and Peña-Legazkue (2015), Méndez-Picazo et al. (2012), Urbano and Aparicio (2016)
	OLS	7	36.84	Bosma et al. (2011), Carree et al. (2002), Mueller (2007), Noseleit (2013), Prieger et al. (2016), van Stel and Carree (2004), and van Stel et al. (2005)
	FGLS	1	5.26	Acs et al. (2012)
Pooling data	OLS	2	33.33	Belitski and Desai (2016) and Braunerhjelm et al. (2010)
	GLS/2SLS/3SLS	3	50.00	Braunerhjelm et al. (2010), King and Levine (1993), and van Oort and Bosma (2013)
	AR	1	16.67	Braunerhjelm et al. (2010)

(continued)

Table 2.8 (continued)

Type of data[a]	Technique	Articles		Author(s)
		No.	%	
Mathematical economics	ME	4	100	Giordani (2015), Gries and Naudé (2010), Huggins and Thompson (2015), and Minniti and Lévesque (2010)
Spatial econometrics	GLS	3	100	Audretsch and Keilbach (2007), Capello and Lenzi (2016), and Low and Isserman (2015)
Structural equation model	SEM	3	100	Audretsch et al. (2008), Guerrero et al. (2015), and Guerrero et al. (2016)
Partial least square	PLS/fsQCA	2	100	Castaño-Martínez et al. (2015) and Castaño et al. (2016)
Qualitative	Case study	2	100	Etzkowitz and Klofsten (2005) and Urbano and Guerrero (2013)
Descriptive statistics	Median/Frequence	1	100	Chang and Kozul-Wright (1994)
System dynamics	SD	1	100	Aparicio, Urbano, and Gómez (2016)
TOTAL	**67**			

Some articles use various methodologies, while others (not included) are merely theoretical.
[a]There are 9 articles using time series, 17 cross section, 19 panel data, 6 pooling data, 4 mathematical economics, 3 spatial econometrics, 3 structural equation model, 2 partial least square, 2 qualitative technique, 1 descriptive statistics, and 1 system dynamics. Each percentage was computed taking into account total articles per type of data

Wennekers and Thurik (1999) conducted a literature review on the importance of entrepreneurship not only for economic growth, but also for knowledge acquisition and innovation process. Using self-employment as a different proxy, Blanchflower (2000) found a negative negative effect of entrepreneurship on economic growth. This negative effect can be explained by the fact that self-employed people are pushed to entrepreneurship because of lack of labor opportunities. Carree et al. (2002) provided similar evidence, but in this case, they established the hypothesis that the relationship between these two variables has a U-shaped form. It means that countries with low income levels have high self-employment rates; medium-income countries present low self-employment rates; more developed economies have self-employment rates that are higher than medium-income economies but lower than those of developing economies. Overall, there exist hypotheses about the relationship entrepreneurship and economic growth depending on the stage of each country or region.

Precisely at regional level, we identified another hypothesis, in which it is suggested that entrepreneurship affects regional economic growth. In fact, Audretsch and Fritsch (2002), Audretsch and Keilbach (2004a, 2004b, 2004c, 2005) tested this relationship in German regions; Dejardin (2011), González-Pernía and Peña-Legazkue (2015), and Noseleit (2013) used regional data of Belgium, Spain and

Sweden, respectively, to show that there is a positive impact of entrepreneurship on regional economic growth. Additionally, Berkowitz and DeJong (2005), Mueller (2007), and Stephens and Partridge (2011) tested this hypothesis in different regions and found similar results. This could suggest that the effects of entrepreneurship are robust and stable at both the national and regional levels. It is important to highlight the abundance of evidence focused on European regions (e.g., Germany, Belgium, Spain, Sweden), as well as Canada and the United States. In this regard, geography matters to explain this relationship and helps make it possible to understand not only economic growth but also economic development. Here, it could be interesting to further explore regional differences in other countries (e.g. developing ones). Other authors such as Acs and Szerb (2007), Carree et al. (2002, 2007), Liñán and Fernandez-Serrano (2014), and van Stel and Carree (2004) have related entrepreneurship to economic development (GDP per capita), in which differences depending on the stage of development are found. We also found that entrepreneurship helps to spread knowledge that positively affects economic growth (Acs et al., 2008, 2012; Agarwal et al., 2007; Audretsch, 2007; Audretsch & Keilbach, 2004a, 2008; Noseleit, 2013).

2.3.3 Institutions, Entrepreneurship, and Economic Growth

From the previous section, two results recommend additional analysis. First, among different theoretical works within the field of entrepreneurship (Bruton et al., 2010; Thornton et al., 2011; Veciana & Urbano, 2008; Welter & Smallbone, 2008, 2011; among others) research suggests that the institutional approach has gained importance in the sense that it looks an acceptable framework for understanding the factors that encourage or discourage entrepreneurial engagement across countries and regions. Indeed, on the one hand authors such as Aidis et al. (2008), Chowdhury, Desai, et al. (2015), Chowdhury, Terjesen, and Audretsch (2015), Goltz et al. (2015), and Urbano and Alvarez (2014), among others, have applied expressly the institutional approach (North, 1990, 2005) to know the institutional matrix in which people become entrepreneurs. On the other hand, authors such as Aidis et al. (2012), Bruton et al. (2009), and De Clercq et al. (2010), Gnyawali and Fogel (1994), among others, have implicitly followed the institutional approach. Second, although the connection between entrepreneurship and economic process follows the Schumpeterian theory or endogenous growth theory, some authors have used the institutional approach to grasp the link between these two variables (Baumol & Strom, 2007; Bjørnskov & Foss, 2013; Naudé, 2010). These two facts indicate that, exploiting the same framework, two separate views of entrepreneurship analysis may serve to analyze along such a sequence during which entrepreneurship might play an important role.

North (1990, 2005) asserts that institutions matter for explaining the variations in growth and development across regions and countries. However, we have a tendency to base our analysis on the Acemoglu et al.'s (2014), Baumol's (1990),

Bjørnskov and Foss' (2016), North and Thomas' (1973), and Rodrik's (2003) ideas regarding entrepreneurship as a conduit of institutions to accomplish economic growth and development. In this regard, it is necessary to focus on the role of institutions in entrepreneurship, on the one hand, and the way entrepreneurial activity influenced by institutions plays a key role within the growth process, on the other (Sobel, 2008). The first one was documented utilizing many articles, whose main results indicate that formal and informal institutional factors encourage or discourage entrepreneurial behavior. In fact, informal institutional factors tend to impact higher and more positively on entrepreneurship than formal factors, as Thornton et al. (2011) recommend. The second is additional implicit. Though authors like Amorós, Fernández, and Tapia (2012) and Terjesen and Amorós (2010) relate establishments to the stage of economic development so as to elucidate entrepreneurial activity in emerging economies, they still leave area to keep exploring the differentiated impact of institutions on entrepreneurship and this factor on economic process. A similar analysis is presented by Carree et al. (2002, 2007), who notice that business ownership contains a U-shaped relationship with economic process. However, van Stel et al. (2007) have studied the result of business regulation on nascent and established entrepreneurs, whose choices relating to regulation rely upon the political inheritance and therefore the economic development stage. Some necessary conclusions may be derived from these works: (a) there's a correlation between establishments and economic development; (b) given the capability and efficiency to implement norms and laws, entrepreneurial activity can increase or decrease; and so (c) entrepreneurship can have a larger impact in some regions and countries than in others.

From another perspective, authors such as Audretsch (2007), Audretsch and Keilbach (2004a, 2004b, 2005, 2007), Audretsch et al. (2008), and Urbano and Aparicio (2016) explore the last conclusion implicitly considering that institutions have an effect on the amount of entrepreneurship capital. They notice that effectively this variable impacts positively on the economic process, however at the same time, they claim that additional studies are required to grasp better how entrepreneurship capital is organized regarding the institutional context. Even more, they suggest future analysis that might study entrepreneurship capital, considering the impact of institutions. Hence, institutional factors are often an appropriate framework in which entrepreneurship and economic process act (Audretsch et al., 2008). Some empirical proof is conferred by Bjørnskov and Foss (2013) and Nissan, Martín, and Picazo (2011), who find that legal institutions (procedures or the time to create a new business) have an effect on the economic process. Even so, as Baumol and Strom (2007) and Audretsch and Keilbach (2004a, 2004b) have mentioned, it is vital to grasp how entrepreneurship is organized by taking into consideration culture, beliefs, and social values, among different factors, to get the simplest understanding of the role of entrepreneurship in the economic process. In this sense, institutions and economic growth are connected through entrepreneurship. Hence, those institutions shaping entrepreneurial behavior have an important influence on the expansion and innovation that characterizes every economy. At the same time, institutions (formal

and informal) encourage those people with innovative concepts to line up new businesses, and thus contribute to economic process and development.

The previous discussion suggests, therefore, that the two separate views might be analyzed together, which may enhance the understanding of the advanced system concerned in the economic growth process. Thus, as Audretsch and Keilbach (2008) recommend, simultaneity between institutions, entrepreneurship, and economic process is needed. On the one hand, the institutional approach offers a comprehension of the determinant institutional atmosphere in which entrepreneurs make decisions for themselves and also for the entire society, resulting in a growth process. On the other hand, due to interaction and reciprocality involving high complexity, a unidirectional model can cause biased results. Therefore, it is price considering at the same time the impact of the institutional context on entrepreneurial activity, and this variable on economic process. The virtue of this approach is not solely within the correction of the statistical bias. By expressly instrumenting entrepreneurship in a second equation, we are able to analyze how policy may really influence the economic process by generating a lot of entrepreneurial activity.

In order to support our previous ideas, we developed a correspondence analysis that suggests a similar reasoning. These correspondences enable to observe associations and similarities (Hoffman & Franke, 1986), which are explicitly studied and identified in articles dealing with both relationships. For instance, we initially explored whether a statistically significant association between the statistical techniques used in the articles and both relationships presented in the previous section (i.e., institutions-entrepreneurship/entrepreneurship-economic growth) exist. Our findings indicated that the X^2 is 34.66 with eight degrees of freedom and is significant at 0.000. Thus, we found that there is a statistical association between the statistical techniques and the focus of each relationship.

Similarly, we analyzed the relationship between the technique and the theoretical framework used. The results show that the X^2 is 83.76 with 64 degrees of freedom and is significant at 0.049. Thereby, it is possible to suggest that there is a statistical association between these two categories. Figure 2.1 helps to visualize this relationship as it displays the scatter diagram between the technique and theoretical framework. For each variable on Fig. 2.1, the distances between the category points reflect the relationship between the categories, with similar categories being closer to each other. Additionally, Fig. 2.1 serves to identify that occupational choice, contract theory, and social capital theory are closely associated with the structural equation model and discrete choice model (logit, probit, and so on); institutional theory is related to multiple regression in which simultaneous equations have been used; neo-classical growth theory, endogenous growth theory, and Schumpeterian theory are associated with time series techniques; while development economic theory is related with descriptive and multivariate statistics.

Finally, our findings also allowed seeing a significant association of 0.000 (X^2 is 298.35 with 90 degrees of freedom) between the different dependent and independent variables identified in the empirical papers (see Appendix 1 and Appendix 2). This association shows a clear relationship between different measures of institu-

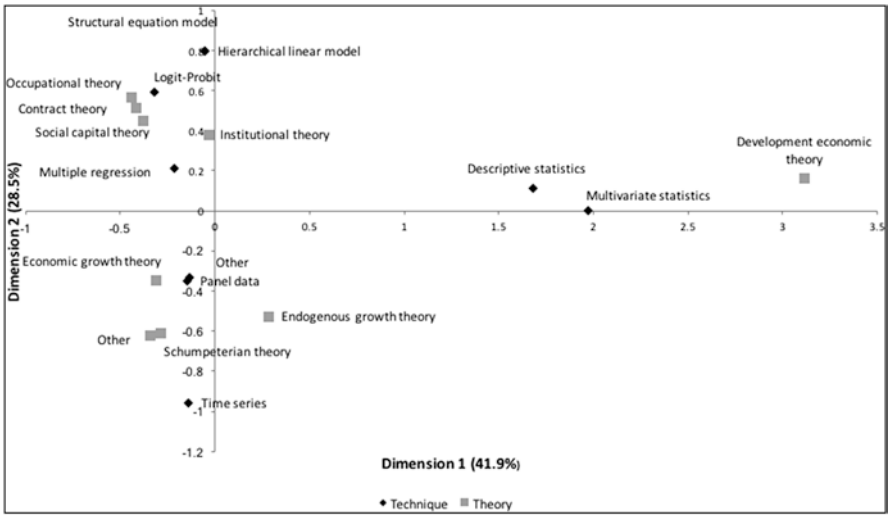

Fig. 2.1 Correspondence analysis about techniques and methods

tions, entrepreneurship, and economic growth, which suggests that these sorts of variables are highly related. We only found that self-employment and total factor productivity are far from the rest of the variables.

2.4 Conclusions and Future Research

Entrepreneurship research has grown rapidly since its inception (Blackburn & Kovalainen, 2009; Carlsson et al., 2013). Based on our literature review, on the one hand, we identified that some scholars have analyzed the determinants that encourage entrepreneurship. On the other, entrepreneurship research has focused on the effects of new venture formation. The first stream has been studied through psychological, organizational, institutional and economic lenses.[3] The second stream could be studied using an institutional or economic framework.

[3] Apart from the institutional and economic approaches considered in this article, perspectives that involve psychological (Collins et al., 1964; McClelland, 1961; Krueger, 1993; Krueger and Brazeal, 1994; Shepherd, 2015; among others) and organizational (Alvarez & Busenitz, 2001; Barney, 1991; Barney, Wright, & Ketchen, 2001; Chesbrough, 2003, 2006; Leih & Teece, 2016; Teece, Pisano, & Shuen, 1997; Teece, 2007; among others) approaches are also used in our field of research. However, some studies are starting to consider another level of analysis, just between the organization and the environment; this type of analysis, the entrepreneurship-innovation ecosystems approach, mainly focuses on clusters, business-innovation, or industry (Isenberg, 2010; Mason & Brown, 2014, among others).

In this chapter, therefore, a systematic literature analysis based on an institutional approach was carried out. Using the idea that institutions influence human behavior in order to improve economic growth and development, we explored the papers that have studied how institutions through entrepreneurship affect economic growth. We identified those academic papers within the WoS in the period 1992–2016, placing emphasis on the relationships between institutional factors and entrepreneurial activity, and entrepreneurship and economic growth. Thus, not only is understanding both complex relationships and their possible consequences helpful for advancing and providing new and additional perspectives in these complementary research areas, but it is also helpful for formulating public strategies, particularly focused on reinforcing the sustainable creation of new ventures that effectively enhance economic performance and provide well-being, not only for the entrepreneurial firms but also for the entire society.

With regard to the theoretical frameworks employed in each relationship, we tend to found the predominance of an institutional approach that augmented remarkably throughout the period 2012–2016. Through quantitative and qualitative techniques, the authors conclude that institutions have an effect on entrepreneurship, however, informal establishments have a higher and more positive impact than formal institutions though most of them applied either expressly or implicitly North's concepts regarding institutions to the sphere of entrepreneurship, some academics have used completely different approaches such as Scott's (2008), 2014) institutional dimensions or pillars (regulative -in terms of formal institutions-, normative -in terms of informal institutions- and cultural-cognitive -this dimension relates the external world and also the individuals). Related to the impact of entrepreneurial activity on the economic process, we found that neo-classical economic growth theory is employed within the majority of the articles. In the analyzed papers, completely different measures of entrepreneurship and economic growth are utilized, suggesting that generally there is a positive impact of entrepreneurship on economic growth. Likewise, authors such as Bjørnskov and Foss (2013) and Nissan et al. (2011) found that institutions conjointly have an effect on economic growth, as North (1990, 2005) highlights. However, the discussion regarding the direct or indirect impact of institutions on economic process was carried out by Acemoglu et al. (2014), Baumol (1990), North and Thomas (1973), Rodrik (2003), who conclude that institutions have an effect on economic growth through endogenous factors, such as entrepreneurship and industrial development. Following this idea, Aparicio, Urbano, and Audretsch (2016), Audretsch and Keilbach (2004a, 2004b), Audretsch et al. (2008), Bjørnskov and Foss (2016) and Baumol and Strom (2007) discuss that it is necessary to grasp how institutions have an effect on entrepreneurial activity, and so make it possible to spot how entrepreneurship and economic process move in different institutional environments (culture, beliefs, social values, etc.). In this sense, though Bjørnskov and Foss (2016) conduct a similar literature analysis, this chapter could be complimentary through the thought that informal institutions are more relevant for explaining entrepreneurial activity and its economic consequences. In addition, as Bjørnskov and Foss (2016) mentioned, entrepreneurial actions need certain conditions. In this regard, our approach suggests the social norms, culture and so on, are the primary factors that enable such conditions.

Therefore, some research queries persist in seeking an understanding of the role of entrepreneurship within the field of economic growth. In this context, an institutional approach may be crucial so as to incorporate institutions as a key variable within the analysis. Then, simultaneous identification is needed to know the dynamic relationship between institutions, entrepreneurship, and economic process in the short and long term. Specially, we identified that property rights (formal institutions) and also the belief systems (informal institutions) ought to be further analyzed, since there is still a scarceness of evidence addressing these kinds of institutions. Among those few authors who have analyzed these institutional factors, Czarnitzki, Doherr, Hussinger, Schliessler, and Toole (2016) claim that studies on property rights are required since the fast explosion of entrepreneurs should be balanced so as to encourage innovative entrepreneurship (as productive entrepreneurship) instead of unproductive entrepreneurship. In terms of informal institutions, Audretsch et al. (2013) and Hoogendoorn et al. (2016) recommend that the belief systems such as religion, are necessary parts for understanding the variations of entrepreneurship across countries, and thus, additional studies are required to supply a broader perspective. Also, the interaction between entrepreneurship and institutions wherever a two-way relationship takes place, requires additional analysis. Institutions form entrepreneurship but at the same time entrepreneurs tend to have an effect on institutions (Elert & Henrekson, 2017). Additionally, we tend to detect that measures of entrepreneurship that were not considered within the current chapter might improve the comprehension concerning the evolution of this research field. For instance, intrapreneurship or corporate entrepreneurship, analyzed from the institutional perspective, might serve to review how entrepreneurs among corporations are affected by the institutional atmosphere (Gómez-Haro, Aragón-Correa, & Cordón-Pozo, 2011; Ribeiro-Soriano & Urbano, 2009; Toledano, Urbano, & Bernadich, 2010; Turró, Urbano, & Peris-Ortiz, 2014; Turro, Alvarez, & Urbano, 2016).

Similarly, a future analysis may contemplate the question of how and why the variety in entrepreneurship analysis is especially necessary for economic growth. Some poignant examples of this diversity include: female entrepreneurship (Ahl &Marlow, 2012; Collins & Low, 2010; De Bruin et al., 2007; Minniti & Naudé, 2010), social entrepreneurship (Acs, Boardman, & McNeely, 2013; Nicholls, 2010; Zahra, Gedajlovic, Neubaum, & Shulman, 2009), immigrant and transnational entrepreneurship (Collins & Low, 2010; Drori et al., 2009; Li et al., 2017), entrepreneurial universities (Guerrero et al., 2015, Guerrero et al., 2016; Wennberg et al., 2011), family business (Chrisman et al., 2010; Cruz et al., 2012; Debicki et al., 2009; Van Gils et al., 2014; Zahra, Hayton, Neubaum, Dibrell, & Craig, 2008), green or sustainable entrepreneurship (Dean & McMullen, 2007; Gast et al., 2017; Shepherd et al., 2013), etc. Because of data limitations and the lack of robust theoretical approaches, this sort of distinction has rarely been created yet within the empirical literature. With respect to economic growth, Blackburn and Ram (2006), Bruton, Ketchen, and Ireland (2013), Carter (2011), and McMullen (2011) discuss the importance of entrepreneurship to elucidate not solely the economic performance, but additionally inclusive growth, well-being, social mobility and therefore the alleviation of poverty. These

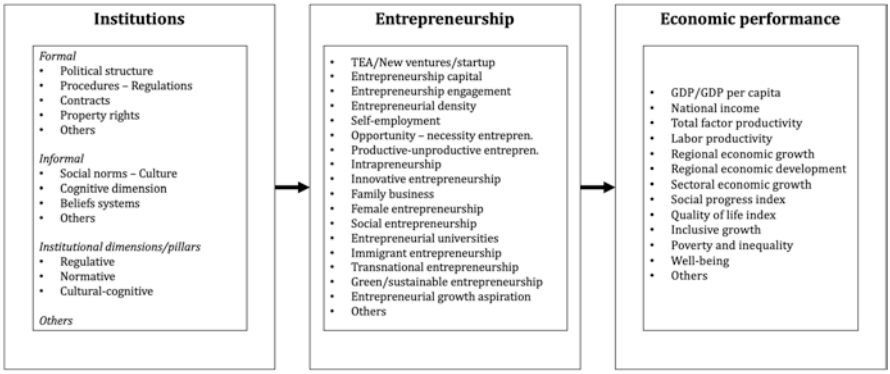

Fig. 2.2 Summary and future research lines on institutions, entrepreneurship, and economic performance

authors recommend that future analysis directions ought to link entrepreneurial activity to measures beyond the standard gross domestic product, since it is recognized that entrepreneurship brings advantages for the entire society. Consistent with Welter, Baker, Audretsch, and Gartner (2017), there are specific austerity demands regarding the government budget constraints, hindering to activate the economic level of regions and nations, that lead to a reduced inclusive growth outcome. Thus, entrepreneurial diversity might serve as a policy instrument to link those excluded households with economic dynamics. Figure 2.2 summarizes what we have found through the literature analysis and some parts that might be considered by academics in entrepreneurship research so as to push out the extant frontier, framed after all, by the causal chain running from institutions and entrepreneurship to economic process.

Figure 2.2, therefore, might serve to depict the growth and development process across regions and countries. In each of these two levels, future research and public policies should consider that local and national differences may exist. In this regard, as identified in this literature analysis, further policy reports and articles are needed. These should address the question on what are the conducive institutions in developing and developed countries such that entrepreneurship leverages the economic development process. Certainly, there are different trends depending on the context in which entrepreneurs make decisions (Beynon et al. 2016). For instances, Bruton et al. (2013) and De Castro, Khavul, and Bruton (2014) discuss the challenge in terms of the unofficial economy confronting developing countries, which, despite such challenges, individuals still decide to become entrepreneurs. In one way or another, this is the labor market structure that shapes the entrepreneurial intentions and decisions, which perhaps represent the best (short-term) solution for those families living in emerging economies (Bruton, Ireland, & Ketchen, 2012). Thus, new insights could tackle the fact that institutions (mainly the formal ones) exert lower influence on entrepreneurial activities formally registered. In this sense, an analysis of informal institutions, encouraging (direct and indirectly) both formal institutions and higher quality of entrepreneurship, is needed.

In the developed country context, the analysis of the causal chain suggests a very important tool to research the recent crises. First, the large migrant flows from developing to developed countries (Bizri, 2017; Collins & Low, 2010); and second, the still unstable economic platform of the US, UK, and Europe (Giotopoulos et al., 2017; Koellinger & Thurik, 2012; Varvarigos & Gil-Moltó, 2016), among alternative sorts of crises, produce opportunities for entrepreneurship scholars to supply compelling proof and a broader dialogue related to the importance of entrepreneurial activity as a policy last resort. Ács, Autio, and Szerb (2014) and Acs et al. (2017) acknowledge that the national system of entrepreneurship may be a new way to comprehend the functioning of the process, leveraged by entrepreneurs who are, at the same time, embedded in a very specific atmosphere. Especially, Ács et al. (2014) have introduced new metrics of entrepreneurial activity and economic development referred to as the global entrepreneurship and development index (GEDI). Measurements advances like this provide ways forward to explore exhaustively institutions, entrepreneurship, and economic development at the individual, regional and country level, facilitating at the same time the creation of long-term policies.

Both conceptual and policy implications could be also derived from this chapter. First, to consider an integrated and complex model including institutions, entrepreneurship, and economic growth could serve to advance our understanding in the entrepreneurship and economic fields. Additionally, this model enables distinguishing by type of institution (formal, informal, etc.), entrepreneurial activity (necessity, opportunity, etc.) and economic performance (growth, development, etc.). Second, this chapter may be relevant for formulating public and private stragies related to reinforcement of the sustainable creation of new businesses, which are proven to improve the standard of living for not just the entrepreneurs but also the entire society.

References

Acemoglu, D., Gallego, F., & Robinson, J. A. (2014). Institutions, human capital and development. *The Annual Review of Economics, 6*, 875–912.

Acs, Z., Desai, S., & Hessels, J. (2008). Entrepreneurship, economic development and institutions. *Small Business Economics, 31*(3), 219–234.

Acs, Z., Desai, S., & Klapper, L. F. (2008). What does "entrepreneurship" data really show? *Small Business Economics, 31*(3), 265–281.

Acs, Z., & Storey, D. (2004). Introduction: Entrepreneurship and economic development. *Regional Studies, 38*(8), 871–877.

Acs, Z. J., Audretsch, D. B., Braunerhjelm, P., & Carlsson, B. (2012). Growth and entrepreneurship. *Small Business Economics, 39*(2), 289–300.

Ács, Z. J., Autio, E., & Szerb, L. (2014). National systems of entrepreneurship: Measurement issues and policy implications. *Research Policy, 43*(3), 476–494.

Acs, Z. J., Boardman, M. C., & McNeely, C. L. (2013). The social value of productive entrepreneurship. *Small Business Economics, 40*(3), 785–796.

Acs, Z. J., & Szerb, L. (2007). Entrepreneurship, economic growth and public policy. *Small Business Economics, 28*(2–3), 109–122.

Agarwal, R., Audretsch, D., & Sarkar, M. B. (2007). The process of creative construction: Knowledge spillovers, entrepreneurship, and economic growth. *Strategic Entrepreneurship Journal, 1*(3–4), 263–286.

Aghion, P., & Howitt, P. (1992). A model of growth through creative destruction. *Econometrica, 60*(2), 323–351.

Ahl, H., & Marlow, S. (2012). Exploring the dynamics of gender, feminism and entrepreneurship: advancing debate to escape a dead end? *Organization, 19*(5), 543–562.

Aidis, R., Estrin, S., & Mickiewicz, T. (2008). Institutions and entrepreneurship development in Russia: A comparative perspective. *Journal of Business Venturing, 23*(6), 656–672.

Aidis, R., Estrin, S., & Mickiewicz, T. M. (2012). Size matters: Entrepreneurial entry and government. *Small Business Economics, 39*(1), 119–139.

Aidis, R., Welter, F., Smallbone, D., & Isakova, N. (2007). Female entrepreneurship in transition economies: The case of Lithuania and Ukraine. *Feminist Economics, 13*(2), 157–183.

Aldrich, H. E., & Fiol, C. M. (1994). Fools rush in? The institutional context of industry creation. *Academy of Management Review, 19*(4), 645–670.

Aldrich, H. E., & Zimmer, C. (1986). Entrepreneurship through social networks. In D. L. Sexton & R. W. Smilor (Eds.), *The art and science of entrepreneurship* (pp. 3–23). New York: Ballinger.

Aliaga-Isla, R., & Rialp, A. (2013). Systematic review of immigrant entrepreneurship literature: Previous findings and ways forward. *Entrepreneurship & Regional Development, 25*(9–10), 819–844.

Álvarez, C., Urbano, D., & Amorós, J. E. (2014). GEM research: Achievements and challenges. *Small Business Economics, 42*(3), 445–465.

Alvarez, S. A., & Barney, J. B. (2014). Entrepreneurial opportunities and poverty alleviation. *Entrepreneurship Theory and Practice, 38*(1), 159–184.

Alvarez, S. A., & Busenitz, L. W. (2001). The entrepreneurship of resource-based theory. *Journal of Management, 27*(6), 755–775.

Amorós, J. E., Fernández, C., & Tapia, J. (2012). Quantifying the relationship between entrepreneurship and competitiveness development stages in Latin America. *International Entrepreneurship and Management Journal, 8*(3), 249–270.

Anokhin, S., & Schulze, W. S. (2009). Entrepreneurship, innovation, and corruption. *Journal of Business Venturing, 24*(5), 465–476.

Aparicio, S., Urbano, D., & Audretsch, D. (2016). Institutional factors, opportunity entrepreneurship and economic growth: Panel data evidence. *Technological Forecasting and Social Change, 102*, 45–61.

Aparicio, S., Urbano, D., & Gómez, D. (2016). The role of innovative entrepreneurship within Colombian business cycle scenarios: A system dynamics approach. *Futures, 81*, 130–147.

Aubry, M., Bonnet, J., & Renou-Maissant, P. (2015). Entrepreneurship and the business cycle: The "Schumpeter" effect versus the "refugee" effect – a French appraisal based on regional data. *The Annals of Regional Science, 54*(1), 23–55.

Audretsch, D. (2012). Entrepreneurship research. *Management Decision, 50*(5), 755–764.

Audretsch, D. B. (1997). Technological regimes, industrial demography and the evolution of industrial structures. *Industrial and Corporate Change, 6*(1), 49–82.

Audretsch, D. B. (2007). Entrepreneurship capital and economic growth. *Oxford Review of Economic Policy, 23*(1), 63–78.

Audretsch, D. B., Belitski, M., & Desai, S. (2015). Entrepreneurship and economic development in cities. *The Annals of Regional Science, 55*(1), 33–60.

Audretsch, D. B., Bönte, W., & Keilbach, M. (2008). Entrepreneurship capital and its impact on knowledge diffusion and economic performance. *Journal of Business Venturing, 23*(6), 687–698.

Audretsch, D. B., Bönte, W., & Tamvada, J. P. (2013). Religion, social class, and entrepreneurial choice. *Journal of Business Venturing, 28*(6), 774–789.

Audretsch, D. B., & Fritsch, M. (2002). Growth regimes over time and space. *Regional Studies, 36*(2), 113–124.

Audretsch, D. B., & Keilbach, M. (2004a). Does entrepreneurship capital matter? *Entrepreneurship Theory and Practice, 28*(5), 419–429.
Audretsch, D. B., & Keilbach, M. (2004b). Entrepreneurship capital and economic performance. *Regional Studies, 38*(8), 949–959.
Audretsch, D. B., & Keilbach, M. (2004c). Entrepreneurship and regional growth: An evolutionary interpretation. *Journal of Evolutionary Economics, 14*(5), 605–616.
Audretsch, D. B., & Keilbach, M. (2005). Entrepreneurship capital and regional growth. *The Annals of Regional Science, 39*(3), 457–469.
Audretsch, D. B., & Keilbach, M. (2007). The localisation of entrepreneurship capital: Evidence from Germany. *Papers in Regional Science, 86*(3), 351–365.
Audretsch, D. B., & Keilbach, M. (2008). Resolving the knowledge paradox: Knowledge-spillover entrepreneurship and economic growth. *Research Policy, 37*(10), 1697–1705.
Autio, E., & Fu, K. (2015). Economic and political institutions and entry into formal and informal entrepreneurship. *Asia Pacific Journal of Management, 32*(1), 67–94.
Barney, J. (1991). Firm resources and sustained competitive advantage. *Journal of Management, 17*(1), 99–120.
Barney, J., Wright, M., & Ketchen, D. J. (2001). The resource-based view of the firm: Ten years after 1991. *Journal of Management, 27*(6), 625–641.
Bauernschuster, S., Falck, O., & Heblich, S. (2010). Social capital access and entrepreneurship. *Journal of Economic Behavior and Organization, 76*(3), 821–833.
Baughn, C. C., Chua, B. L., & Neupert, K. E. (2006). The normative context for women's participation in entrepreneruship: A multicountry study. *Entrepreneurship Theory and Practice, 30*(5), 687–708.
Bauke, B., Semrau, T., & Han, Z. (2016). Relational trust and new ventures' performance: The moderating impact of national-level institutional weakness. *International Entrepreneurship and Management Journal, 12*(4), 1007–1024.
Baumol, W. J. (1990). Entrepreneurship: Productive, unproductive, and destructive. *The Journal of Political Economy, 98*(5), 893–921.
Baumol, W. J. (1993). *Entrepreneurship, management and the structure of payoffs*. Cambridge, MA: MIT-Press.
Baumol, W. J., & Strom, R. J. (2007). Entrepreneurship and economic growth. *Strategic Entrepreneurship Journal, 1*(3–4), 233–237.
Belitski, M., Chowdhury, F., & Desai, S. (2016). Taxes, corruption, and entry. *Small Business Economics, 47*(1), 201–216.
Belitski, M., & Desai, S. (2016). Creativity, entrepreneurship and economic development: City-level evidence on creativity spillover of entrepreneurship. *The Journal of Technology Transfer, 41*(6), 1354–1376.
Ben Letaifa, S., & Goglio-Primard, K. (2016). How does institutional context shape entrepreneurship conceptualizations? *Journal of Business Research, 69*(11), 5128–5134.
Berger, B. (1991). *The culture of entrepreneurship*. San Francisco: ICS Press.
Berkowitz, D., & DeJong, D. N. (2005). Entrepreneurship and post-socialist growth. *Oxford Bulletin of Economics and Statistics, 67*(1), 25–46.
Beynon, M. J., Jones, P., & Pickernell, D. (2016). Country-based comparison analysis using fsQCA investigating entrepreneurial attitudes and activity. *Journal of Business Research, 69*(4), 1271–1276.
Biondi, Y. (2008). Schumpeter's economic theory and the dynamic accounting view of the firm: Neglected pages from the Theory of Economic Development. *Economy and Society, 37*(4), 525–547.
Bizri, R. M. (2017). Refugee-entrepreneurship: A social capital perspective. *Entrepreneurship & Regional Development, 29*(9–10), 847–868. https://doi.org/10.1080/08985626.2017.1364787
Bjørnskov, C., & Foss, N. (2013). How strategic entrepreneurship and the institutional context drive economic growth. *Strategic Entrepreneurship Journal, 7*(1), 50–69.
Bjørnskov, C., & Foss, N. J. (2016). Institutions, entrepreneurship, and economic growth: What do we know and what do we still need to know? *The Academy of Management Perspectives, 30*(3), 292–315.

Blackburn, R., & Kovalainen, A. (2009). Researching small firms and entrepreneurship: Past, present and future. *International Journal of Management Reviews, 11*(2), 127–148.

Blackburn, R., & Ram, M. (2006). Fix or fixation? The contributions and limitations of entrepreneurship and small firms to combating social exclusion. *Entrepreneurship and Regional Development, 18*(1), 73–89.

Blackburn, R. A., & Smallbone, D. (2008). Researching small firms and entrepreneurship in the UK: Developments and distinctiveness. *Entrepreneurship Theory and Practice, 32*(2), 267–288.

Blanchflower, D. G. (2000). Self-employment in OECD countries. *Labour Economics, 7*(5), 471–505.

Bosma, N., Stam, E., & Schutjens, V. (2011). Creative destruction and regional productivity growth: Evidence from the Dutch manufacturing and services industries. *Small Business Economics, 36*(4), 401–418.

Bradley, S. W., & Klein, P. (2016). Institutions, economic freedom, and entrepreneurship: The contribution of management scholarship. *The Academy of Management Perspectives, 30*(3), 211–221.

Braunerhjelm, P., Acs, Z., Audretsch, D. B., & Carlsson, B. (2010). The missing link: Knowledge diffusion and entrepreneurship in endogenous growth. *Small Business Economics, 34*(2), 105–125.

Braunerhjelm, P., & Borgman, B. (2004). Geographical concentration, entrepreneurship and regional growth: Evidence from regional data in Sweden, 1975–99. *Regional Studies, 38*(8), 929–947.

Braunerhjelm, P., Desai, S., & Eklund, J. E. (2015). Regulation, firm dynamics and entrepreneurship. *European Journal of Law and Economics, 40*(1), 1–11.

Braunerhjelm, P., & Henrekson, M. (2013). Entrepreneurship, institutions, and economic dynamism: Lessons from a comparison of the United States and Sweden. *Industrial and Corporate Change, 22*(1), 107–130.

Bruno, R. L., Bytchkova, M., & Estrin, S. (2013). Institutional determinants of new firm entry in Russia: A cross-regional analysis. *Review of Economics and Statistics, 95*(5), 1740–1749.

Bruton, G. D., Ahlstrom, D., & Li, H.-L. (2010). Institutional theory and entrepreneurship: Where are we now and where do we need to move in the future? *Entrepreneurship Theory and Practice, 34*(3), 421–440.

Bruton, G. D., Ahlstrom, D., & Puky, T. (2009). Institutional differences and the development of entrepreneurial ventures: A comparison of the venture capital industries in Latin America and Asia. *Journal of International Business Studies, 40*(5), 762–778.

Bruton, G. D., Ireland, R. D., & Ketchen, D. J. (2012). Toward a research agenda on the informal economy. *The Academy of Management Perspectives, 26*(3), 1–11.

Bruton, G. D., Ketchen, D. J., & Ireland, R. D. (2013). Entrepreneurship as a solution to poverty. *Journal of Business Venturing, 28*(6), 683–689.

Buela-Casal, G., & Zych, I. (2012). What do the scientists think about the impact factor? *Scientometrics, 92*(2), 281–292.

Busenitz, L. W., Gómez, C., & Spencer, J. W. (2000). Country institutional profiles: Unlocking entrepreneurial phenomena. *Academy of Management Journal, 43*(5), 994–1003.

Calcagno, P. T., & Sobel, R. S. (2014). Regulatory costs on entrepreneurship and establishment employment size. *Small Business Economics, 42*(3), 541–559.

Capello, R., & Lenzi, C. (2016). Innovation modes and entrepreneurial behavioral characteristics in regional growth. *Small Business Economics, 47*(4), 875–893.

Carbonara, E., Santarelli, E., & Tran, H. T. (2016). De jure determinants of new firm formation: How the pillars of constitutions influence entrepreneurship. *Small Business Economics, 47*(1), 139–162.

Carlsson, B., Acs, Z., Audretsch, D. B., & Braunerhjelm, P. (2009). Knowledge creation, entrepreneurship, and economic growth: A historical review. *Industrial and Corporate Change, 18*(6), 1193–1229.

Carlsson, B., Braunerhjelm, P., McKelvey, M., Olofsson, C., Persson, L., & Ylinenpää, H. (2013). The evolving domain of entrepreneurship research. *Small Business Economics, 41*(4), 913–930.

Carmona, M., Congregado, E., Golpe, A. A., & Iglesias, J. (2016). Self-employment and business cycles: Searching for asymmetries in a panel of 23 OECD countries. *Journal of Business Economics and Management, 17*(6), 1155–1171.

Carree, M., van Stel, A., Thurik, R., & Wennekers, S. (2002). Economic development and business ownership: An analysis using data of 23 OECD countries in the period 1976–1996. *Small Business Economics, 19*(3), 271–290.

Carree, M., van Stel, A., Thurik, R., & Wennekers, S. (2007). The relationship between economic development and business ownership revisited. *Entrepreneurship and Regional Development, 19*(3), 281–291.

Carree, M. A., & Thurik, A. R. (2008). The lag structure of the impact of business ownership on economic performance in OECD countries. *Small Business Economics, 30*(1), 101–110.

Carter, S. (2011). The rewards of entrepreneurship: exploring the incomes, wealth, and economic well-being of entrepreneurial households. *Entrepreneurship Theory and Practice, 35*(1), 39–55.

Castaño, M. S., Méndez, M. T., & Galindo, M. Á. (2016). The effect of public policies on entrepreneurial activity and economic growth. *Journal of Business Research, 69*(11), 5280–5285.

Castaño-Martínez, M.-S., Méndez-Picazo, M.-T., & Galindo Martín, M. Á. (2015). Policies to promote entrepreneurial activity and economic performance. *Management Decision, 53*(9), 2073–2087.

Chang, H. J., & Kozul-Wright, R. (1994). Organising development: Comparing the national systems of entrepreneurship in Sweden and South Korea. *The Journal of Development Studies, 30*(4), 859–891.

Chesbrough, H. W. (2003). The era of open innovation. *MIT Sloan Management Review, 44*, 35–41.

Chesbrough, H. W. (2006). *Open innovation: The new imperative for creating and profiting from technology*. Boston: Harvard Business School Press.

Chowdhury, F., Desai, S., Audretsch, D. B., & Belitski, M. (2015). Does corruption matter for international entrepreneurship? *International Entrepreneurship and Management Journal, 11*(4), 959–980.

Chowdhury, F., Terjesen, S., & Audretsch, D. (2015). Varieties of entrepreneurship: Institutional drivers across entrepreneurial activity and country. *European Journal of Law and Economics, 40*(1), 121–148.

Chrisman, J. J., Kellermanns, F. W., Chan, K. C., & Liano, K. (2010). Intellectual foundations of current research in family business: An identification and review of 25 influential articles. *Family Business Review, 23*(1), 9–26.

Collins, J., & Low, A. (2010). Asian female immigrant entrepreneurs in small and medium-sized businesses in Australia. *Entrepreneurship & Regional Development, 22*(1), 97–111.

Collins, J. D., McMullen, J. S., & Reutzel, C. R. (2016). Distributive justice, corruption, and entrepreneurial behavior. *Small Business Economics, 47*(4), 981–1006.

Collins, O. F., Moore, D. G., & Unwalla, D. B. (1964). *The enterprising man*. East Lansing, MI: Michigan State University Press.

Cruz, C., Justo, R., & De Castro, J. O. (2012). Does family employment enhance MSEs performance?: Integrating socioemotional wealth and family embeddedness perspectives. *Journal of Business Venturing, 27*(1), 62–76.

Czarnitzki, D., Doherr, T., Hussinger, K., Schliessler, P., & Toole, A. A. (2016). Knowledge creates markets: The influence of entrepreneurial support and patent rights on academic entrepreneurship. *European Economic Review, 86*, 131–146.

Da Rin, M., Di Giacomo, M., & Sembenelli, A. (2011). Entrepreneurship, firm entry, and the taxation of corporate income: Evidence from Europe. *Journal of Public Economics, 95*(9–10), 1048–1066.

Dana, L. P. (1987). Evaluating policies promoting entrepreneurship: A cross cultural comparison of enterprises case study: Singapore & Malaysia. *Journal of Small Business and Entrepreneurship, 4*(3), 36–41.

Danson, M. W. (1995). New firm formation and regional economic development: An introduction and review of the Scottish experience. *Small Business Economics, 7*(2), 81–87.

Davidsson, P., Hunter, E., & Klofsten, M. (2006). Institutional forces: The invisible hand that shapes venture ideas? *International Small Business Journal, 24*(2), 115–131.

Davidsson, P., Lindmark, L., & Olofsson, C. (1994). New firm formation and regional development in Sweden. *Regional Studies, 28*(4), 395–410.

Davis, L. S., & Williamson, C. R. (2016). Culture and the regulation of entry. *Journal of Comparative Economics, 44*(4), 1055–1083.

De Bruin, A., Brush, C. G., & Welter, F. (2007). Advancing a framework for coherent research on women's entrepreneurship. *Entrepreneurship Theory and Practice, 31*(3), 323–339.

De Castro, J. O., Khavul, S., & Bruton, G. D. (2014). Shades of grey: How do informal firms navigate between macro and meso institutional environments? *Strategic Entrepreneurship Journal, 8*(1), 75–94.

De Clercq, D., & Dakhli, M. (2009). Personal strain and ethical standards of the self-employed. *Journal of Business Venturing, 24*(5), 477–490.

De Clercq, D., Danis, W. M., & Dakhli, M. (2010). The moderating effect of institutional context on the relationship between associational activity and new business activity in emerging economies. *International Business Review, 19*(1), 85–101.

de Lange, D. E. (2016). Legitimation strategies for clean technology entrepreneurs facing institutional voids in emerging economies. *Journal of International Management, 22*(4), 403–415.

Dean, T. J., & McMullen, J. S. (2007). Toward a theory of sustainable entrepreneurship: Reducing environmental degradation through entrepreneurial action. *Journal of Business Venturing, 22*(1), 50–76.

Debicki, B. J., Matherne III, C. F., Kellermanns, F. W., & Chrisman, J. J. (2009). Family business research in the new millennium: An overview of the who, the where, the what, and the why. *Family Business Review, 22*(2), 151–166.

Dejardin, M. (2011). Linking net entry to regional economic growth. *Small Business Economics, 36*(4), 443–460.

Dejardin, M., & Fritsch, M. (2011). Entrepreneurial dynamics and regional growth. *Small Business Economics, 36*(4), 377–382.

Díaz Casero, J. C., Almodóvar González, M., de la Cruz Sánchez Escobedo, M., Coduras Martinez, A., & Hernández Mogollón, R. (2013). Institutional variables, entrepreneurial activity and economic development. *Management Decision, 51*(2), 281–305.

DiMaggio, P. J., & Powell, W. W. (Eds.). (1991). *The new institutionalism in organizational analysis* (Vol. 17). Chicago: University of Chicago Press.

Djankov, S., La Porta, R., Lopez-De-Salines, F., & Shleifer, A. (2002). The regulation of entry. *The Quarterly Journal of Economics, 117*(1), 1–37.

Drori, I., Honig, B., & Wright, M. (2009). Transnational entrepreneurship: An emergent field of study. *Entrepreneurship Theory and Practice, 33*(5), 1001–1022.

Dutta, N., & Sobel, R. (2016). Does corruption ever help entrepreneurship? *Small Business Economics, 47*(1), 179–199.

Easterly, W., & Easterly, W. R. (2001). *The elusive quest for growth: Economists' adventures and misadventures in the tropics*. Cambridge, MA: MIT Press.

Eesley, C. (2016). Institutional barriers to growth: Entrepreneurship, human capital and institutional change. *Organization Science, 27*(5), 1290–1306.

Elert, N., & Henrekson, M. (2017). Entrepreneurship and institutions: A bidirectional relationship. *Foundations and Trends® in Entrepreneurship, 13*(3), 191–263.

Estrin, S., & Mickiewicz, T. (2011). Institutions and female entrepreneurship. *Small Business Economics, 37*(4), 397–415.

Estrin, S., & Mickiewicz, T. (2012). Shadow economy and entrepreneurial entry. *Review of Development Economics, 16*(4), 559–578.

Estrin, S., Mickiewicz, T., & Stephan, U. (2013). Entrepreneurship, social capital, and institutions: Social and commercial entrepreneurship across nations. *Entrepreneurship Theory and Practice, 37*(3), 479–504.

Estrin, S., Korosteleva, J., & Mickiewicz, T. (2013a). Which institutions encourage entrepreneurial growth aspirations? *Journal of Business Venturing, 28*(4), 564–580.

Estrin, S., Mickiewicz, T., & Stephan, U. (2013b). Entrepreneurship, social capital, and institutions: Social and commercial entrepreneurship across nations. *Entrepreneurship Theory and Practice, 37*(3), 479–504.

Etzkowitz, H., & Klofsten, M. (2005). The innovating region: Toward a theory of knowledge-based regional development. *R&D Management, 35*(3), 243–255.

Field, E., Jayachandran, S., & Pande, R. (2010). Do traditional institutions constrain female entrepreneurship? A field experiment on business training in India. *The American Economic Review, 100*(2), 125–129.

Fligstein, N. (1997). Social skill and institutional theory. *American Behavioral Scientist, 40*(4), 397–405.

Freire-Gibb, L. C., & Nielsen, K. (2014). Entrepreneurship within urban and rural areas: Creative people and social networks. *Regional Studies, 48*(1), 139–153.

Fried, V. H. (2003). Defining a forum for entrepreneurship scholars. *Journal of Business Venturing, 18*(1), 1–11.

Fritsch, M. (2008). How does new business formation affect regional development? Introduction to the special issue. *Small Business Economics, 30*(1), 1–14.

García-Posada, M., & Mora-Sanguinetti, J. S. (2015). Entrepreneurship and enforcement institutions: Disaggregated evidence for Spain. *European Journal of Law and Economics, 40*(1), 49–74.

Giordani, P. E. (2015). Entrepreneurial finance and economic growth. *Journal of Economics, 115*(2), 153–174.

Gnyawali, D. R., & Fogel, D. S. (1994). Environments for entrepreneurship development: Key dimensions and research implications. *Entrepreneurship Theory and Practice, 18*(4), 43–62.

Gohmann, S. F. (2012). Institutions, latent entrepreneurship, and self-employment: An international comparison. *Entrepreneurship Theory and Practice, 36*(2), 295–321.

Goltz, S., Buche, M. W., & Pathak, S. (2015). Political empowerment, rule of law, and women's entry into entrepreneurship. *Journal of Small Business Management, 53*(3), 605–626.

Gómez-Haro, S., Aragón-Correa, J. A., & Cordón-Pozo, E. (2011). Differentiating the effects of the institutional environment on corporate entrepreneurship. *Management Decision, 49*(10), 1677–1693.

González-Pernía, J. L., & Peña-Legazkue, I. (2015). Export-oriented entrepreneurship and regional economic growth. *Small Business Economics, 45*(3), 505–522.

Gries, T., & Naudé, W. (2010). Entrepreneurship and structural economic transformation. *Small Business Economics, 34*(1), 13–29.

Guerrero, M., Cunningham, J. A., & Urbano, D. (2015). Economic impact of entrepreneurial universities' activities: An exploratory study of the United Kingdom. *Research Policy, 44*(3), 748–764.

Guerrero, M., & Urbano, D. (2012). The development of an entrepreneurial university. *The Journal of Technology Transfer, 37*(1), 43–74.

Guerrero, M., Urbano, D., Cunningham, J., & Organ, D. (2014). Entrepreneurial universities in two European regions: A case study comparison. *The Journal of Technology Transfer, 39*(3), 415–434.

Guerrero, M., Urbano, D., & Fayolle, A. (2016). Entrepreneurial activity and regional competitiveness: Evidence from European entrepreneurial universities. *The Journal of Technology Transfer, 41*(1), 105–131.

Hafer, R. W., & Jones, G. (2015). Are entrepreneurship and cognitive skills related? Some international evidence. *Small Business Economics, 44*(2), 283–298.

Hausmann, R., & Rodrik, D. (2003). Economic development as self-discovery. *Journal of Development Economics, 72*(2), 603–633.

Hayton, J. C., George, G., & Zahra, S. A. (2002). National culture and entrepreneurship: A review of behavioral research. *Entrepreneurship Theory and Practice, 26*(4), 33–52.

Hechavarría, D. M. (2016). The impact of culture on national prevalence rates of social and commercial entrepreneurship. *International Entrepreneurship and Management Journal, 12*(4), 1025–1052.

Hechavarria, D. M., & Reynolds, P. D. (2009). Cultural norms & business start-ups: The impact of national values on opportunity and necessity entrepreneurs. *International Entrepreneurship and Management Journal, 5*(4), 417.

Helpman, E. (2004). *The mystery of economic growth*. Cambridge, MA: MIT Press.

Hessels, J., & van Stel, A. (2011). Entrepreneurship, export orientation, and economic growth. *Small Business Economics, 37*(2), 255–268.

Hoffman, D. L., & Franke, G. R. (1986). Correspondence analysis: Graphical representation of categorical data in marketing research. *Journal of Marketing Research, 23*(3), 213–227.

Hoogendoorn, B., Rietveld, C. A., & van Stel, A. (2016). Belonging, believing, bonding, and behaving: The relationship between religion and business ownership at the country level. *Journal of Evolutionary Economics, 26*(3), 519–550.

Hopp, C., & Stephan, U. (2012). The influence of socio-cultural environments on the performance of nascent entrepreneurs: Community culture, motivation, self-efficacy and start-up success. *Entrepreneurship and Regional Development, 24*(9–10), 917–945.

Huggins, R., & Thompson, P. (2015). Entrepreneurship, innovation and regional growth: A network theory. *Small Business Economics, 45*(1), 103–128.

Huggins, R., & Thompson, P. (2016). Socio-spatial culture and entrepreneurship: Some theoretical and empirical observations. *Economic Geography, 92*(3), 269–300.

Isenberg, D. J. (2010). How to start an entrepreneurial revolution. *Harvard Business Review, 88*(6), 40–50.

Iyigun, M. F., & Owen, A. L. (1999). Entrepreneurs, professionals, and growth. *Journal of Economic Growth, 4*(2), 213–232.

Johnson, P., & Parker, S. (1996). Spatial variations in the determinants and effects of firm births and deaths. *Regional Studies, 30*(7), 679–688.

Jones, M. V., Coviello, N., & Tang, Y. K. (2011). International entrepreneurship research (1989–2009): A domain ontology and thematic analysis. *Journal of Business Venturing, 26*(6), 632–659.

Kanniainen, V., & Vesala, T. (2005). Entrepreneurship and labor market institutions. *Economic Modelling, 22*(5), 828–847.

Kibler, E., & Kautonen, T. (2016). The moral legitimacy of entrepreneurs: An analysis of early-stage entrepreneurship across 26 countries. *International Small Business Journal, 34*(1), 34–50.

Kim, B. Y., & Kang, Y. (2014). Social capital and entrepreneurial activity: A pseudo-panel approach. *Journal of Economic Behavior & Organization, 97*, 47–60.

King, R. G., & Levine, R. (1993). Finance, entrepreneurship and growth. Theory and evidence. *Journal of Monetary Economics, 32*(3), 513–542.

Kirby, D. A., Guerrero, M., & Urbano, D. (2011). Making universities more entrepreneurial: Development of a model. *Canadian Journal of Administrative Sciences, 28*(3), 302–316.

Klapper, L., Laeven, L., & Rajan, R. (2006). Entry regulation as a barrier to entrepreneurship. *Journal of Financial Economics, 82*(3), 591–629.

Koellinger, P. D., & Thurik, A. R. (2012). Entrepreneurship and the business cycle. *Review of Economics and Statistics, 94*(4), 1143–1156.

Krasniqi, B. A., & Desai, S. (2016). Institutional drivers of high-growth firms: Country-level evidence from 26 transition economies. *Small Business Economics, 47*(4), 1075–1094.

Krasniqi, B. A., & Mustafa, M. (2016). Small firm growth in a post-conflict environment: The role of human capital, institutional quality, and managerial capacities. *International Entrepreneurship and Management Journal, 12*(4), 1165–1207.

Krueger, N. F. (1993). The impact of prior entrepreneurial exposure on perceptions of new venture feasibility and desirability. *Entrepreneurship Theory and Practice, 18*(1), 5–22.

Krueger, N. F., & Brazeal, D. V. (1994). Entrepreneurial potential and potential entrepreneurs. *Entrepreneurship: Theory and Practice, 18*, 91–104.

Kuckertz, A., Berger, E. S., & Mpeqa, A. (2016). The more the merrier? Economic freedom and entrepreneurial activity. *Journal of Business Research, 69*(4), 1288–1293.

Landström, H., Harirchi, G., & Åström, F. (2012). Entrepreneurship: Exploring the knowledge base. *Research Policy, 41*(7), 1154–1181.

Lechner, M., & Pfeiffer, F. (1993). Planning for self-employment at the beginning of a market economy: Evidence from individual data of East German workers. *Small Business Economics, 5*(2), 111–128.

Leih, S., & Teece, D. (2016). Campus leadership and the entrepreneurial university: A dynamic capabilities perspective. *The Academy of Management Perspectives, 30*(2), 182–210.

Lerner, M., Brush, C., & Hisrich, R. (1997). Israeli women entrepreneurs: An examination of factors affecting performance. *Journal of Business Venturing, 12*(4), 315–339.

Levie, J., & Autio, E. (2008). A theoretical grounding and test of the GEM model. *Small Business Economics, 31*(3), 235–263.

Leydesdorff, L. (2012). Alternatives to the journal impact factor: I3 and the top-10% (or top-25%?) of the most-highly cited papers. *Scientometrics, 92*(2), 355–365.

Li, C., Isidor, R., Dau, L. A., & Kabst, R. (2017). The more the merrier? Immigrant share and entrepreneurial activities. *Entrepreneurship Theory and Practice*. https://doi.org/10.1111/etap.12277

Lim, D. S., Oh, C. H., & De Clercq, D. (2016). Engagement in entrepreneurship in emerging economies: Interactive effects of individual-level factors and institutional conditions. *International Business Review, 25*(4), 933–945.

Liñán, F., & Fernandez-Serrano, J. (2014). National culture, entrepreneurship and economic development: Different patterns across the European Union. *Small Business Economics, 42*(4), 685–701.

Liñán, F., Urbano, D., & Guerrero, M. (2011). Regional variations in entrepreneurial cognitions: Start-up intentions of university students in Spain. *Entrepreneurship and Regional Development, 23*(3–4), 187–215.

Low, S. A., & Isserman, A. M. (2015). Where are the innovative entrepreneurs? Identifying innovative industries and measuring innovative entrepreneurship. *International Regional Science Review, 38*(2), 171–201.

Maimone Ansaldo Patti, D., Mudambi, R., Navarra, P., & Baglieri, D. (2016). A tale of soil and seeds: The external environment and entrepreneurial entry. *Small Business Economics, 47*(4), 955–980.

Mair, J., & Marti, I. (2009). Entrepreneurship in and around institutional voids: A case study from Bangladesh. *Journal of Business Venturing, 24*(5), 419–435.

Malchow-Møller, N., Markusen, J. R., & Skaksen, J. R. (2010). Labour market institutions, learning and self-employment. *Small Business Economics, 35*(1), 35–52.

Manolova, T. S., Eunni, R. V., & Gyoshev, B. S. (2008). Institutional environments for entrepreneurship: Evidence from emerging economies in Eastern Europe. *Entrepreneurship Theory and Practice, 32*(1), 203–218.

Mason, C., & Brown, R. (2014). *Entrepreneurial ecosystems and growth oriented entrepreneurship*. Paper prepared for a workshop of the OECD LEED Programme and the Dutch Ministry of Economic Affairs, The Hague, Netherlands, November 7th, 2013.

McClelland, D. C. (1961). *The achieving society*. Princeton, NJ: Van Nostrand.

McGrath, R. G., MacMillan, I. C., & Scheinberg, S. (1992). Elitists, risk-takers, and rugged individualists? An exploratory analysis of cultural differences between entrepreneurs and non-entrepreneurs. *Journal of Business Venturing, 7*(2), 115–135.

McMullen, J. S. (2011). Delineating the domain of development entrepreneurship: A market-based approach to facilitating inclusive economic growth. *Entrepreneurship Theory and Practice, 35*(1), 185–193.

Meek, W. R., Pacheco, D. F., & York, J. G. (2010). The impact of social norms on entrepreneurial action: Evidence from the environmental entrepreneurship context. *Journal of Business Venturing, 25*(5), 493–509.

Méndez-Picazo, M.-T., Galindo Martín, M. Á., & Ribeiro-Soriano, D. (2012). Governance, entrepreneurship and economic growth. *Entrepreneurship and Regional Development, 24*(9–10), 865–867.

Merigó, J. M., Cancino, C. A., Coronado, F., & Urbano, D. (2016). Academic research in innovation: A country analysis. *Scientometrics, 108*(2), 559–593.

Merigó, J. M., & Yang, J. B. (2017). A bibliometric analysis of operations research and management science. *Omega, 21*(1), 71–100.

Minniti, M., & Lévesque, M. (2010). Entrepreneurial types and economic growth. *Journal of Business Venturing, 25*(3), 305–314.

Minniti, M., & Naudé, W. (2010). What do we know about the patterns and determinants of female entrepreneurship across countries? *The European Journal of Development Research, 22*(3), 277–293.

Mueller, P. (2007). Exploiting entrepreneurial opportunities: The impact of entrepreneurship on growth. *Small Business Economics, 28*(4), 355–362.

Mueller, S. L., & Thomas, A. S. (2001). Culture and entrepreneurial potential: A nine country study of locus of control and innovativeness. *Journal of Business Venturing, 16*(1), 51–75.

Müller, S. (2016). A progress review of entrepreneurship and regional development: What are the remaining gaps? *European Planning Studies, 24*(6), 1133–1158.

Naudé, W. (2010). Entrepreneurship, developing countries, and development economics: New approaches and insights. *Small Business Economics, 34*(1), 1–12.

Naudé, W. (2011). Entrepreneurship is not a binding constraint on growth and development in the poorest countries. *World Development, 39*(1), 33–44.

Nicholls, A. (2010). The legitimacy of social entrepreneurship: Reflexive isomorphism in a pre-paradigmatic field. *Entrepreneurship Theory and Practice, 34*(4), 611–633.

Nissan, E., Martín, M. Á. G., & Picazo, M. T. M. (2011). Relationship between organizations, institutions, entrepreneurship and economic growth process. *International Entrepreneurship and Management Journal, 7*(3), 311–324.

North, D. C. (1990). *Institutions, institutional change and economic performance*. Cambridge, MA: Cambridge University Press.

North, D. C. (2005). *Understanding the process of economic change*. Princeton, NJ: Princeton University Press.

North, D. C., & Thomas, R. P. (1973). *The rise of the western world: A new economic history*. Cambridge, UK: Cambridge University Press.

Noseleit, F. (2013). Entrepreneurship, structural change, and economic growth. *Journal of Evolutionary Economics, 23*(4), 735–766.

Nyström, K. (2008). The institutions of economic freedom and entrepreneurship: Evidence from panel data. *Public Choice, 136*(3–4), 269–282.

Pathak, S., & Muralidharan, E. (2016). Informal institutions and their comparative influences on social and commercial entrepreneurship: The role of in-Group collectivism and interpersonal trust. *Journal of Small Business Management, 54*(S1), 168–188.

Pathak, S., Xavier-Oliveira, E., & Laplume, A. O. (2013). Influence of intellectual property, foreign investment, and technological adoption on technology entrepreneurship. *Journal of Business Research, 66*(10), 2090–2101.

Peng, M. W., Yamakawa, Y., & Lee, S.-H. (2010). Bankruptcy laws and entrepreneur- friendliness. *Entrepreneurship Theory and Practice, 34*(3), 517–530.

Prieger, J. E., Bampoky, C., Blanco, L. R., & Liu, A. (2016). Economic growth and the optimal level of entrepreneurship. *World Development, 82*, 95–109.

Reynolds, P., Camp, S., Bygrave, W., Autio, E., & Hay, M. (2001). *Global Entrepreneurship Monitor*. 2001 executive report. Babson College, London Business School, Kauffman Center for Entrepreneurial Leadership.

Reynolds, P. D., Hay, M., Bygrave, W. D., Camp, S. M., & Autio, E. (2000). *Global entrepreneurship monitor: 2000 executive report*. Kansas City, MO: Kauffman Center for Entrepreneurial Leadership.

Reynolds, P. D., Hay, M., & Camp, S. (1999). *Global entrepreneurship monitor: 1999 executive report*. Kansas City, MO: Kauffman Foundation.

Rocha, H. O. (2004). Entrepreneurship and development: The role of clusters. *Small Business Economics, 23*(5), 363–400.

Rodrik, D. (2003). Introduction: What do we learn from country narratives? In D. Rodrik (Ed.), *In search of prosperity: Analytic narratives on economic growth* (pp. 1–19). Princeton, NJ: Princeton University Press.

Román, C., Congregado, E., & Millán, J. M. (2011). Dependent self-employment as a way to evade employment protection legislation. *Small Business Economics, 37*(3), 363–392.

Romer, P. M. (1986). Increasing returns and long-run growth. *Journal of Political Economy, 94*(5), 1002–1037.

Schumpeter, J. A. (1911). *The theory of economic development: An inquiry into profits, capital, credit, interest, and the business cycle*. London: Transaction Books.

Scott, W. R. (2008). *Institutions and organizations: Ideas and interests* (Foundations for Organizational Science Series) (3rd ed.). London: Sage Publications.

Scott, W. R. (2014). *Institutions and organizations: Ideas, interests, and identities* (Foundations for organizational science series) (4th ed.). Thousand Oaks, CA: Sage.

Shane, S., & Foo, M. D. (1999). New firm survival: Institutional explanations for new franchisor mortality. *Management Science, 45*(2), 142–159.

Shapero, A., & Sokol, L. (1982). The social dimensions of entrepreneurship. In C. A. Kent, D. L. Sexton, & K. H. Vesper (Eds.), *Encyclopedia of entrepreneurship* (pp. 72–90). Englewood Cliffs, NJ: Prentice-Hall. Inc..

Shepherd, D. A. (2015). Party On! A call for entrepreneurship research that is more interactive, activity based, cognitively hot, compassionate, and prosocial. *Journal of Business Venturing, 30*(4), 489–507.

Shepherd, D. A., Patzelt, H., & Baron, R. A. (2013). "I care about nature, but…": Disengaging values in assessing opportunities that cause harm. *Academy of Management Journal, 56*(5), 1251–1273.

Sobel, R. S. (2008). Testing Baumol: Institutional quality and the productivity of entrepreneurship. *Journal of Business Venturing, 23*(6), 641–655.

Solow, R. M. (1956). A contribution to the theory of economic growth. *The Quarterly Journal of Economics, 70*(1), 65–94.

Spencer, J. W., & Gómez, C. (2004). The relationship among national institutional structures, economic factors, and domestic entrepreneurial activity: A multicountry study. *Journal of Business Research, 57*(10), 1098–1107.

Stenholm, P., Acs, Z. J., & Wuebker, R. (2013). Exploring country-level institutional arrangements on the rate and type of entrepreneurial activity. *Journal of Business Venturing, 28*(1), 176–193.

Stephan, U., & Pathak, S. (2016). Beyond cultural values? Cultural leadership ideals and entrepreneurship. *Journal of Business Venturing, 31*(5), 505–523.

Stephan, U., & Uhlaner, L. M. (2010). Performance-based vs socially supportive culture: A cross-national study of descriptive norms and entrepreneurship. *Journal of International Business Studies, 41*(8), 1347–1364.

Stephan, U., Uhlaner, L. M., & Stride, C. (2015). Institutions and social entrepreneurship: The role of institutional voids, institutional support, and institutional configurations. *Journal of International Business Studies, 46*(3), 308–331.

Stephen, F., Urbano, D., & Hemmen, S. (2009). The responsiveness of entrepreneurs to working time regulations. *Small Business Economics, 32*(3), 259–276.

Stephens, H. M., & Partridge, M. D. (2011). Do entrepreneurs enhance economic growth in lagging regions? *Growth and Change, 42*(4), 431–465.

Sternberg, R., & Wennekers, S. (2005). Determinants and effects of new business creation using global entrepreneurship monitor data. *Small Business Economics, 24*(3), 193–203.

Steyaert, C., & Hjorth, D. (2006). *Entrepreneurship as socialchange. A third movements in entrepreneurship book*. Cheltenham, UK: Edward Elgar.

Storey, D. J., & Tether, B. S. (1998). Public policy measures to support new technology-based firms in the European Union. *Research Policy, 26*(9), 1037–1057.
Swan, T. W. (1956). Economic growth and capital accumulation. *The Economic Record, 32*(2), 334–361.
Teece, D. J. (2007). Explicating dynamic capabilities: The nature and microfoundations of (sustainable) enterprise performance. *Strategic Management Journal, 28*(13), 1319–1350.
Teece, D. J., Pisano, G., & Shuen, A. (1997). Dynamic capabilities and strategic management. *Strategic Management Journal, 18*(7), 509–533.
Teixeira, A. A. (2011). Mapping the (in)visible college(s) in the field of entrepreneurship. *Scientometrics, 89*(1), 1–36.
Terjesen, S., & Amorós, J. E. (2010). Female entrepreneurship in Latin America and the Caribbean: Characteristics, drivers and relationship to economic development. *European Journal of Development Research, 22*(3), 313–330.
Terjesen, S., Hessels, J., & Li, D. (2016). Comparative international entrepreneurship: A review and research agenda. *Journal of Management, 42*(1), 299–344.
Thornton, P. H., Ribeiro-Soriano, D., & Urbano, D. (2011). Socio-cultural factors and entrepreneurial activity: An overview. *International Small Business Journal, 29*(2), 105–118.
Toledano, N., & Urbano, D. (2008). Promoting entrepreneurial mindsets at universities: A case study in the South of Spain. *European Journal of International Management, 2*(4), 382–399.
Toledano, N., Urbano, D., & Bernadich, M. (2010). Networks and corporate entrepreneurship: A comparative case study on family business in Catalonia. *Journal of Organizational Change Management, 23*(4), 396–412.
Troilo, M. (2011). Legal institutions and high-growth aspiration entrepreneurship. *Economic Systems, 35*(2), 158–175.
Turro, A., Alvarez, C., & Urbano, D. (2016). Intrapreneurship in the Spanish context: A regional analysis. *Entrepreneurship and Regional Development, 28*(5–6), 380–402.
Turró, A., Urbano, D., & Peris-Ortiz, M. (2014). Culture and innovation: The moderating effect of cultural values on corporate entrepreneurship. *Technological Forecasting and Social Change, 88*, 360–369.
Uhlaner, L., & Thurik, R. (2007). Postmaterialism influencing total entrepreneurial activity across nations. *Journal of Evolutionary Economics, 17*(2), 161–185.
Urbano, D., & Alvarez, C. (2014). Institutional dimensions and entrepreneurial activity: An international study. *Small Business Economics, 42*(4), 703–716.
Urbano, D., & Aparicio, S. (2016). Entrepreneurship capital types and economic growth: International evidence. *Technological Forecasting and Social Change, 102*, 34–44.
Urbano, D., Aparicio, S., Guerrero, M., Noguera, M., & Torrent-Sellens, J. (2016). Institutional determinants of student employer entrepreneurs at Catalan universities. *Technological Forecasting and Social Change, 123*, 271–282. https://doi.org/10.1016/j.techfore.2016.06.021
Urbano, D., Aparicio, S., & Querol, V. (2016). Social progress orientation and innovative entrepreneurship: An international analysis. *Journal of Evolutionary Economics, 26*(5), 1033–1066.
Urbano, D., & Guerrero, M. (2013). Entrepreneurial universities: Socioeconomic impacts of academic entrepreneurship in a European region. *Economic Development Quarterly, 27*(1), 40–55.
Urbano, D., Toledano, N., & Ribeiro, D. (2010). Support policy for the tourism business: A comparative case study in Spain. *The Service Industries Journal, 30*(1), 119–131.
Urbano, D., Toledano, N., & Ribeiro-Soriano, D. (2011). Socio-cultural factors and transnational entrepreneurship: A multiple case study in Spain. *International Small Business Journal, 29*(2), 119–134.
Valdez, M. E., & Richardson, J. (2013). Institutional determinants of macro-level entrepreneurship. *Entrepreneurship Theory and Practice, 37*(5), 1149–1175.
Valliere, D., & Peterson, R. (2009). Entrepreneurship and economic growth: Evidence from emerging and developed countries. *Entrepreneurship and Regional Development, 21*(5), 459–480.
Van de Ven, H. (1993). The development of an infrastructure for entrepreneurship. *Journal of Business Venturing, 8*(3), 211–230.

Van Gils, A., Dibrell, C., Neubaum, D. O., & Craig, J. B. (2014). Social issues in the family enterprise. *Family Business Review, 27*(3), 193–205.

van Hemmen, S., Alvarez, C., Peris-Ortiz, M., & Urbano, D. (2015). Leadership styles and innovative entrepreneurship: An international study. *Cybernetics and Systems, 46*(3–4), 271–286.

van Oort, F. G., & Bosma, N. S. (2013). Agglomeration economies, inventors and entrepreneurs as engines of European regional economic development. *The Annals of Regional Science, 51*(1), 213–244.

van Praag, C. M., & Versloot, P. H. (2007). What is the value of entrepreneurship? A review of recent research. *Small Business Economics, 29*(4), 351–382.

van Stel, A., & Carree, M. (2004). Business ownership and sectoral growth: An empirical analysis of 21 OECD countries. *International Small Business Journal, 22*(4), 389–419.

van Stel, A., Carree, M., & Thurik, R. (2005). The effect of entrepreneurial activity on national economic growth. *Small Business Economics, 24*(3), 311–321.

van Stel, A., Storey, D. J., & Thurik, A. R. (2007). The effect of business regulations on nascent and young business entrepreneurship. *Small Business Economics, 28*(2–3), 171–186.

Varvarigos, D., & Gil-Moltó, M. J. (2016). Endogenous market structure, occupational choice, and growth cycles. *Macroeconomic Dynamics, 20*(1), 70–94.

Veciana, J. M., & Urbano, D. (2008). The institutional approach to entrepreneurship research. Introduction. *International Entrepreneurship and Management Journal, 4*(4), 365–379.

Watson, J., & Everett, J. (1996). Do small businesses have high failure rates? Evidence from Australian retailers. *Journal of Small Business Management, 34*(4), 45–62.

Welter, F., Baker, T., Audretsch, D. B., & Gartner, W. B. (2017). Everyday entrepreneurship – a call for entrepreneurship research to embrace entrepreneurial diversity. *Entrepreneurship Theory and Practice, 41*(3), 311–321.

Welter, F., & Smallbone, D. (2008). Women's entrepreneurship from an institutional perspective: The case of Uzbekistan. *International Entrepreneurship and Management Journal, 4*(4), 505–520.

Welter, F., & Smallbone, D. (2011). Institutional perspectives on entrepreneurial behaviour in challenging environments. *Journal of Small Business Management, 49*(1), 107–125.

Wennberg, K., Wiklund, J., & Wright, M. (2011). The effectiveness of university knowledge spillovers: Performance differences between university spinoffs and corporate spinoffs. *Research Policy, 40*(8), 1128–1143.

Wennekers, S., & Thurik, R. (1999). Linking entrepreneurship and economic growth. *Small Business Economics, 13*(1), 27–56.

Wong, P. K., Ho, Y. P., & Autio, E. (2005). Entrepreneurship, innovation and economic growth: Evidence from GEM data. *Small Business Economics, 24*(3), 335–350.

Wooldridge, J. M. (2010). *Econometric analysis of cross-section and panel data* (2nd ed.). Cambridge, MA: MIT Press.

Yeganegi, S., Laplume, A. O., Dass, P., & Huynh, C. L. (2016). Where do spinouts come from? The role of technology relatedness and institutional context. *Research Policy, 45*(5), 1103–1112.

Yu, T. F. L. (1998). Adaptive entrepreneurship and the economic development of Hong Kong. *World Development, 26*(5), 897–911.

Zahra, S. A., Gedajlovic, E., Neubaum, D. O., & Shulman, J. M. (2009). A typology of social entrepreneurs: Motives, search processes and ethical challenges. *Journal of Business Venturing, 24*(5), 519–532.

Zahra, S. A., Hayton, J. C., Neubaum, D. O., Dibrell, C., & Craig, J. (2008). Culture of family commitment and strategic flexibility: The moderating effect of stewardship. *Entrepreneurship Theory and Practice, 32*(6), 1035–1054.

Zhang, Y. (2015). The contingent value of social resources: Entrepreneurs' use of debt-financing sources in Western China. *Journal of Business Venturing, 30*(3), 390–406.

Chapter 3
Social Progress Orientation and Entrepreneurship

3.1 Introduction

As discussed in the previous chapters, the specific recognition of entrepreneurial activity nowadays is due to the fact that the phenomenon of entrepreneurship has a positive impact on competitiveness, growth, development and social progress at the country level (Acs, Arenius, Hay, & Minniti, 2004; Acs, Desai, & Klapper, 2008; Amorós & Bosma, 2014; Aparicio, Urbano, & Gómez, 2016; Carlsson et al., 2013; Reynolds et al., 2005; van Stel et al., 2005; Wennekers & Thurik, 1999; Wennekers, van Stel, Thurik, & Reynolds, 2005), as well as at a regional level (Audretsch, Bönte, & Keilbach, 2008; Bosma, 2009; Dejardin, 2011; Feldman, 2014; Fritsch, 2011).

Urbano, Aparicio, Guerrero, Noguera, and Torrent-Sellens (2016) suggest that though social progress is been based on economic terms (GDP-oriented),measures about socioeconomic developmentare claimed by scholars (Blackburn & Ram, 2006; Engelbrecht, 2014; Porter, 2013; Stiglitz, Sen, & Fitoussi, 2009). For example, the Social Progress Index (Porter, 2013) consists of measuring progress beyond GDP. In this case, an aggreageted index that contains three dimensions was created. These dimensions are basic human needs, the foundations of well-being, and opportunity. Similar initiatives, such as the Indices of Social Development (ISD) of the Institute of Social Studies (ISS), focus on those values that promote human well-being. Based on these indices, social progress orientation (SPO) is perceived as those values beyond economic terms that promote social well-being (Urbano, Aparicio, Guerrero, et al., 2016). Current research has examined the effect of certainelements related to SPO on entrepreneurial activity from different approaches, but there is a scarcity of an explicit and integrative approach. In this regard, some

Another version of this chapter has been published in Urbano, D., Aparicio, S., & Querol, V. (2016). Social progress orientation and innovative entrepreneurship: An international analysis. *Journal of Evolutionary Economics, 26*(5), 1033–1066.

D. Urbano et al., *Institutions, Entrepreneurship, and Economic Performance*,
International Studies in Entrepreneurship 41,
https://doi.org/10.1007/978-3-030-13373-3_3

authors have explored social capital (Anderson, Park, & Jack, 2007; Kwon, Heflin, & Ruef, 2013; Leyden & Link, 2015), whereas others postmaterialist and social values (Turró, Urbano, & Peris-Ortiz, 2014; Uhlaner & Thurik, 2007), subjective well-being (Naudé, Amorós, & Cristi, 2013), life satisfaction (Naudé, Amorós, & Cristi, 2014), power distance (Shane, 1993) and masculinity vs. femininity (Baum et al., 1993).

As those variables influencing entrepreneurial activity are explored by academia from different approaches (Bruton, Ahlstrom, & Li, 2010; Freytag & Thurik, 2007; Verheul, Wennekers, Audretsch, & Thurik, 2002), institutional economics can be a useful framework to understand the context created by institutional arrangements and theyaffect entrepreneurship (Alvarez & Urbano, 2011; Aparicio, Urbano, & Audretsch, 2016; Thornton, Ribeiro-Soriano, & Urbano, 2011; Urbano & Alvarez, 2014; van Hemmen, Alvarez, Peris-Ortiz, & Urbano, 2015; Veciana & Urbano, 2008). Even thoughthis theoretical approach has lived a tremendous growth in recent years, there is still few empirical worksanalyzing societal characteristics from an institutional perspective (Alvarez & Urbano, 2011; Manolova, Eunni, & Gyoshev, 2008; Stenholm, Acs, & Wuebker, 2013; Urbano & Alvarez, 2014). As we mentioned in previous chapters, North (1990, 2005) defined institutional factors as formal (procedures, laws, regulations, constitutions, etc.) and informal (role models, values, beliefs and attitudes commonly known as culture). On these bases, SPO is classified in the informal institutions.

Therefore, this chapter seeks to examine the influence of SPO on entrepreneurship in an international analysis. In this regard, entrepreneurship has been assumed as the total early-stage entrepreneurial activity that represents those who are pursuing an entrepreneurial career (Bosma, 2013). Total early-stage entrepreneurial activity (TEA) driven by innovative and opportunity reasons are other approaches for entrepreneurial activity (Aparicio, Urbano, & Audretsch, 2016; Reynolds et al., 2005). Accordingly, those entrepreneurs that bring new products and services to the market, and those whoidentify opportunities tend to experiment innovative process to carry out their new businesses, are routed on Schumpeter's (1911) definition. However, since there also exist the counterpart of opportunity TEA defined as entrepreneurial activity driven by necessity (Reynolds et al., 2005), a ratio between these two measures was computed to analyze the weight of opportunity TEA in each economy (Acs, Desai, & Hessels, 2008). Cross-sectional data from Global Entrepreneurship Monitor (GEM) on these measures for the year 2013 are used in this research. Those variables that represent social progress orientation were takes from the World Values Survey (WVS), the Hofstede Centre (HC) and an unexplored database to date, the Indices of Social Development (ISD). Control variables are also important for this study asdepending on development level, different associations with entrepreneurial activity across countries may amerge (van Stel, Carree, & Thurik, 2005; Verheul et al., 2002). In this sense, the Human Development Index (HDI) from the United Nations Development Programme (UNDP), and the percentage of female population, GDP and health expenditures from the World Development Indicators (WDI) of the World Bank, are used.

Our findings prove that social progress orientation measures through high voluntary spirit affects both measures of entrepreneurial activity (innovative as well as opportunity TEA/necessity TEA). Additionally, self-expression values also exerts an influenceon the rate between entrepreneurship driven by opportunity and necessity; and high masculinity discourages the prevalence of innovative entrepreneurial activity, andthe ration between opportunity TEA over the necessity TEA. Given these results, we believe that our empirical study contributes to the literature by advancing in the application of the institutional approach for the understanding of the social progress determinants of innovative entrepreneurship at country level. Also, these new findings could help to design policies to promote entrepreneurial activitydriven by innovation and opportunity over the entrepreneurship driven by necessity, being the former ones, considered an important driver for and economic development (Aparicio, Urbano, & Gómez, 2018; Audretsch et al., 2008; Baumol, 1990; Carlsson et al., 2013).

The remaining of the chapter is structured as follows. After this brief introduction, in the second section we review the literature on social progress orientation, and those variables associated with innovative entrepreneurial activity. The third section presents the empirical strategy, while the fourth section discusses the main results of the study. Finally, the article highlights the most relevant conclusions and suggests future research lines.

3.2 Conceptual Framework: Social Progress Orientation and Entrepreneurship

Schumpeter (1911) suggests that innovative entrepreneurial activity is a key factor for the development process. In this sense, the entrepreneur is considered the agent capable of generating change and push the technological frontier. Thus, entrepreneurship is a valid mechanism that promotes economic performance and new jobs, as well as ensuring the well-being of society (Acs, Audretsch, Braunerhjelm, & Carlsson, 2012; Audretsch et al., 2008; Avlonitis & Salavou, 2007; Busenitz et al., 2003; Carlsson et al., 2013; Díaz, Almodóvar González, Cruz Sánchez Escobedo, Coduras Martinez, & Hernández Mogollón, 2013; Ribeiro-Soriano & Peris-Ortiz, 2011; Urbano, Aparicio, & Audretsch, 2018; van Praag & Versloot, 2007; Wennekers & Thurik, 1999). Innovative entrepreneurial activity and its antecedents has different scholars from different disciplines (Audretsch, 2012; Shane & Venkataraman, 2000; Thornton et al., 2011; van Hemmen et al., 2015; Veciana & Urbano, 2008; Verheul et al., 2002).

As the concept of SPO is is somehow new, different definitions that help to understand what social progress means, are explored. Initially, these definitions and measurements were grounded upon the GDP and related ways to capture aggreagated production (e.g. GDP per capita, labor productivity, etc.).Nonetheless, a more social orientation (e.g. well-being and life satisfaction) approach has recently been

calling the attention of different scholars and organizations around the world (Alkire & Santos, 2010; Engelbrecht, 2014; Porter, 2013; Rojas, 2011; Stiglitz et al., 2009). For instance, the United Nations (UN) conceptualizes social progress as a set of economic and noneconomic outcomes (poverty, inequality, education, healthcare, non-discrimination, freedom of choice, among others) that countries need to fight for. TheUNhas the Human Development Report, in which the Human Development Index (HDI) is shown for all countries. Porter (2013), in a similar line of thought,has built the Social Progress Index (SPI), which measures "the capacity of a society to meet the basic human needs of its citizens, establish the building blocks that allow citizens and communities to enhance and sustain the quality of their lives, and to create the conditions for all individuals to reach their full potential" (Porter 2013, p. 41). This index contains three dimensions: basic human needs (nutrition and basic medical care, air, water and sanitation, shelter and personal safety), foundations of well-being (access to basic knowledge, information and communications, health, wellness and ecosystem sustainability) and opportunity (personal rights, access to higher education, personal freedom and choice and equity and inclusion). Both the HDI and SPI exemplify social progress as a multidimensional concept. In this regard, extant literature deals with some of its dimensions, but still, not in an integrative manner and far from what we understand as a SPO.

While some scholarsexplore the effect of education (Acs, Braunerhjelm, Audretsch, & Carlsson, 2009; Arenius & Minniti, 2005; Bergmann & Sternberg, 2007; Blanchflower, 2004; Block, Hoogerheide, & Thurik, 2013; Davidsson & Honig, 2003; De Clerq & Arenius, 2006; Koellinger, 2008; Lee, Florida, & Acs, 2004; Levie & Autio,2008; Robinson & Sexton, 1994; Shane, 2000) and the influence of social security entitlements related to welfare on entrepreneurial activity (Freytag & Thurik, 2007; Henrekson, 2005; Hessels, van Stel, Brouwer, & Wennekers, 2007, 2008; Parker & Robson, 2004), an important amount of research is focused on economic determinants (Acs & Szerb, 2007; Carree, van Stel, Thurik, & Wennekers, 2002, 2007; Gries & Naudé, 2010; Wennekers et al., 2005; Wennekers, Thurik, van Stel, & Noorderhaven, 2007; Wong, Ho, & Autio, 2005). In this regard, current literaturetalks about the existence of a U-shaped relationship between entrepreneurial activity and the level of economic development (Carree et al., 2002; Wennekers et al., 2005). It is acknowledged that entrepreneurial activity, especially innovative entrepreneurship and the TEA driven by opportunity, is predominatly high in developed countries, which are characterized by the innovation-driven stage, whereas entrepreneurship driven by necessity is mostly found in low- to middle-income countries, which are characterized by the factor-driven and the investment-driven stage (Amorós & Bosma, 2014; Gries & Naudé, 2010; Liñán & Fernandez-Serrano, 2014).

Extant research enables us to get a general perspectiveabout social progress based on a set of economic and non-economic elements.Nonetheless, the Indices of Social Development (ISD) encompase only non-economic characteristics related to certain social norms, such as civic activism, intergroup cohesion, clubs and associations, interpersonal safety and trust, gender equality and inclusion of minorities (Foa, 2011; Foa & Tanner, 2012; van Staveren, Webbink, de Haan, & Foa, 2014; Webbink, 2012). By following these characteristics, we perceive SPO as the values

beyond economic terms that promote well-being for the society (Urbano, Aparicio, Guerrero, et al., 2016). In this regard, institutional economics (North, 1990, 2005) serves to link SPO with entrepreneurial activity driven by innovation and opportunity recognition. This framework is appropriate and promising for the analysis of those institutional factors influencing new business creation based on innovation (Aparicio, Urbano, & Audretsch, 2016; Bruton et al. 2010; Hayton, George, & Zahra, 2002; Salimath & Cullen, 2010; Thornton et al., 2011; Veciana & Urbano, 2008). Accordingly, North (1990, p. 83) explains that "the agent of change is the individual entrepreneur responding to the incentives embodied in the institutional framework". His theory refers to the humanly devised constraints that influence individual and social behavior, in which both formal and informal institutions emerge (North, 1990, 2005). Thus, the entrepreneurial process is assumed to be highly conditioned by these sorst of institutions (Veciana & Urbano, 2008, p. 373). Bycosidering the institutional approach,we believe that SPO pertains to informal institutions simply because the values behind SPO are beyond economic terms and tend to be formed in the long term. Thus, extantresearchexploresthe influence of subjective well-being and life satisfaction on innovative entrepreneurial activity and its different types (either opportunity or necessity). For example, Naudé et al. (2013) show evidenceon the ratio of opportunity-driven over the necessity-driven entrepreneurial activity improves with non-economic well-being. In the same line of thought, it is found that life satisfaction and innovative entrepreneurial activity follow a bicausal relationship (Naudé et al., 2014). In this case, innovative entrepreneurship affects life satisfaction, and this influence is characterized by an inverted U-shaped relationship. As such, opportunity entrepreneurship allows for an increasing on life satisfaction and happiness (Binder & Coad, 2013; Block & Koellinger, 2009), to the extent where an excess of entrepreneurship driven by opportunitymay lead to highly competitive market conditions and to dissatisfaction. Regarding the reverse causality, the higher the level of life satisfaction, the higher the number of entrepreneurs recognizing opportunities (Naudé et al., 2014). Others authors such as Florida (2002), Lee et al. (2004), and Turok (2004), assert that improved social contexts can attract people with higher human capital, innovativeness, creativity and entrepreneurs. In this case, the combination of these elements, can resultin a type of entrepreneurial activity based on innovation and, therefore, create the conditions for a productive society (Aparicio, Urbano, & Audretsch, 2016; Baumol, 1990). This sort of entrepreneurship is associated with innovation and opportunity recognition (Amorós & Bosma, 2014; Aparicio, Urbano, & Audretsch, 2016; Hessels et al., 2008; Naudé et al., 2013).

When societies improve their institutional context, resulsts related to SPO can be appreciated through dimensions of the ISD. These variables are focused on the social norms that promote civic activism, clubs and associations, intergroup cohesion, interpersonal safety and trust, gender equality and inclusion of minorities. If we build on the clubs and associations characteristic, the ISD enables us to understand the community ties that act as a safety net for the poor for facilitating aid and assistance. These social ties and connections, such as those found within primary sources of socialization process (e.g. families and local communities), serve indi-

viduals advance personally and professionally. Additionally, this clubs and associations dimension can be an index of the voluntary engagement in memberships, and thus, it may serve as a measure of the voluntary spirit. Basedon this definition, it is possible to relate this dimension to the social capital approach (Foa, 2011). The literature on these dimensions acknowledges the positive effect of social capital on innovative entrepreneurial activity (Davidsson & Honig, 2003; Kim & Kang, 2014; Leyden & Link, 2015; Schulz & Baumgartner, 2013). Casson and Della Giusta (2007) suggest that the entrepreneurial process (i.e. opportunity identification, creation of new products, acquisition of resources and access to new or existing markets) serves to comprehend those elements behind the effect social capital exerts on innovative entrepreneurial activity. Entrepreneurs with access to social capital (clubs, associations, informal networks and other meetings) have an advantage as they also have access to information about entrepreneurial opportunities, which then are turned into new businesses (Audia, Freeman, & Reynolds, 2006; Bauernschuster, Falck, & Heblich, 2010; Kwon et al., 2013). Others authors recommend that the trust gained through social capital is highly relevant for the acquisition of resources such as financing, material and intangible assets that otherwise entrepreneurs do not afford (Liao & Welsch, 2005; Teckchandani, 2014). Finally, when there is an attempt to access markets, entrepreneurs use social capital as a valid instrument for transforming opportunities into innovative products (Alvarez & Busetniz, 2001; Anderson et al., 2007). These examples clearly show the relationship between having access to social capital (associations, clubs, informal networks, among others) and the stages of the entrepreneurial process. For each one of these stages, social capital promotes entrepreneurial activity. Others authors instead, comment on the importance of innovation for the high-tech entrepreneurial activity (Anderson, Park, & Jack, 2007; McFadyen, Semadeni, & Cannella, 2009; Sorenson, 2003). Thus, we propose the following hypotheses:

Hypothesis 1: Voluntary spirit impacts positively the innovative entrepreneurial activity.

Hypothesis 1a: Voluntary spirit impacts positively the ratio of entrepreneurship driven by opportunity over the entrepreneurship driven by necessity.

Though entrepreneurship is related to certain materialistic values, there is evidence that highly developed societies placed increasing emphasis on quality of life, environmental protection and self-expression (Inglehart & Baker, 2000, p. 21). This cultural change in the mindset is characterizedby postmaterialism, and it is an universal phenomenon as development takes place (Inglehart, 1977, 1990; Inglehart &Welzel, 2005). There is evidence that shows how cross-cultural differences in the analysis of 43 countries in the 1990–1991 World Values Survey exist (Inglehart, 1997). These differences encompassed the perception of political, social and religious norms, as well as beliefs across rich and low-income societies. From this perspective, two dimensions emerged reflecting cross-national polarization between traditional and secular-rational orientations toward authority, and survival versus self-expression values (Inglehart & Baker, 2000). Thereby, societies can be classifiedaccording to the cross-cultural variation based on these two dimensions (Inglehart,

1997, p. 81–98). Accordingly, Inglehart (1997)suggested that the traditional versus secular-rational values draw a continuum where the traditional side is related to the relevance of existential security, traditional family ties, strong presence of religion and hierarchy. Moderns societies characterized by secular-rational values are more tolerantto issues such as abortion, divorce and euthanasia, among others. Nevertheless, the survival versus self-expression dimension, associated with trust, tolerance, subjective well-being, political activism, and self-expression, emerges in postindustrial societies with high levels of security. Societies that place emphasis on survival values present relatively low levels of subjective well-being, show relatively poor health, are characterized by a low level of interpersonal trust, are relatively intolerant of out-groups, do not have gender equality purposes, emphasize materialist values, have relatively high levels of faith in science and technology, are relatively low on environmental activism, and are relatively favorable to authoritarian government. Quite contrary, societies high on self-expression values show better results in these characteristics (Inglehart & Baker, 2000 p. 25–28). Therefore, postmaterialismcan be approached through self-expression values, as the horizontal axis may define development paths across countries (Inglehart & Baker, 2000; Inglehart & Welzel, 2005). The idea of postmaterialism has been limited applied in entrepreneurship research(cf. Morales & Holtschlag, 2013; Uhlaner & Thurik, 2007). Ulhaner and Thurik (2007, p. 168) assert that material gains are crucial for entrepreneurial activity.It is also suggested that those gains, by definition, are of less value to postmaterialist individuals, thereby, a society that is more postmaterialist is likely to be less entrepreneurial. Indeed, Uhlaner and Thurik (2007)show that postmaterialist values influence negatively entrepreneurial activity (nascent entrepreneurial activity and new business formation) when controlling for education, economic development and life satisfaction at country level. However, their research opens possibilities to further explore the interrelations between postmaterialism and the motivations behind entrepreneurial activity as they could differ across countries. This could be an important result because, as explained before, opportunity and necessity entrepreneurship exist, so the association between cultural values and entrepreneurial activity might differ depending on the motivations. Since self-expression, creativity and the full development of the individual are reached in climates of free choice (Inglehart & Welzel, 2005, p. 139), innovative new ventures as well as entrepreneurship driven by opportunity may find a better fit in societies oriented to social progress. For example, Scandinavian, Anglo-Saxon and Central European societies rank highly in the Inglehart's dimension, and are characterized by innovative entrepreneurial activity and present a prevalence of entrepreneurship driven by opportunity over entrepreneurship driven by necessity. In this regard, motivated by Uhlaner and Thurik (2007), the following hypotheses are proposed:

Hypothesis 2: Higher self-expression values impact positively the innovative entrepreneurial activity.

Hypothesis 2a: Higher self-expression values impact positively the ratio of entrepreneurship driven by opportunity over the entrepreneurship driven by necessity.

Based on those works by Hofstede (1980, 2005) and Hofstede, Hofstede, and Minkov (1997), it is possible to identify a set of characteristics through the study of a multinational firm's cultural setting. Though we found mixed results across the literature (Bruton et al., 2010; Hayton et al. 2002; Salimath & Cullen, 2010; Spencer & Gomez, 2004), cultural dimensions have been largerly used to understand entrepreneurial activity (Baum et al., 1993; Davidsson, 1995; Davidsson & Wiklund, 1997; Hofstede et al., 2004; Mitchell, Smith, Seawright, & Morse, 2000; Shane, 1992, 1993; Vinogradov & Kolvereid, 2007, among others). For example, current research shows entrepreneurship as an individualistic behavior, with high power distance, masculinity and low uncertainty avoidance (Busenitz & Lau, 1996; Hayton et al., 2002; McGrath, MacMillan, & Scheinberg, 1992, McGrath, MacMillan, Yang, & Tsai, 1992). Individualism and uncertainty avoidance are those cultural dimenions analyzed more often in academia (Salimath & Cullen, 2010). In this sense, there are studies showing different findingsthat support the idea that individualism favors entrepreneurial activity and innovation (McGrath, MacMillan, et al., 1992; Morris, Avila, & Alien, 1993; Mueller & Thomas, 2001; Shane, 1993). Nonetheless, challenging this evidence, other authors suggest that a lesser degree of individualism (collectivism) is positively related to entrepreneurial activity, instead (Baum et al., 1993; Hunt & Levie, 2002; Tiessen, 1997). Indeed, Pinillos and Reyes (2011) find evidence that the level of economic development is a variable that interacts with the relationshipbetween individualism and entrepreneurial activity. Consistent with the traditional depiction of the entrepreneur, there are authors suggesting that the entrepreneur's cultural characteristic is low in uncertainty avoidance (McGrath, MacMillan, et al., 1992; Shane, 1993, 1995). That pattern is also seen in Urbano and Alvarez's (2014) work that finds fear of failure affects negatively the probability of becoming an entrepreneur. However, Wennekers et al. (2007) provide an opposite view as they find a negative impact of risk tolerance on the rate of ownership in a sample of OECD countries. While the extant literature shows that individualism and uncertainty avoidance have been largerly studied and linked to the entrepreneur's profile, there is still a scarcity of works analyzing dimensions such as power distance and masculinity vs. femininity.

Based on Hofstede (1980) and Hofstede et al. (1997), it is suggested that power distance expresses the degree to which power is distributed unequally among societies. It means that those who live in societies with high power distance are characterized by rules of hierarchy, hampering certain productive activities. Instead, those societies with low power distance allow people to have more freedom and participation in the decision-making processes, which encourage to demand a more equal distribution of power. Based on these definitions, SPO may be conceptualized by low power distance as individuals living in these sorts of environments can be encouraged to be socially active and participate in the decision-making process (through a more even power distribution and fewer hierarchical rules). In this regard, Shane (1993) provides evidence that power distance should be reduced in order to make innovative and new projects flourish. Others authors such as Thomas and Mueller (2000) go against the Westernized vision of the entrepreneur and find no empirical evidence that associates cultural characteristics in terms of power distance

with the US variances in the level of innovativeness, which is often considered a defining trait of the entrepreneur. However, extant research shows us few more examples, in which low levels of power distance affect positively entrepreneurial activity and innovation (Lee & Peterson, 2001). Stephan and Uhlaner (2010) similarly find evidence for the hypothesis that a socially supportive culture (SSC) characterized by low power distance encourages innovative entrepreneurial activity and entrepreneurship driven by opportunity. Thus, the following hypotheses are proposed:

Hypothesis 3: High power distance level impacts negatively the innovative entrepreneurial activity.

Hypothesis 3a: High power distance level impacts negatively the ratio of entrepreneurship driven by opportunity over the entrepreneurship driven by necessity.

The dimension masculinity vs. femininity depicts a continuum where the two extremes represent two different perspectives about life's achievements and its means. While the masculinity side is oriented to assertiveness, performance orientation, competition and material rewards of success, its opposite, femininity, stands for a preference for social consensus and quality of life (Hofstede, 2005). Consequently, masculinity is associated with materialism and "live for work," while femininity shows greater preferences for values related to common well-being and "work for life." According to the definition of this dimension, it's possible to link the femininity side with SPO since quality of life beyond economic rewards is one of its defining features. Although existing research tends to consider masculinity as a defining dimension of the entrepreneur and the businesses activity (Busenitz & Lau, 1996; Gupta et al., 2009; Heilman, 2001; McGrath, MacMillan, & Scheinberg, 1992), there are some contributions that place the attention on the feminine side when analyzing the different motivations behind entrepreneurial activity. For instance, McGrath, MacMillan, Yang, et al. (1992) find that Taiwan's exposure to Western influences did not produce a drift away from the "work to life" orientation of mainland China to the "life to work" US orientation. These authors propose taking the femininity dimension into consideration when designing programs to encourage innovative entrepreneurial activity. In that sense, Baum et al. (1993) found that Israeli entrepreneurs were less masculine oriented than their US counterparts. Other studies, such as Ardichvili and Gasparishvili (2003) and Contiua et al. (2012), find empirical evidence that respondents from Russia, Georgia and Romania are feminine oriented when the attitudes toward entrepreneurial activity are analyzed. Given the defining features of the feminine side, existing research allows parallels to be made with other perspectives. In this sense, Stephan and Uhlaner (2010) find that SSC (characterized by having a human orientation, a low performance orientation and assertiveness) impacts positively on entrepreneurial activities related to innovation and opportunity-driven motivations. Following similar arguments, Liñán, Romero Luna, and Fernández Serrano (2013) find that societies oriented to egalitarianism (voluntary cooperation to pursue common good –social values such as justice, freedom, responsibility, honesty) present a higher ratio of opportunity-necessity. Others, such as Naudé et al. (2013), suggest that subjective

well-being (which is preferred by feminine-oriented societies over economic rewards) influences positively the ratio of entrepreneurship driven by opportunity over entrepreneurship driven by necessity. The analyzed research shows that some aspects of masculinity can be associated with entrepreneurial activity (assertiveness, competition, need for achievement and material rewards); however, when the motivations for starting a business are considered in greater depth, some literature (e.g. Acs, Boardman, & McNeely, 2013) also suggests that innovative entrepreneurial activity can be boosted by values beyond economic terms related to quality of life (femininity), thus:

Hypothesis 4: High masculinity impacts negatively the innovative entrepreneurial activity.

Hypothesis 4a: High masculinity impacts negatively the ratio of entrepreneurship driven by opportunity over the entrepreneurship driven by necessity.

3.3 Data and Methods

As mentioned previously, the purpose of this chapter is to analyze the effect of SPO on entrepreneurial activity. To this end, we use different set of variables, which are explained in the following sub-sections.

The dependent variables are taken from Global Entrepreneurship Monitor (GEM) for the year 2013. The GEM project is considered one of the most important studies on entrepreneurial activity worldwide. Their approach consists of understanding cross-national comparisons on the level of national entrepreneurial activity. They depict a conceptual model in which the role of entrepreneurial activity is crucial for the national economic growth, and where the determinants for entrepreneurial activity are also discussed (Urbano & Alvarez, 2014).

Particularly in this chapter, innovative Total Early-Stage Entrepreneurial Activity (TEA) and the ratio of entrepreneurship driven by opportunity over entrepreneurship driven by necessity (TEA OPP/NEC ratio) are employed as the dependent variables in our models. Innovative TEA is defined as defined as the percentage of the adult population engaged in the process of setting up a new venture or owning an established young business (up to 42 months) in which a new market is perceived. The TEA OPP/NEC ratio considers the prevalence of entrepreneurship driven by opportunity (TEA OPP), which is defined as the percentage of those involved in TEA who claim to be driven by improvement motives (independence or increasing their income). Entrepreneurship driven by necessity (TEA NEC), is defined as the percentage of those involved in TEA who are involved in entrepreneurial activity because they had no other option for work. The ratio is computed by taking into consideration TEA OPP/TEA NEC. This transformation is supported by empirical research that has previously made use of this ratio as a measurement of the prevalence of the TEA OPP over the TEA NEC (cf. Fuentelsaz, González, Maícas, & Montero, 2015; Liñán et al., 2013; Naudé

et al., 2013). All these variables, as well as the independent and control variables are given for country *i*.

We regress entrepreneurship on three different dimensions of social progress orientation (SPO).In this regard, the voluntary spirit (VOL) measured through the clubs and associations dimension, which is taken from the Indices of Social Development (ISD); the Inglehart's postmaterialism dimension of the survival/self-expression dimensions from the World Values Survey (WVS); and the Hofstede's cultural dimensions of power distance and masculinity vs. femininity from the Hofstede Centre.

In line with the definition of informal institutions, the ISD are helpful for those academics interested in overcoming the limitations when estimating the effects of social development for a large range of countries (Foa & Tanner, 2012). The measures the IDS offer are also based on a research initiative that comes from the International Institute of Social Science (ISS) of the Erasmus University of Rotterdam. Throughout matching percentiles, this Institute aggreagates more than 200 indicators from 25 sources all from over the world into a usable set of dimensions. In this case, we use VOL is measured through the clubs and association dimension, which takes into consideration the membership in voluntary associations.

Another variales used in this study deals with postmaterialism, which offers a bunch of measures that reflect the different views of respondents regarding questions about political, religious, marital, community life and self-expression issues (Inglehart & Baker, 2000). Therefore, Inglehart (1997) created two dimensions, namely, the traditional versussecular-rational values and the survival versus self-expression values. Based on these dimensions,societies are located on a map which shows advances in terms postmaterialistic values (Inglehart, 1997, p. 81–98). In general, traditional versus secular-rational values represent the emphasis on the importance of religion, national pride and authority, whereas the secular-rational side represents an opposite behavior. The survival side of the survival versus self-expression values encompasses a priority of economic and physic security over self-expression and quality-of-life. This side precisely expresses the opposite. As mentioned earlier, survival versus self-expression could represent a socio-economic development path across countries, and therefore, postmaterialism is related to a rise of self-expression values (Inglehart & Welzel, 2005).

Another set of variables are basedon Hofstede (2009), who created cultural dimensions that enable country comparisons. These values are technically appropriate as a tool for predicting individual (productive) behavior. Overall, dimensions such as power distance and masculinity ersus femininity are used in this study. On the one hand, power distance represents how power is distributed among the members of a society, in which it is expected that the power is distributed unequally. On the other hand, the masculinity versus femininity dimension expresses a series of visions about life achievements. The masculinity side (i.e. high masculinity) expresses a preference in society for achievement, competition, and material rewards for success. Its opposite side, namely the femininity side (i.e. low masculinity), expresses a preference for cooperation, consensus, caring for the weak and quality of life.

It is also suggested that other factors may also influence entrepreneurial activity. In this regard, extant literature has shown the relevance of considering socioeconomic factors as those that also explain differences in innovative entrepreneurial activity across countries (Arenius & Minniti, 2005; Carree et al., 2002; Hartog, Parker, van Stel, & Thurik, 2010; van Hemmen et al., 2015; Verheul et al., 2002; Wennekers et al., 2005). The value systems of high-income countries differ systematically from those low-income countries (Inglehart & Baker, 2000, p.29). Therefore, the influence of SPO on innovative entrepreneurial activity requires an analysis within the framework of the level of development. In this regard, the level of development is included as a control variable, whichassures that the results were not unjustifiably influenced by such factors. In our models, variables related to economic and non-economic development (i.e. education, health and income per capita) are controlled by the Human Development Index (HDI) of the United Nations Development Programme (UNDP) lagged one period. Additionally, other sociodemographic characteristics such as the percentage of female population, economic outcome (GDP in power purchase parity terms) and health expenditure are used to control each model. In Table 3.1, the variables used in this research are described; whereas Appexdix 3 shows all the countries we have considered in this Chapter.

3.3.1 Data and the Models

As we mentioned before, we use Ordinary Least Squares (OLS) to assess the effects of SPO on entrepreneurial activity at the country level. To this end, we estimated the following model:

$$EA_i = \alpha + \beta_j SPO_{j,i} + \delta_k CV_i + \mu_i$$

where IEA_i is the vector that represents dependent variables (innovative, opportunity and necessity TEA); β_j represents each j SPO measure (VOL_i, SSV_i, PDI_i, and MAS_i); and δ_k is the parameter that encompases each k control variable (CV_i), namely, the socioeconomic factors related to the level of development (HDI), economic outcome (GDP ppp), population (percentage of female population) and health expenditures; and μ_i is the error term. In this sense, Model 1 and Model 2 consider the first SPO dimension, which is VOL and its effect on innovative entrepreneurship and TEA OPP/TEA NEC, respectively. Model 3 and Model 4 take into account the SPO dimension related to survival versus self-expression values (SSV) and the both measures of innovative entrepreneurial activity (innovative as well as opportunity over necessity entrepreneurship). And Model 5 and Model 6 asses the Hofstede dimensions (PDI and MAS) on both innovative entrepreneurship and TEA OPP/TEA NEC, respectively. All models are controlled by socioeconomic development variables already defined. See Appendix 3 for a list of countries.

Table 3.1 Description of variables

Dependent variable	**Description**	**Source**[a]
Innovative entrepreneurship (TEANEWMK)	The percentage of 18–64 population who are either a nascent entrepreneur or owner-manager of a new business perceiving that the market is new	GEM (2013)
TEA OPP/NEC ratio	The prevalence of TEA OPP over TEA NEC is expressed through the natural logarithm of the expression TEA OPP/TEA NEC	
Independent variables	**Description**	**Source**[a]
Voluntary spirit (VOL)	This dimension measures the membership in local voluntary associations. Values from 0 to 1	ISD (2010)
Survival vs. self-expression values (SSV)	Original values rank from −2,5 to 2,5 with higher values corresponding to higher scores of self-expression values. For practical reasons the values were converted into a 0–5 scale	WVS, 5th wave (2005–2009)
Power distance(PDI)	Societies where PDI is high, rank near 1, meanwhile societies where PDI is low, rank near 0	HC (2010)
Masculinity vs. femininity (MAS)	Societies where MAS is high, rank near 1, meanwhile societies where femininity is high (low MAS), rank near 0	
Control variable	**Description**	**Source**[a]
Level of development-Human Development Index (HDI)	Societies with a high HDI rank near 100, meanwhile societies where the HDI is low rank near For all the models, the HDI is lagged one period	UNDP (2012)
Percentage of female population	The percentage of the population that is female. Population is based on the de facto definition of population	WDI (2012)
GDP PPP	Gross domestic product per capita converted to international dollars using purchasing power parity rates. Data are in constant 2011 international dollars	
Health expenditure	Recurrent and capital spending from government (central and local) budgets, external borrowings and grants (including donations from international agencies and nongovernmental organizations), and social (or compulsory) health insurance funds	

[a]Global Entrepreneurship Monitor (GEM): http://www.gemconsortium.org/; Indices of Social Development (ISD): http://www.indsocdev.org/data-access.html; World Values Survey (WVS); http://www.worldvaluessurvey.org/wvs.jsp; The Hofstede Centre (HC): http://geerthofstede.com/countries.html; United Nations Development Programme (UNDP): http://hdr.undp.org/en/data; World Development Indicators (WDI): http://data.worldbank.org/data-catalog/world-development-indicators

3.3.2 Tests for Robustness

To test for robustness of the models, we performed different exercises. First, all multiple regression models are calculated for prediction of innovative entrepreneurship and the ratio between opportunity and necessity entrepreneurship for each of 56 (Models 1 and 2), 33 (Models 3 and 4) and 51 (Models 5 and 6) subsamples, excluding one of the countries each time as a test for outlier effects.

In a second test, we ran different set of models thatsubstituded the dependent variable. Here, all social progress orientation variables are used to explain the variability of opportunity entrepreneurship. Similar to Models 1–6, the estimation results (magnitude and sign) remain relatively robust across models (see Appendix 4).

3.4 Results

We computed descriptive statistics such means, standard deviations and pairwise correlation coefficients for all the variables. As Table 3.2 displays, there are a low average level of innovative entrepreneurship, and the rate between opportunity and necessity entrepreneurship, in which the average is equal to 2.80, could be shifted since either entrepreneurship driven by opportunity increases or entrepreneurship driven by necessity decreases. With regards to the correlation matrix, all the results are in line with the theory presented above, which open the opportunity to explore in depth the hypotheses stated in previous sections.

The main results of the OLS regression with robust variance estimates are shown in Table 3.3. We also show the number of countries available for each model, the coefficient of determination (R^2), the Root MSE, the variance inflation factors (VIF), the criteria for heteroskedasticity (White's test), the Akaike criterion (AIC),

Table 3.2 Descriptive statistics and correlation matrix

	Variable	Mean	Std. Dev.	1	2	3	4
1	Innovative entrepreneur	0.442	0.100	1			
2	TEA OPP/TEA NEC	2.800	2.631	0.152	1		
3	Voluntary spirit	0.516	0.102	0.209	0.189	1	
4	Survival vs. self-expression values	2.834	1.064	0.443*	0.554*	0.355*	1
5	Power distance	59.774	20.332	−0.236*	−0.392*	−0.265*	−0.649*
6	Masculinity vs. femininity	47.755	19.568	−0.117	−0.412*	0.136	−0.422*
7	Human development index	0.773	0.121	0.232*	0.427*	−0.229*	0.641*
8	Percentage female population	50.790	1.152	0.035	−0.096	−0.454*	−0.073
9	GDP ppp	24509.320	17391.430	0.305*	0.696*	0.096	0.603*
10	Health expenditure	13.530	4.577	0.203	0.173	0.167	0.559*
		5	**6**	**7**	**8**	**9**	**10**
5	Power distance	1					
6	Masculinity vs. femininity	0.211	1				
7	Human development index	−0.614*	−0.244*	1			
8	Percentage female population	−0.119	−0.165	0.316*	1		
9	GDP ppp	−0.528*	−0.174	0.794*	0.128	1	
10	Health expenditure	−0.364*	−0.065	0.148	0.018	0.255*	1

*Significant at $p < 0.01$

Table 3.3 Social progress orientation predicting innovative, opportunity, and necessity entrepreneurship

	(1)	(2)	(3)	(4)	(5)	(6)
	Ln innovative entrepreneur	Ln TEA OPP/TEA NEC	Ln innovative entrepreneur	Ln TEA OPP/TEA NEC	Ln innovative entrepreneur	Ln TEA OPP/TEA NEC
Ln voluntary spirit	0.335**	0.994***				
	(0.160)	(0.360)				
Ln survival vs. self-expression values			0.138	0.826***		
			(0.155)	(0.179)		
Ln power distance					−0.110	−0.307
					(0.090)	(0.197)
Ln masculinity vs. femininity					−0.041	−0.417***
					(0.045)	(0.113)
Ln human development index	−0.611	−2.890**	−1.251	−6.825**	−1.030	−5.979***
	(0.696)	(1.383)	(1.510)	(2.838)	(0.896)	(1.993)
Ln percentage female population	1.287	1.448	−2.827	−4.387	−0.188	−3.328
	(1.758)	(3.572)	(2.708)	(4.088)	(1.678)	(2.790)
Ln GDP ppp	0.168	1.008***	0.268	1.600***	0.209	1.432***
	(0.132)	(0.281)	(0.261)	(0.532)	(0.143)	(0.297)
Ln health expenditure	0.028	0.336*	0.130	0.111	0.035	0.223
	(0.109)	(0.180)	(0.136)	(0.283)	(0.104)	(0.247)
Constant	−7.538	−15.815	6.806	−0.519	−1.904	0.462
	(7.322)	(14.585)	(11.397)	(14.631)	(7.365)	(12.496)
N	56	56	33	33	51	51
R^2	0.129	0.491	0.234	0.600	0.112	0.591
Root MSE	0.241	0.555	0.241	0.542	0.248	0.502
VIF	6.82	6.82	8.16	8.16	3.79	3.79
White's test (p-value)	0.225	0.391	0.537	0.946	0.100	0.722
AIC	5.253	98.683	5.186	58.577	9.001	80.811
BIC	17.405	110.835	14.165	67.556	22.529	94.334

Robust standard errors in parentheses
*** Significant at $p < 0.01$; ** $p < 0.05$; * $p < 0.1$

and the Schwarz criterion (BIC) at bottom of Table 3.3. The Root MSE reports that each model has slight differences with the actual data. We also show that the multi-collinearityis relatively low (10 on average), so we are confident that biases because of linear combinations are avoided. Finally, the White's test (White, 1980) null hypothesis about constant variance in the residuals is not rejected, indicating the heteroscedasticity problems are avoided.

All of our models count high explanatory power, explaining in some cases 60.0% of the variance of the TEA OPP/NEC ratio (for model 4), or 23.4% of the variance of the innovative entrepreneurship (for model 3). Model 5 has the lowest explanatory power, in which 11.2% of the variance of innovative entrepreneurship is explained; and the 49.1% (model 2) of the variance of the prevalence of entrepreneurship driven by opportunity over entrepreneurship driven by the necessity (TEA OPP/NEC ratio) is explained when power distance (PDI) and masculinity (MAS), and voluntary spirit (VOL) are used as independent variable, respectively.

The results from model 1 and model 2 show that voluntary spirit (VOL) has an important influence on both innovative entrepreneurship and TEA OPP/TEA NEC. In this sense, VOL has a positive and significant effect (model 1: 0.335, $p < 0.05$, and model 2: 0.994, $p < 0.01$) on innovative entrepreneurship and TEA OPP/NEC ratio, respectively. Model 1 predicts 12.9% of the variance of innovative entrepreneurship, while model 2 reaches to 49.1% of the variance of the TEA OPP/NEC ratio, indicating that in terms of R^2 both models have a good fit. The results from model 3 and model 4 indicate that survival versus self-expression values (SSV) positively affect both entrepreneurial activity measures, but statistically significant influence only on TEA OPP/TEA NEC (0.826, $p < 0.01$). Model 3 also predicts 23.4% of the variation in innovative entrepreneurship and model 4 explains 60.0% of the variation in the TEA OPP/NEC ratio, indicating that in terms of R^2 it also has a good fit. The results from model 5 and model 6 show that the dimension of power distance (PDI), although has the expected association, is not statistically significant neither for innovative entrepreneurship nor TEA OPP/TEA NEC. However, in terms of masculinity vs. femininity (MAS), similar to the previous dimension, both have the expected sign, but when the TEA OPP/NEC ratio is analyzed MAS exhibit a negative and significant impact (-0.417, $p < 0.01$). Model 5 and model 6 also show a high explanatory power: when innovative entrepreneurship is used as a dependent variable, the explained variance is 11.2%, meanwhile when TEA OPP/NEC ratio is used as a dependent variable for the PDI and MAS, the explanatory power is 59.1%, respectively.

With regards to the hypotheses testing, a positive influence of VOL on innovative entrepreneurship (Hypothesis 1) and on the TEA OPP/NEC ratio (Hypothesis 1a) was found in model 1 and model 2. According to our findings, both hypotheses are supported by our data. In line with extant literature, VOL is found as an important variable for entrepreneurship (Audia et al., 2006; Bauernschuster et al., 2010; Kwon et al., 2013). As a result, innovation, opportunity recognition, resource mobilization and market access are facilitated through an enhanced associative behavior, especially in sectors characterized by an innovative and opportunity atmosphere (Alvarez & Busetniz, 2001; Anderson et al., 2007; Sorenson, 2003).

In terms of Hypothesis 2, we have proposed a positive impact of SSV on innovative entrepreneurship, while Hypothesis 2a proposed a positive impact on the TEA OPP/NEC ratio. The findings reveal that SSV impacts positively on entrepreneurial activity based on innovation, as expected; however, a lack of statistical significance was found for the SSV dimension. Thereby, Hypothesis 2 is partially supported. This lack of significance could be explained because of the material characteristic and

motivations can be a powerful driver for new businesses based on innovation (McGrath, MacMillan, et al., 1992; Uhlaner & Thurik, 2007; Thomas & Mueller, 2000). Consistent with Inglehart (1997), a shift from traditional and materialistic values to postmaterialist values needs a persistent increase in economic development.

To shed some light on the relationship between SSV and entrepreneurship, it is important to recall for the U-shaped relationship, in which Carree et al. (2002) and Wennekers et al. (2005) have found evidence. The fact that innovative entrepreneurship could not increase with the level of development to the extent where opportunity entrepreneurship increases, points out the different motivations (i.e. opportunity or necessity) for deciding an entrepreneurial career (Hessels, Van Gelderen, & Thurik, 2008; Koellinger, 2008; Liñán et al., 2013). Therefore, Hypotheses 2a predicted a positive impact of SSV on the TEA OPP/NEC ratio, respectively. In this regard, our results show that the Hypothesis 2a is supported by the data. Taking into account that the SSV dimension is characterized by a preference for quality of life, life satisfaction, happiness, environmental protection, gender equality and people participation in public life and decision making (Inglehart, 1997), these findingsare in line with authors such as Naudé et al. (2013), who find similar evidence for the superior levels of subjective well-being on the TEA OPP/NEC ratio. Similarly, other scholars find that life satisfaction urges opportunity entrepreneurship (cf. Naudé et al., 2014),while socially supportive culture (SSC) encourages entrepreneurial activity driven by opportunity (Stephan & Uhlaner, 2010).

For Hypotheses 3 and 3a and for Hypotheses 4 and 4a, which are related to Hofstede's cultural dimensions of power distance (PDI) and masculinity versus femininity (MAS), we suggested a negative impact on innovative entrepreneurship and the TEA OPP/NEC ratio, respectively. Our findings display no significant effect on new businesses based on innovation, either of PDI or MAS. Thus, Hypothesis 3 and Hypothesis 4 were supported by our data. Notwithstanding this, the signs of the coefficients for PDI and MAS were negative, as expected. In this line, empirical evidence suggests that low PDI encourages entrepreneurial activity (Lee & Peterson, 2001) and that values associated with low MAS (femininity) found in a SSC impact nascent entrepreneurial activity (Stephan & Uhlaner, 2010). Regarding the impact of PDI and MAS on the TEA OPP/NEC ratio, the results show a significant and negative influence only for masculinity dimension; although both signs were predicted. Thus, Hypothesis 3a is rejected, while Hypothesis 4a were not rejected. For the MAS dimension, similar results are found by Stephan and Uhlaner (2010) who find that values related to low MAS promote the entrepreneurship driven by opportunity. Others, such as Liñán et al. (2013), find a positive impact of egalitarianism (associated here with the femininity side) on the TEA OPP/NEC ratio.

Finally, one control variable was appealing as the Human Development Index (HDI) shows some interesting results. For all models, the HDI was found to be negatively and significantly related to the TEA OPP/NEC ratio. As mentioned before, the HDI aimed to control for some effects related to the level of development level (income per capita, education and health). In line with extant literature, our findings support the existence of the U-shaped relationship between economic development and entrepreneurial activity (Carree et al., 2002, 2007; Gries & Naudé,

2010; Hessels et al., 2008; Wennekers et al., 2005, among others). Based on this perspective, as societies increase the development level, the mechanism behind the U-shaped relationship propels the entrepreneurship driven by opportunity over the entrepreneurship driven by necessity.

3.5 Policy Discussion

Public policiesrelated to entrepreneurial activity should consider the entrepreneurship dynamics in each region and country (Shane, 2009). Bad policies could harmful in the long-term, as some entrepreneurial activity does not contribute with social value creation (Acs et al., 2013). Though Urbano and Aparicio (2016) cannot conclude anything in terms of necessity entrepreneurship, they show that entrepreneurship driven by opportunity positively affects economic growth. Likewise, Acs et al. (2012), Aparicio, Urbano, and Audretsch (2016), Minniti and Lévesque (2010), and Wong et al. (2005), among other scholars, provided evidence on the entrepreneurial activity associated with innovation, such as opportunity TEA and high-tech TEA, which is positively related to economic growth. In this sense, our results could provide new evidence to the actual debate about those factors promoting innovative and related types of entrepreneurship. According to Audretsch, Belitski, and Desai (2015), it is important to understand those mechanisms that are dynamics and, in some cases, changing slowly across time.

Consistent with North (1990, 2005) and Williamson (2000), informal institutions, and particularly social progress orientation, is suggested to change slower than formal institutions. In this regard, our findings may be useful to discuss implications for public and private strategies, in which social values are helping with the explanations of innovative entrepreneurial activity. De Clercq, Danis, and Dakhli (2010) and Holland and Shepherd (2013) suggest that personal values and environmental characteristics need to be included in policy decisions in order to guarantee entrepreneurial persistence. Based on this idea, short- and long-term policies allow for the achievement of entrepreneurship and innovation, capable of contributing to social value creation and development.

Social progress orientation, conceptualized and empirically assessed in our study, may be helpful to understand four possible dynamics of innovative entrepreneurship types. These dynamics mostly related to voluntary spirit (mainly encouraged by social capital perspective), suggest (i) an increasing of innovative entrepreneurship, (ii) opportunity entrepreneurship, or (iii) a decreasing of necessity entrepreneurship, or (iv) an increasing of opportunity entrepreneurship and a decreasing of necessity entrepreneurship. Bauernsschuster et al. (2010), Estrin, Mickiewicz, Stephan (2013), Kim and Kang (2014), and Minniti (2004), among others, conclude that social capital and group activities increase the entrepreneurial alertness and the capacity to perceive opportunities among individuals. Thanks to this, not only trust is acquired, but also, moral support in terms of friendship and family is obtained from networks, ties and associations. Thereby, group activities

such as clubs without entry restrictions should be created from governments and society. Ács, Autio, and Szerb (2014) also suggest some aspects at macro level, which have to do the promotion and maintenance of national systems of entrepreneurship. According to these authors, networks between government, financial system, incumbent firms, entrepreneurs and society should be strong and share similar purposes, as they articulate different actors that create incentives for entrepreneurs.

In terms of postmaterialism values, the extant literature suggests that those economies where the autonomy capacity is higher, the socioeconomic development level tends to be high (Inglehart & Baker, 2000). The Inglehart and Baker's (2000) results are in line with the development agroupation by World Economic Forum (WEF). In this regard, it is found that those innovation-driven economies tend to present higher self-expression values than those economies within efficiency- and factor-driven. In line with North (2005), the socioeconomic performance is accomplished depending on the social preference towards progress. It has been found that, for instance, leadership helps to address the intentionality of carrying out innovative projects, and thus, contribute to the development level (van Hemmen, Alvarez, Peris-Ortiz, & Urbano, 2015). In this sense, universities are important agents in providing knowledge, managerial skills, as links with incumbent firms to acquire experience, as well as serve as an environment for the development of academic spin-offs (Guerrero, Cunningham, & Urbano, 2015). Based on our findings, by allowing and encouraging entrepreneurial mindsets and projects in universities, it may be possible to increase creativity and autonomy, useful for the business creation based on opportunity recognition.

Finally, literature on female entrepreneurship recommends that the gap between women and men is harmful for social and economic development (Aidis, Welter, Smallbone, & Isakova, 2007; Baughn, Chua, & Neupert, 2006; Noguera et al., 2013; Terjesen & Amorós, 2010, among others). In this regard, Kantor (2005) points out that the participation of women entrepreneurs should also be considered in terms of its importance to the family, as it allows their own development and knowledge transfer to their offspring; values that are shared generation ny generation. To propmote this process, a participation and status improvement of women in the home, job places and society in general, should be a priority. Kantor (2005) also suggests empowering women in terms of access to resources such as funding, childcare infrastructure and management skills. In this case, Lee et al. (2011)claim that policies promoting female participation in entrepreneurial activity and labor market should consider characteristics such as marital status, presence of children, age, education level and business type.

3.6 Conclusions

The purpose of this chapter was to analyze the effect of social progress orientation (SPO) on entrepreneurship in an international analysis. Through techniques such as Ordinary Least Square (OLS), we show that SPO affects positively the prevalence of opportunity-driven over necessity-driven entrepreneurial activity (TEA OPP/

NEC ratio). Particularly, these findings suggest that societies oriented towards high voluntary spirit (VOL), high self-expression values (SSV) and femininity (low MAS) exhibit a greater TEA OPP/NEC ratio. Furthermore, in line with existing research (Carree et al., 2002; Wennekers et al., 2005) that suggests a U-shaped relationship between development and entrepreneurial activity, it is also found that the Human Development Index (HDI) influences negatively the innovative entrepreneurship as well as the TEA OPP/NEC ratio.

This research may serve to advance the debates and literature in the following ways. First, providing additional evidence on the concept of SPO (Urbano, Aparicio, Guerrero, et al., 2016), it contributes to the application of institutional economics as an approach to the explore those elements that promote or inhibit innovative entrepreneurial activity. In this sense, SPO can be a mechanism to take into account when explaining TEA OPP/NEC ratio. Second, the Indices of Social Development (ISS), which come from an unexplored database, may result highly useful for entrepreneurial activity research to date. The use of this database helped us to tackle permanent challenges regarding proxies for informal institutions (Bruton et al., 2010; Veciana & Urbano, 2008). Additionally, this research serves as new perspectives for practitioners and policymakers. In this case, the identified factors that promote new firm creation can be sensitive ways through which public policies can act. Therefore, one could suggest that reinforcing SPO produces a positive influence on the prevalence of entrepreneurship driven by opportunity over entrepreneurship driven necessity, which, in turn, can affect development (Audretsch et al., 2008; Baumol, 1990; Noseleit, 2013). Moreover, our evidence can be helpful for the design of programs focused on promoting innovation and opportunity driven entrepreneurship. For example, governments can take advantage of the potential of SPO associated with values such as voluntary spirit (VOL), as it implies, for example, the development of incubator centers (Bøllingtoft & Ulhøi, 2005).

Despite these findings and their implications, it is important mention some limitations. For instance, the dataset only enabled us to get information for 56 countries in 2013. In addition to practical reasons such as the scarcity and the regularity of year-to-year information for all the explanatory variables, the reason why the cross-sectional analysis is used in this chapter is because some authors suggest that innovative entrepreneurial activity may be a structural characteristic of each country's economy, in which low variations are perceived (Acs et al., 2004; van Stel et al., 2005). Consisten with this idea, others scholars suggest that cultural values are also stable over time (Hofstede, 2005; Inglehart & Welzel, 2005). Nevertheless, the estimated relationship between SPO and innovative entrepreneurial activity may be altered if the period of time and countries within the sample were different. Other limitations are the theoretical validity of social progress orientation and the scarcity of empirical research. Based on these limitations, future avenues could create new research that examines the relationship between SPO and innovative entrepreneurial activity dynamicly. Additionaly, further research could include other dimensions of the ISD and the Hofstede's cultural model, such as civic activism, inclusion of minorities or individualism versus collectivism and uncertainty avoidance, as they can provide a broader understanding of SPO and its consequence on entrepreneurship and economic development.

References

Acs, Z., Desai, S., & Hessels, J. (2008). Entrepreneurship, economic development and institutions. *Small Business Economics, 31*(3), 219–234.

Acs, Z., Desai, S., & Klapper, L. F. (2008). What does "entrepreneurship" data really show? *Small Business Economics, 31*(3), 265–281.

Acs, Z. J., Arenius, P., Hay, M., & Minniti, M. (2004). *Global entrepreneuship monitor* (Executive Report). Babson, MA: London Business School.

Acs, Z. J., Audretsch, D. B., Braunerhjelm, P., & Carlsson, B. (2012). Growth and entrepreneurship. *Small Business Economics, 39*(2), 289–300.

Ács, Z. J., Autio, E., & Szerb, L. (2014). National systems of entrepreneurship: Measurement issues and policy implications. *Research Policy, 43*(3), 476–494.

Acs, Z. J., Boardman, M. C., & McNeely, C. L. (2013). The social value of productive entrepreneurship. *Small Business Economics, 40*(3), 785–796.

Acs, Z. J., Braunerhjelm, P., Audretsch, D. B., & Carlsson, B. (2009). The knowledge spillover theory of entrepreneurship. *Small Business Economics, 32*(1), 15–30.

Acs, Z. J., & Szerb, L. (2007). Entrepreneurship, economic growth and public policy. *Small Business Economics, 28*(2–3), 109–122.

Aidis, R., Welter, F., Smallbone, D., & Isakova, N. (2007). Female entrepreneurship in transition economies: The case of Lithuania and Ukraine. *Feminist Economics, 13*(2), 157–183.

Alkire, S., & Santos, M. E. (2010). *Acute multidimensional poverty: A new index for developing countries*. Working paper No. 38. Oxford Poverty & Human Development Initiative (OPHI). http://www.ophi.org.uk/wp-content/uploads/ophi-wp38.pdf. Accessed 1 Apr 2014.

Alvarez, C., & Urbano, D. (2011). Environmental factors and entrepreneurial activity in Latin America. *Academia Revista Latinoamericana de Administración, 48*, 31–45.

Alvarez, S. A., & Busenitz, L. W. (2001). The entrepreneurship of resource-based theory. *Journal of Management, 27*(6), 755–775.

Amorós, J. E., & Bosma, N. (2014). Global Entrepreneurship Monitor 2013 global report. *Global Entrepreneurship Monitor*. http://www.gemconsortium.org/docs/download/3106. Accessed 26 Sept 2014.

Anderson, A., Park, J., & Jack, S. (2007). Entrepreneurial social capital conceptualizing social capital in new high-tech firms. *International Small Business Journal, 25*(3), 245–272.

Aparicio, S., Urbano, D., & Audretsch, D. (2016). Institutional factors, opportunity entrepreneurship and economic growth: Panel data evidence. *Technological Forecasting and Social Change, 102*, 45–61.

Aparicio, S., Urbano, D., & Gómez, D. (2016). The role of innovative entrepreneurship within Colombian business cycle scenarios: A system dynamics approach. *Futures, 81*, 130–147.

Aparicio, S., Urbano, D., & Gómez, D. (2018). Entrepreneurship and regional economic growth in Antioquia: An empirical analysis. *Economics and Business Letters, 7*(2), 84–91.

Ardichvili, A., & Gasparishvili, A. (2003). Russian and Georgian entrepreneurs and non-entrepreneurs: A study of value differences. *Organization Studies, 24*(1), 29–46.

Arenius, P., & Minniti, M. (2005). Perceptual variables and nascent entrepreneurship. *Small Business Economics, 24*(3), 233–247.

Audia, P. G., Freeman, J. H., & Reynolds, P. D. (2006). Organizational foundings in community context: Instruments manufacturers and their interrelationship with other organizations. *Administrative Science Quarterly, 51*(3), 381–419.

Audretsch, D. (2012). Entrepreneurship research. *Management Decision, 50*(5), 755–764.

Audretsch, D. B., Belitski, M., & Desai, S. (2015). Entrepreneurship and economic development in cities. *The Annals of Regional Science, 55*(1), 33–60.

Audretsch, D. B., Bönte, W., & Keilbach, M. (2008). Entrepreneurship capital and its impact on knowledge diffusion and economic performance. *Journal of Business Venturing, 23*(6), 687–698.

Avlonitis, G. J., & Salavou, H. E. (2007). Entrepreneurial orientation of SMEs, product innovativeness, and performance. *Journal of Business Research, 60*(5), 566–575.

Bauernschuster, S., Falck, O., & Heblich, S. (2010). Social capital access and entrepreneurship. *Journal of Economic Behavior and Organization, 76*(3), 821–833.

Baughn, C. C., Chua, B. L., & Neupert, K. E. (2006). The normative context for women's participation in entrepreneruship: A multicountry study. *Entrepreneurship Theory and Practice, 30*(5), 687–708.

Baum, J. R., Olian, J. D., Erez, M., Schnell, E. R., Smith, K. G., Sims, H. P., et al. (1993). Nationality and work role interactions: A cultural contrast of Israeli and US entrepreneurs' versus managers' needs. *Journal of Business Venturing, 8*(6), 499–512.

Baumol, W. J. (1990). Entrepreneurship: Productive, unproductive, and destructive. *The Journal of Political Economy, 98*(5), 893–921.

Bergmann, H., & Sternberg, R. (2007). The changing face of entrepreneurship in Germany. *Small Business Economics, 28*(2), 205–221.

Binder, M., & Coad, A. (2013). Life satisfaction and self-employment: A matching approach. *Small Business Economics, 40*(4), 1009–1033.

Blackburn, R., & Ram, M. (2006). Fix or fixation? The contributions and limitations of entrepreneurship and small firms to combating social exclusion. *Entrepreneurship and Regional Development, 18*(1), 73–89.

Blanchflower, D. G. (2004). *Self-employment: More may not be better. National Bureau of Economic Research*. Working paper w10286. http://www.nber.org/papers/w10286. Accessed 1 Oct 2014.

Block, J., & Koellinger, P. (2009). I can't get nosatisfaction – necessity entrepreneurship and procedural utility. *Kyklos, 62*(2), 191–209.

Block, J. H., Hoogerheide, L., & Thurik, R. (2013). Education and entrepreneurial choice: An instrumental variables analysis. *International Small Business Journal, 31*(1), 23–33.

Bøllingtoft, A., & Ulhøi, J. P. (2005). The networked business incubator – leveraging entrepreneurial agency? *Journal of Business Venturing, 20*(2), 265–290.

Bosma, N. (2009). *The geography of entrepreneurial activity and regional economic development* (Doctoral thesis, Utrecht University).

Bosma, N. (2013). The Global Entrepreneurship Monitor (GEM) and its impact on entrepreneurship research. *Foundations and Trends® in Entrepreneurship, 9*, 143–248.

Bruton, G. D., Ahlstrom, D., & Li, H.-L. (2010). Institutional theory and entrepreneurship: Where are we now and where do we need to move in the future? *Entrepreneurship Theory and Practice, 34*(3), 421–440.

Busenitz, L. W., & Lau, C. M. (1996). A cross-cultural cognitive model of new venture creation. *Entrepreneurship Theory and Practice, 20*(4), 25–40.

Busenitz, L. W., West III, G. P., Shepherd, D., Nelson, T., Chandler, G. N., & Zacharakis, A. (2003). Entrepreneurship research in emergence: Past trends and future directions. *Journal of Management, 29*(3), 285–308.

Carlsson, B., Braunerhjelm, P., McKelvey, M., Olofsson, C., Persson, L., & Ylinenpää, H. (2013). The evolving domain of entrepreneurship research. *Small Business Economics, 41*(4), 913–930.

Carree, M., van Stel, A., Thurik, R., & Wennekers, S. (2002). Economic development and business ownership: An analysis using data of 23 OECD countries in the period 1976–1996. *Small Business Economics, 19*(3), 271–290.

Carree, M., van Stel, A., Thurik, R., & Wennekers, S. (2007). The relationship between economic development and business ownership revisited. *Entrepreneurship and Regional Development, 19*(3), 281–291.

Casson, M., & Della Giusta, M. (2007). Entrepreneurship and social capital analyzing the impact of social networks on entrepreneurial activity from a rational action perspective. *International Small Business Journal, 25*(3), 220–244.

Clercq, D. D., & Arenius, P. (2006). The role of knowledge in business start-up activity. *International Small Business Journal, 24*(4), 339–358.

Contiua, L. C., Gaborb, M. R., & Stefanescuc, D. (2012). Hofstede's cultural dimensions and student's ability to develop an entrepreneurial spirit. *Procedia-Social and Behavioral Sciences, 46*, 5553–5557.

Davidsson, P. (1995). Culture, structure and regional levels of entrepreneurship. *Entrepreneurship and Regional Development, 7*(1), 41–62.

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

Davidsson, P., & Wiklund, J. (1997). Values, beliefs and regional variations in new firm formation rates. *Journal of Economic Psychology, 18*(2–3), 179–199.

De Clercq, D., Danis, W. M., & Dakhli, M. (2010). The moderating effect of institutional context on the relationship between associational activity and new business activity in emerging economies. *International Business Review, 19*(1), 85–101.

Dejardin, M. (2011). Linking net entry to regional economic growth. *Small Business Economics, 36*(4), 443–460.

Díaz Casero, J. C., Almodóvar González, M., de la Cruz Sánchez Escobedo, M., Coduras Martinez, A., & Hernández Mogollón, R. (2013). Institutional variables, entrepreneurial activity and economic development. *Management Decision, 51*(2), 281–305.

Engelbrecht, H.-J. (2014). A general model of the innovation-subjective well-being nexus. *Journal of Evolutionary Economics, 24*(2), 377–397.

Estrin, S., Mickiewicz, T., & Stephan, U. (2013). Entrepreneurship, social capital, and institutions: Social and commercial entrepreneurship across nations. *Entrepreneurship Theory and Practice, 37*(3), 479–504.

Feldman, M. P. (2014). The character of innovative places: Entrepreneurial strategy, economic development, and prosperity. *Small Business Economics, 43*(1), 9–20.

Florida, R. (2002). The rise of the creative class. *The Washington Monthly, 34*(5), 15–25.

Foa, R. (2011). *Indices of social development: Research applications*. International Institute for Social Studies Working Paper Series. http://www.indsocdev.org. Accessed 2 Oct 2014.

Foa, R., & Tanner, J. C. (2012). *Methodology of the indices of social development*. Institute for Social Studies Working Paper Series, Working paper 2012–4. http://www.indsocdev. Org. Accessed 1 Oct 2014.

Freytag, A., & Thurik, R. (2007). Entrepreneurship and its determinants in a cross-country setting. *Journal of Evolutionary Economics, 17*(2), 117–131.

Fritsch, M. (2011). *Elgar handbook of research on entrepreneurship and regional development* (National and Regional Perspectives). Cheltenham, UK: Edward Elgar.

Fuentelsaz, L., González, C., Maícas, J. P., & Montero, J. (2015). How different formal institutions affect opportunity and necessity entrepreneurship. *BRQ Business Research Quarterly, 18*(4), 246–258.

Gries, T., & Naudé, W. (2010). Entrepreneurship and structural economic transformation. *Small Business Economics, 34*(1), 13–29.

Guerrero, M., Cunningham, J. A., & Urbano, D. (2015). Economic impact of entrepreneurial universities' activities: An exploratory study of the United Kingdom. *Research Policy, 44*(3), 748–764.

Gupta, V. K., Turban, D. B., Wasti, S. A., & Sidkar, A. (2009). The role of gender stereotypes in perceptions of entrepreneurs and intentions to become an entrepreneur. *Entrepreneurship Theory and Practice, 33*(2), 397–417.

Hartog, C., Parker, S., van Stel, A., & Thurik, R. (2010). *The two-way relationship between entrepreneurship and economic performance*. Scales report H200822. http://core.ac.uk/download/pdf/6332576.pdf. Accessed 15 Sept 2014.

Hayton, J. C., George, G., & Zahra, S. A. (2002). National culture and entrepreneurship: A review of behavioral research. *Entrepreneurship Theory and Practice, 26*(4), 33–52.

Heilman, M. E. (2001). Description and prescription: How gender stereotypes prevent women's ascent up the organizational ladder. *Journal of Social Issues, 57*, 657–674.

Henrekson, M. (2005). Entrepreneurship: A weak link in the welfare state? *Industrial and Corporate Change, 14*(3), 437–467.

Hessels, J., Van Gelderen, M., & Thurik, R. (2008). Entrepreneurial aspirations, motivations, and their drivers. *Small Business Economics, 31*(3), 323–339.
Hessels, J., van Stel, A., Brouwer, P., & Wennekers, S. (2007). Social security arrangements and early stage entrepreneurial activity. *Comparative Labor Law and Policy Journal, 28*, 743–774.
Hofstede, G. (1980). *Culture's consequences: International differences in work-related values*. Beverly Hills, CA: Sage.
Hofstede, G. (2005). *Culture and organizations: Software of the mind*. Revised and expanded (2nd ed.). New York: McGraw-Hill.
Hofstede, G., Hofstede, G. J., & Minkov, M. (1997). *Cultures and organizations*. New York: McGraw-Hill.
Hofstede, G., Noorderhaven, N. G., Thurik, A. R., Uhlaner, L. M., Wennekers, A. R., & Wildeman, R. E. (2004). Culture's role in entrepreneurial activity: Self-employment out of dissatisfaction. In T. E. Brown & J. Ulijn (Eds.), *Innovation, entrepreneurship and culture: The interaction between technology, progress and economic growth* (pp. 162–203). Cheltenham, UK: Edgar Elgar Publishing Ltd, London.
Hofstede, G. J. (2009). Research on cultures: How to use it in training? *European Journal of Cross-Cultural Competence and Management, 1*(1), 14–21.
Holland, D. V., & Shepherd, D. A. (2013). Deciding to persist: Adversity, values, and entrepreneurs' decision policies. *Entrepreneurship Theory and Practice, 37*(2), 331–358.
Hunt, S., & Levie, J. (2002). Culture as a predictor of entrepreneurial activity. In *Babson College, Babson Kauffman Entrepreneurial activity Research Conference (BKERC) (2002–2006)*. http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1748691. Accessed 30 Sept 2014.
Inglehart, R. (1977). *The silent revolution: Changing values and political styles in advanced industrial society*. Princeton, NJ: Princeton University Press.
Inglehart, R. (1990). *Culture shift in advanced industrial society*. Princeton, NJ: Princeton University Press.
Inglehart, R. (1997). *Modernization and postmodernization: Cultural, economic, and political change in 43 societies*. Princeton, NJ: Princeton University Press.
Inglehart, R., & Baker, W. E. (2000). Modernization, cultural change, and the persistence of traditional values. *American Sociological Review, 65*(1), 19–51.
Inglehart, R., & Welzel, C. (2005). *Modernization, cultural change, and democracy: The human development sequence*. New York: Cambridge University Press.
Kantor, P. (2005). Determinants of women's microenterprise success in Ahmedabad, India: Empowerment and economics. *Feminist Economics, 11*(3), 63–83.
Kim, B. Y., & Kang, Y. (2014). Social capital and entrepreneurial activity: A pseudo-panel approach. *Journal of Economic Behavior & Organization, 97*, 47–60.
Koellinger, P. (2008). Why are some entrepreneurs more innovative than others? *Small Business Economics, 31*(1), 21–37.
Kwon, S.-W., Heflin, C., & Ruef, M. (2013). Community social capital and entrepreneurship. *American Sociological Review, 78*(6), 980–1008.
Lee, J. H., Sohn, S. Y., & Ju, Y. H. (2011). How effective is government support for Korean women entrepreneurs in small and medium enterprises? *Journal of Small Business Management, 49*(4), 599–616.
Lee, S. M., & Peterson, S. J. (2001). Culture, entrepreneurial orientation, and global competitiveness. *Journal of World Business, 35*(4), 401–416.
Lee, S.-Y., Florida, R., & Acs, Z. (2004). Creativity and entrepreneurship: A regional analysis of new firm formation. *Regional Studies, 38*(8), 879–891.
Levie, J., & Autio, E. (2008). A theoretical grounding and test of the GEM model. *Small Business Economics, 31*(3), 235–263.
Leyden, D. P., & Link, A. N. (2015). Toward a theory of the entrepreneurial process. *Small Business Economics, 44*(3), 475–484.
Liao, J., & Welsch, H. (2005). Roles of social capital in venture creation: Key dimensions and research implications. *Journal of Small Business Management, 43*(4), 345–362.

Liñán, F., & Fernandez-Serrano, J. (2014). National culture, entrepreneurship and economic development: Different patterns across the European Union. *Small Business Economics, 42*(4), 685–701.
Liñán, F., Romero Luna, I., & Fernández Serrano, J. (2013). Necessity and opportunity entrepreneurship: The mediating effect of culture. *Revista de Economía Mundial, 33*, 21–47.
Manolova, T. S., Eunni, R. V., & Gyoshev, B. S. (2008). Institutional environments for entrepreneurship: Evidence from emerging economies in Eastern Europe. *Entrepreneurship Theory and Practice, 32*(1), 203–218.
McFadyen, M. A., Semadeni, M., & Cannella Jr., A. A. (2009). Value of strong ties to disconnected others: Examining knowledge creation in biomedicine. *Organization Science, 20*(3), 552–564.
McGrath, R. G., MacMillan, I. C., & Scheinberg, S. (1992). Elitists, risk-takers, and rugged individualists? An exploratory analysis of cultural differences between entrepreneurs and non-entrepreneurs. *Journal of Business Venturing, 7*(2), 115–135.
McGrath, R. G., MacMillan, I. C., Yang, E. A. Y., & Tsai, W. (1992). Does culture endure, or is it malleable? Issues for entrepreneurial economic development. *Journal of Business Venturing, 7*(6), 441–458.
Minniti, M. (2004). Entrepreneurial alertness and asymmetric information in a spin-glass model. *Journal of Business Venturing, 19*(5), 637–658.
Minniti, M., & Lévesque, M. (2010). Entrepreneurial types and economic growth. *Journal of Business Venturing, 25*(3), 305–314.
Mitchell, R. K., Smith, B., Seawright, K. W., & Morse, E. A. (2000). Cross-cultural cognitions and the venture creation decision. *Academy of Management Journal, 43*(5), 974–993.
Morales, C. E., & Holtschlag, C. (2013). Post materialist values and entrepreneurship: A multilevel approach. *International Journal of Entrepreneurial Behavior and Research, 19*(3), 266–282.
Morris, M. H., Avila, R. A., & Alien, J. (1993). Individualism and the modern corporation: Implications for innovation and entrepreneurship. *Journal of Management, 19*(3), 595–612.
Mueller, S. L., & Thomas, A. S. (2001). Culture and entrepreneurial potential: A nine country study of locus of control and innovativeness. *Journal of Business Venturing, 16*(1), 51–75.
Naudé, W., Amorós, J. E., & Cristi, O. (2014). "Surfeiting, the appetite may sicken": Entrepreneurship and happiness. *Small Business Economics, 42*(3), 523–540.
Naudé, W. A., Amorós, J. E., & Cristi, M. (2013). *"Romanticizing penniless entrepreneurs?" The relationship between start-ups and human wellbeing across countries*. IZA Discussion Paper 7547. http://www.econstor.eu/handle/10419/80527. Accessed 15 Apr 2014.
Noguera, M., Alvarez, C., & Urbano, D. (2013). Socio-cultural factors and female entrepreneurship. *International Entrepreneurship and Management Journal, 9*(2), 183–197.
North, D. C. (1990). *Institutions, institutional change and economic performance*. Cambridge, MA: Cambridge University Press.
North, D. C. (2005). *Understanding the process of economic change*. Princeton, NJ: Princeton University Press.
Noseleit, F. (2013). Entrepreneurship, structural change, and economic growth. *Journal of Evolutionary Economics, 23*(4), 735–766.
Parker, S. C., & Robson, M. T. (2004). Explaining international variations in self-employment: Evidence from a panel of OECD countries. *Southern Economic Journal, 71*(2), 287–301.
Pinillos, M. J., & Reyes, L. (2011). Relationship between individualist–collectivist culture and entrepreneurial activity: Evidence from Global Entrepreneurship Monitor data. *Small Business Economics, 37*(1), 23–37.
Porter, M. E. (2013). Social Progress Index 2013. *Social Progress Imperative*. http://www.prueba04.info/wpcontent/uploads/2009/01/SocialProgressIndex2013.pdf. Accessed 30 June 2014.
Reynolds, P., Bosma, N., Autio, E., Hunt, S., De Bono, N., Servais, I., et al. (2005). Global entrepreneurship monitor: Data collection design and implementation 1998–2003. *Small Business Economics, 24*(3), 205–231.
Ribeiro-Soriano, D., & Peris-Ortiz, M. (2011). Subsidizing technology: How to succeed. *Journal of Business Research, 64*(11), 1224–1228.

Robinson, P. B., & Sexton, E. A. (1994). The effect of education and experience on self-employment success. *Journal of Business Venturing, 9*(2), 141–156.

Rojas, M. (2011). The 'Measurement of economic performance and social progress' report and quality of life: Moving forward. *Social Indicators Research, 102*(1), 169–180.

Salimath, M. S., & Cullen, J. B. (2010). Formal and informal institutional effects on entrepreneurship: A synthesis of nation-level research. *International Journal of Organizational Analysis, 18*(3), 358–385.

Schulz, T., & Baumgartner, D. (2013). Volunteer organizations: Odds or obstacle for small business formation in rural areas? Evidence from Swiss municipalities. *Regional Studies, 47*(4), 597–612.

Schumpeter, J. A. (1911). *The theory of economic development: An inquiry into profits, capital, credit, interest, and the business cycle*. London: Transaction Books.

Shane, S. (1993). Cultural influences on national rates of innovation. *Journal of Business Venturing, 8*(1), 59–73.

Shane, S. (1995). Uncertainty avoidance and the preference for innovation championing roles. *Journal of International Business Studies, 26*(1), 47–68.

Shane, S. (2000). Prior knowledge and the discovery of entrepreneurial opportunities. *Organization Science, 11*(4), 448–469.

Shane, S. (2009). Why encouraging more people to become entrepreneurs is bad public policy. *Small Business Economics, 33*(2), 141–149.

Shane, S., & Venkataraman, S. (2000). The promise of entrepreneurship as a field of research. *Academy of Management Review, 25*(1), 217–226.

Shane, S. A. (1992). Why do some societies invent more than others? *Journal of Business Venturing, 7*(1), 29–46.

Sorenson, O. (2003). Social networks and industrial geography. *Journal of Evolutionary Economics, 13*(5), 513–527.

Spencer, J. W., & Gómez, C. (2004). The relationship among national institutional structures, economic factors, and domestic entrepreneurial activity: A multicountry study. *Journal of Business Research, 57*(10), 1098–1107.

Stenholm, P., Acs, Z. J., & Wuebker, R. (2013). Exploring country-level institutional arrangements on the rate and type of entrepreneurial activity. *Journal of Business Venturing, 28*(1), 176–193.

Stephan, U., & Uhlaner, L. M. (2010). Performance-based vs socially supportive culture: A cross-national study of descriptive norms and entrepreneurship. *Journal of International Business Studies, 41*(8), 1347–1364.

Stiglitz, J., Sen, A., & Fitoussi, J. P. (2009). *The measurement of economic performance and social progress revisited. Reflections and overview*. Paris: Commission on the Measurement of Economic Performance and Social Progress.

Teckchandani, A. (2014). Do membership associations affect entrepreneurship? The effect of type, composition, and engagement. *Nonprofit and Voluntary Sector Quarterly, 43*(2 suppl), 84S–104S.

Terjesen, S., & Amorós, J. E. (2010). Female entrepreneurship in Latin America and the Caribbean: Characteristics, drivers and relationship to economic development. *European Journal of Development Research, 22*(3), 313–330.

Thomas, A. S., & Mueller, S. L. (2000). A case for comparative entrepreneurship: Assessing the relevance of culture. *Journal of International Business Studies, 31*(2), 287–301.

Thornton, P. H., Ribeiro-Soriano, D., & Urbano, D. (2011). Socio-cultural factors and entrepreneurial activity: An overview. *International Small Business Journal, 29*(2), 105–118.

Tiessen, J. H. (1997). Individualism, collectivism, and entrepreneurship: A framework for international comparative research. *Journal of Business Venturing, 12*(5), 367–384.

Turok, I. (2004). Cities, regions and competitiveness. *Regional Studies, 38*(9), 1069–1083.

Turró, A., Urbano, D., & Peris-Ortiz, M. (2014). Culture and innovation: The moderating effect of cultural values on corporate entrepreneurship. *Technological Forecasting and Social Change, 88*, 360–369.

Uhlaner, L., & Thurik, R. (2007). Postmaterialism influencing total entrepreneurial activity across nations. *Journal of Evolutionary Economics, 17*(2), 161–185.
Urbano, D., & Alvarez, C. (2014). Institutional dimensions and entrepreneurial activity: An international study. *Small Business Economics, 42*(4), 703–716.
Urbano, D., & Aparicio, S. (2016). Entrepreneurship capital types and economic growth: International evidence. *Technological Forecasting and Social Change, 102*, 34–44.
Urbano, D., Aparicio, S., & Audretsch, D. (2018). Twenty-five years of research on institutions, entrepreneurship, and economic growth: What has been learned? *Small Business Economics*. In Press, https://doi.org/10.1007/s11187-018-0038-0.
Urbano, D., Aparicio, S., Guerrero, M., Noguera, M., & Torrent-Sellens, J. (2016). Institutional determinants of student employer entrepreneurs at Catalan universities. *Technological Forecasting and Social Change, 123*, 271–282. https://doi.org/10.1016/j.techfore.2016.06.021
van Hemmen, S., Alvarez, C., Peris-Ortiz, M., & Urbano, D. (2015). Leadership styles and innovative entrepreneurship: An international study. *Cybernetics and Systems, 46*(3–4), 271–286.
van Praag, C. M., & Versloot, P. H. (2007). What is the value of entrepreneurship? A review of recent research. *Small Business Economics, 29*(4), 351–382.
van Staveren, I., Webbink, E., de Haan, A., & Foa, R. (2014). The last mile in analyzing wellbeing and poverty: Indices of social development. *Forum for Social Economics, 43*(1), 8–26.
van Stel, A., Carree, M., & Thurik, R. (2005). The effect of entrepreneurial activity on national economic growth. *Small Business Economics, 24*(3), 311–321.
Veciana, J. M., & Urbano, D. (2008). The institutional approach to entrepreneurship research. Introduction. *International Entrepreneurship and Management Journal, 4*(4), 365–379.
Verheul, I., Wennekers, S., Audretsch, D., & Thurik, R. (2002). An eclectic theory of entrepreneurship: Policies, institutions and culture. In D. Audretsch, R. Thurik, I. Verheul, & S. Wennekers (Eds.), *Entrepreneurship: Determinants and policy in a European-US comparison* (pp. 11–81). New York: Springer US.
Vinogradov, E., & Kolvereid, L. (2007). Cultural background, human capital and self-employment rates among immigrants in Norway. *Entrepreneurship and Regional Development, 19*(4), 359–376.
Webbink, E. (2012). Inclusion of Minorities. *The Indices of Social Development*. http://www.indsocdev.org/resources/ISD%20Inclusion%20of%20Minorities.pdf. Accessed 5 June 2014.
Wennekers, S., & Thurik, R. (1999). Linking entrepreneurship and economic growth. *Small Business Economics, 13*(1), 27–56.
Wennekers, S., Thurik, R., van Stel, A., & Noorderhaven, N. (2007). Uncertainty avoidance and the rate of business ownership across 21 OECD countries, 1976–2004. *Journal of Evolutionary Economics, 17*(2), 133–160.
Wennekers, S., van Stel, A., Thurik, R., & Reynolds, P. (2005). Nascent entrepreneurship and the level of economic development. *Small Business Economics, 24*(3), 293–309.
White, H. (1980). A heteroskedasticity-consistent covariance matrix estimator and a direct test for heteroskedasticity. *Econometrica, 48*, 817–830.
Williamson, O. E. (2000). The new institutional economics: Taking stock, looking ahead. *Journal of Economic Literature, 38*(3), 595–613.
Wong, P. K., Ho, Y. P., & Autio, E. (2005). Entrepreneurship, innovation and economic growth: Evidence from GEM data. *Small Business Economics, 24*(3), 335–350.

Chapter 4
The Effect of Entrepreneurial Activity on Economic Growth

4.1 Introduction

As it was found in Chap. 2, entrepreneurship is an important element to achieve economic growth (Acs, Audretsch, Braunerhjelm, & Carlsson, 2012; Acs, Desai, & Hessels, 2008; Aparicio, Urbano, & Audretsch, 2016; Audretsch & Keilbach, 2004a, 2004b, 2004c, 2008). We have also mentioned that the extant research has provided evidence of the importance of entrepreneurship for growth, analyzing different proxies such as self-employment, business ownership and new business creation, among others (Blanchflower, 2000; Carree & Thurik, 2008; Carree, van Stel, Thurik, & Wennekers, 2002). Regardless the variable used, most of the research tend to take support from neo-classical economic growth and Schumpeterian theory to link entrepreneurship with economic growth.

Basically the foundations come from those works by Solow (1956) and Swan (1956), who estimated different growth models based on the neo-classical production function. Since then, researchers have estimates different production functions in which different determinants were included to find those mechanisms behind economic growth. For instance, Lucas (1988) and Romer (1986)included variables such as human capital and externalities, in addition to labor and capital, into the growth analysis. These authors provided evidence that more skilled workers create positive externalities as well as more economic growth. By exploring other variables into the growth model, Acs et al. (2012), Blanchflower (2000), Colino, Benito-Osorio, and Rueda-Armengot (2014), Iyigun and Owen (1999), and Minniti and Lévesque (2010) used the neo-classical production function, in which human capital and entrepreneurship (or self-employment) were considered. Thus, entrepre-

Another version of this chapter has been published in Urbano, D., & Aparicio, S. (2016). Entrepreneurship capital types and economic growth: International evidence. *Technological Forecasting and Social Change, 102*, 34–44.

D. Urbano et al., *Institutions, Entrepreneurship, and Economic Performance*,
International Studies in Entrepreneurship 41,
https://doi.org/10.1007/978-3-030-13373-3_4

neurial activity is included into the growth analysis, which allows the exploration of its impact and complementarity on economic growth. The theoretical foundation that links entrepreneurship and economic growth is derived from Schumpeter's (1911) ideas, which consider entrepreneurs are agents capable of generating shocks in the economic cycle through innovation processes. It is worth noting that Schumpeter (1911) develops a theory of economic development acknowledging that the creative destruction process is because of the existence of entrepreneurial activity. Based on this theory, some scholars have been focused on the relationship between entrepreneurship and growth considering the stages of development (Carree et al., 2002; Carree & Thurik, 2008; Van Stel & Carree, 2004). By complementing neoclassical and Schumpetrian theory, other authors have encountered that entrepreneurship serves as a conduit of knowledge spillover that affects economic growth (Agarwal, Audretsch, & Sarkar, 2007; Audretsch 2007; Audretsch & Keilbach, 2008; Noseleit, 2013).

Solow (2007) suggests that the inclusion of entrepreneurship as a new capital factor into the growth model enhances our perspective about the set of forces that drives economic growth, contributing at the same time to the discussion and theoretical development. Accordingly, and as it was mentioned in Chap. 1, Audretsch (2007) and Audretsch and Keilbach (2004a, 2004b, 2004c, 2005, 2008) developed and empirically tested the entrepreneurship capital concept, which considers social factors in a production function. However, these authors were explicit to the limitations of entrepreneurship capital, mainly because there is nota particular measure of this variable. They suggest that future studies may be interested in assessing different proxies for other countries, in which additional indicators of entrepreneurship capital, should be also considered. Accordingly, Audretsch, Bönte, and Keilbach (2008) claim the new indicators needs to capture social and other latent factors in entrepreneurial activity over time and be comparable across countries. Given this gap, we propose in this chapter overall total entrepreneurial activity (TEA), opportunity TEA and necessity TEA as new ways of measuring entrepreneurship capital. These variables are from the Global Entrepreneurship Monitor (GEM), which enable the measurement of new business creation regarding the social context (Wennekers, van Stel, Thurik, & Reynolds, 2005; Wong, Ho, & Autio, 2005). Acs, Desai, & Klapper, (2008), on the one hand, suggest that these factors use uniform definitions and data collection across countries, which allows cross-country comparisons; and on the other hand, the variables measure the intention and capacity of a society to create new ventures in order to determine the relationship between entrepreneurship and national economic growth.[1] Using large cross-sections and time series of countries spanning a wide range of economic development enables researchers to gain a broader comprehension of the possible differences in groups of countries and particular periods of time (Acs, Desai, & Klapper, 2008).

[1] Although we focused on these three measures of entrepreneurship capital, we also considered a self-employment and an employers' measure. The problem with these two variables is the lack of information regarding countries and time.

Thus, the objective of this chapter is to estimate the effect of entrepreneurship on economic growth. Our hypotheses are routed on the concept that relates entrepreneurship capital with economic growth using a neo-classical production function. By estimating a panel data model with information over the period 2002–2012 from the GEM and World Development Indicators (WDI), we find that overall TEA, opportunity TEA and necessity TEA affect economic growth, in which the influence is differentiated according to comparisons between OECD and non-OECD countries and between pre- and post-crisis periods. According to Acs et al. (2012), if we overcome the endogeneity problem between entrepreneurial activity and economic growth by implementing some instrumental variables, then results are reliable and policy implications can be discussed.

After this brief introduction, the chapter is structured as follows. In Sect. 4.2, we present the conceptual framework that associates entrepreneurship capital with economic growth. In Sect. 4.3, we describe the data and model. In Sect. 4.4, we discuss the results. Finally, in Sect. 4.5, we conclude and highlight the future research line.

4.2 Conceptual Framework: Linking Entrepreneurship Capital with Economic Growth

Research and debates on the key questions that drive economic growth are still open. While the neo-classical theory has largerly explored investment in physical capital and labor as the main forces (Solow, 1956; Swan, 1956), the endogenous growth theory (Romer, 1986) emphasizes the process of the accumulation of knowledge, and hence the creation of human capital. After this approach, new variables have been explored in the neo-classical model in addition to the traditional ones. Throughout this process a new class of endogenous growth model emerges to allowing for the exploration of social factors that are also important in generating economic growth.

For example, Putnam (1993) suggested that social factors may be focused on social capital, in which individuals are connected in one way or another. Based on this idea, some scholars have linked social capital to entrepreneurship (Aldrich & Martinez, 2003; Thornton & Flynne, 2003). In line with this literature, entrepreneurship could be encouraged where the investments in social capital exists (Amin, 2000; Lawton Smith, 2003; Simmie, 2003). Additionally, other social factors are considered by Schumpeter (1911), who talked about the idea of social capacity, proposing entrepreneurship as a key factor in driving economic development. Thus, entrepreneurial activity is assumed to lead the way of creative destruction (Schumpeter, 1911), as it generates constant variations that affect the transition from economic equilibrium to another. These shocks create opportunities for economic rent, therefore, Schumpeter (1911) predicts that an increased amount of entrepreneurs that yields a higher economic growth. Thus, one could think that entrepreneurship is directly associated with economic growth (Schumpeter, 1911). In this regard, Minniti and Lévesque (2010) used theoretically created a model in

which innovative and imitative entrepreneurship take place and affect economic growth in different ways. These authors found that innovative entrepreneurship, mostly seen in developed countries, could impact on long-term productivity. By using estimation techniques, Audretsch and Keilbach (2004a, 2004b, 2004c, 2005, 2008), Bjørnskov and Foss (2013), and Iyigun and Owen (1999), found that entrepreneurship and economic growth are positively associates at regional level. Basically, these authors have used firm demography or self-employment as proxies of entrepreneurship as a capital input.

As an alternative proxy of entrepreneurship, Reynolds et al. (2005) designed methodology in which the main variable is overall Total Early-Stage Entrepreneurial Activity (TEA). This methodology serves to capture the stock of the adult population involved in entrepreneurial activity. Here, it is included economic, social and cultural factors that explain antecedents and consequences of entrepreneurship. Additionally, this measure is comparable across countries, so international comparisons can be performed. In this sense, authors such as Liñán and Fernandez-Serrano (2014), van Stel, Carree, and Thurik (2005), Wennekers et al. (2005), and Wong et al. (2005), assessed the influence of overall TEA on economic growth at the national level. Despite this important evidence, these authors also limited their analysis to cross-sectional data. According to Audretsch and Keilbach (2004a, 2004b, 2004c), other types of entrepreneurship capital could explain economic performance, particularly measures of entrepreneurial activity that include social context across time. In this regard, van Stel et al. (2005) and Wong et al. (2005) have overall TEA as well as opportunity TEA and necessity TEA, among others, in which the Putnam's (1993) statement about social factors are implicitly considered. According to Reynolds et al. (2005), overall entrepreneurship could influence economic performance through the birth and expansion of firms that create jobs. Wong et al. (2005) suggested that countries with higher levels of overall TEA will have faster growth rates. These authors provided evidence showing that overall entrepreneurship is positively related to economic growth, though the relationship is not statistically significantly. However, according to Reynolds, Camp, Bygrave, Autio, and Hay (2001), Reynolds, Camp, Bygrave, Autio, and Hay (2002), and Reynolds, Hay, Bygrave, Camp, and Autio (2000), overall TEA and economic growth are assumed to be positively related. Thus, everyone involved in anew business creation, regardless the motivation, is relevant to the national level of economic activity (Reynolds et al., 2005). In this sense, we propose the following hypothesis:

Hypothesis 1: Overall TEA has a positive effect on economic growth.

As we already mentioned, it suggested that knowledge is an important element in economic growth. For instance, Romer (1986) included a variable of knowledge in the neo-classical production function. Nevertheless, Acs et al. (2012) pointed out that knowledge may not be as automatic as has been assumed in the endogenous growth model. Therefore, other authors have used entrepreneurship as a conduit of knowledge (Agarwal et al., 2007; Audretsch, 2007; Audretsch & Keilbach, 2008; Noseleit, 2013).

According to Reynolds et al. (2005), opportunity TEA can be considered as the net result of individual decisions to pursue entrepreneurial initiatives based on

knowledge. In this sense, opportunity TEA can be related to innovation as the opportunity identification requires creativity, experience, skills, etc. Some authors have recognized the capacities of potential entrepreneurial innovation to contribute to prosperity and economic welfare (Acs & Armington, 2006; Audretsch, 2007; Levie & Autio, 2008; Schramm, 2006). Accordingly, Audretsch et al. (2008) have suggested that entrepreneurs identify opportunities based on knowledge that exists in the environment and turn them into new products. Indoubtly, this creates a process of knowledge spillovers, which also affects positively economic performance (Audretsch et al., 2008). Additionally, these authors suggest that innovative entrepreneurs, who are those investing in the development of new products and services based on new knowledge, gain advantage with respect to other entrepreneurs. Thereby, opportunity entrepreneurship, implicitly associated with innovation, may be considered an important element in the transformation of new knowledge into new projects that affect economic performance (Audretsch et al., 2008). In this regard, Wong et al. (2005) pointed out that the opportunity TEA rates include the creation of knowledge and technology, and thus, they could impact positively on economic growth (Acs et al., 2012; Noseleit, 2013; Valliere & Peterson, 2009). Thus, we propose the following hypothesis:

Hypothesis 2: Opportunity TEA has a positive effect on economic growth.

The design of the overall TEA measure in the GEM project also considers different motivations (Reynolds et al., 2005). In this sense, they split overall TEA into two, the first one being opportunity TEA, already explained; and the second one being necessity TEA, which results from labor limitations and is generally related to non-innovative firms. Authors such as Campbell, Heriot, and Jauregui (2010) proved that some regulations be harmful for labor decisions, affecting the functioning of markets and forcing workers into survivalist entrepreneurship. Thus, new venture creation related to necessity motivation is expected to have a null impat on economic growth. Shane (2009), for instance, suggested caution with respect to strategies aimted at increasing entrepreneurship, which could lead to firms that actually destroy employment in the long-term, generating little wealth. Usually, the individuals involved in necessity driven entrepreneurship tend to possess fewer endowments of human capital and entrepreneurial capability (Lucas, 1978). As Wong et al. (2005)showed, necessity TEA has either no significant relationship or a negative relationship with economic growth. These authors provided evidence on that those individuals motivated by necessity are driven to become entrepreneurs due to a lack of paid employment. According to Audretsch et al. (2001), it is assumed that this type of entrepreneurship (capital) could generate low creation value in the short-term economy growth. Therefore, we propose the following hypothesis:

Hypothesis 3: Necessity TEA has a positive effect on economic growth, however the effect is smaller than that of opportunity TEA.

Although the literature has highlighted the relevance of entrepreneurship for the growth process, there are authors who have used cross-country analysis to generate benchmarks between high- and low-income countries, OECD and non-OECD countries, and developed and developing countries (cf. Carree et al., 2002; Carree,

van Stel, Thurik, & Wennekers, 2007; Liñán & Fernandez-Serrano, 2014; Wennekers et al., 2005; Wong et al., 2005). For example, Bruton et al. (2008) have recommended for future research that further evidence on entrepreneurial activity needs to be focused on understanding its effects on developing economies, as there is a scarcity of studies devoted to explore what is happening in these economies. Based on this idea, Bruton, Ketchen, and Ireland (2013) have shown how important is entrepreneurship to reduce the poverty level in developing countries. Accordingly, Bruton, Ahlstrom, and Puky (2009) have suggested the effect of entrepreneurship on growth is due mainly to institutional differences. Acs and Amorós (2008), Stenholm, Acs, and Wuebker (2013), and Stephan and Uhlaner (2010) discuss a similar idea. These authors differentiated between drivers of entrepreneurship and their effects on economic growth, considering the development stage and cultural factors of each country. In this sense, it is suggested that a high-level bureaucracy and corruption reduces entrepreneurial activity in developing countries such as India, China and Taiwan, impeding them to obtain higher levels of economic development.

Indeed, there are different perspectives about how entrepreneurship and economic performance differ from country to country. For example, Carree et al. (2002, 2007) and van Stel et al. (2005)have found that entrepreneurship and economic growth are related in a U-shaped form. It means that entrepreneurial activity tends to be positively related to economic growth in countries with a high-income level, whereas this relationship tends to be negative in countries with a low-income level. These authors also reached to the conclusion that low-income countries tend to have higher entrepreneurship rates based on necessity than high-income countries. In the case of Carree et al. (2002, 2007), they have employed an OECD dataset to test whether this relationship exists or not; whereas, van Stel et al. (2005) have explored the effect of entrepreneurial activity on economic growth using the GEM dataset. Similarly, Wennekers et al. (2005) have also utilized a GEM dataset to test the U-shaped and L-shaped relations for opportunity and necessity nascent entrepreneurship, separately. These authors have shown that in those low-income countries, relatively many nascent entrepreneurs engage in entrepreneurial activity out of necessity. Comparing the OECD and GEM datasets, it is possible to associate high-income economies with OECD countries and low-income with non-OECD countries (Carree et al., 2007; Wennekers et al., 2005). Even though these authors have found the absence of an effect of entrepreneurship on economic growth in low-income countries, it does not imply that entrepreneurship should be discouraged. In fact, necessity TEA plus opportunity TEA, for instance, both contribute to lowering unemployment (van Stel et al., 2005). Autio (2008) has found a gap on whether and how entrepreneurship either contributes or does not contribute to economic growth in developing countries. According to Dejardin (2000), innovative entrepreneurs accelerate the growth process. Naudé (2010, 2011) has suggested that if the demand for entrepreneurship is higher in developing countries, as is normally expected, then entrepreneurship could also affect positively the economic growth in these countries. In a similar line of thought, Sanyang and Huang (2010) have discussed the importance of creating programs that support entrepreneurial initiatives in

low-income countries. Particularly, these authors have explored how EMPRETEC, an entrepreneurship program implemented in some developing countries, encourages entrepreneurial activity in order to foster economic development. Some patters are also seen through indicators such as more educated and skilled people, employment creation, product diversification and economic growth. Valliere and Peterson (2009) and Wong et al. (2005) empirically estimated the relationship between entrepreneurship and economic growth, in which the hypothesis about the influence of overall TEA on economic growth, higher in high-income countries than in those with a low income, has been proposed. In this regard, evidence from Dejardin (2000), Valliere and Peterson (2009), and Wong et al. (2005) have served to understand the composition of entrepreneurial activities in each country. Accordingly, Dejardin (2000) and Wong et al. (2005) have found that countries with higher overall TEA rates will experience better growth performance. As high-income countries are associated with those OECD members and low-income with non-OECD countries, we propose the following hypothesis:

Hypothesis 4: Overall TEA has a greater impact on the economic growth of OECD countries than that of non-OECD countries.

Cross-country analysis needs also a complimentary view, which is given by time comparisons, as the relationship between entrepreneurship and growth can canheg over the years (Carree et al., 2002, 2007). Accordingly, through time series it is possible to model the equilibrium adjustment mechanism that disentangles the association of entrepreneurship with national productivity (Carree et al., 2002, 2007). Analyzes like this lead to the comprehension of entrepreneurship and economic performance in each part of the growth cycle. In this sense, the recent crisis event can a breakeven point, as according to the "World Economic Forum's Annual Meeting of the New Champions 2009" (UN, 2009),the new crisis period has especially affected those countries with a high-income level, and resulted in a contraction in emerging economies.

Extant literature has recommended that entrepreneurial activity is an important element to overcoming the world crisis. For example, there are authors suggesting that entrepreneurship based on innovation tends to survive and grow in an economic crisis and enhances the economic performance through employment (Kraus, Rigtering, Hughes, & Hosman, 2012). Cace, Nicolaescu, and Cace (2011) suggested that one of the consequences of economic crisis is the institutional change, which is reflected on entrepreneurial behavior as a mechanism of well-being. Other institutional changes have also been perceived, in which incentives to promote business creation were created. In this sense, Năstase and Kajanus (2009) concluded that economic crises serve to offer policy makers an opportunity to readdress structural policies that overcome limitations and accelerate change, allowing for a recovery of economic growth. According to these authors, entrepreneurial activity can reduce the negative effects the current global economic crisis, even better than incumbent firms, in which job creation and economic growth are perceived. Based on Năstase and Kajanus (2009), other authors such as Onofrei and Lupu (2012) recommended that promoting entrepreneurial activity in a crisis period also serves

to reinvent new managerial methodologies, which are useful to both new and established firms, thus, contributing to the better performance of firms as well as the economy. The net results can be perceived through more employment creation or self-employment. In this regard, Copeland and James (2014) studied a public policy that guided the European decision until 2020. This considers entrepreneurship policies based on job creation instead of own-account workers, aiming ultimately at improving economic performance. In fact, Cumming and Li (2013) highlighted the importance of promoting funding through venture capital, such as a complementary policy to foster entrepreneurship in a crisis period. Román, Congregado, and Millán (2013) explored the transition from unemployment to self-employment in European countries during the economic crisis. They suggested that self-employed people can be considered a heterogeneous group, among which only those self-employed people who contribute to job creation are important to overcoming the difficult times. Similarly, Thurik, Carree, Van Stel, and Audretsch (2008) have provided evidence on self-employment that is characterized by ideas generation. According to these authors, this kind of self-employment is stronger in regard to economic growth than self-employment generated by refugee effects. Taking into these ideas, Năstase and Kajanus (2009) suggested that the new public strategies stemmed from an economic crisis create higher and better entrepreneurship rates than those derived in periods out of the crisis. Thus, we propose the following hypothesis:

Hypothesis 5: Overall TEA has a positive effect on economic growth, however the effect is higher in a post-crisis period.

4.3 Data and Methods

As we noted earlier, this chapter analyzes the effect of entrepreneurship on economic growth using an unbalanced panel of data for the period 2002–2012. Our measures of entrepreneurship are operationalized through the overall TEA rates, the best-known indicator of the GEM, as well as opportunity TEA and necessity TEA. Therefore, we have taken these data from the GEM project. The TEA variable defines entrepreneurs as adults who are in the process of setting up a business that they will at least partly own and/or who currently own and manage an operating young business (up to 3.5 years old). The opportunity and necessity TEA rates differentiate between entrepreneurs who are motivated to pursue perceived business opportunities and those who are driven to become entrepreneurs as a last resort, when other options for economic activity are absent or unsatisfactory.

Our dependent variable is the gross domestic product per capita (GDPpc) constant at 2005 $US, which is an accurate proxy of economic growth. We have taken this information from the World Development Indicator (WDI) of the World Bank. This variable, as well as the independent variables (except TEA, opportunity TEA and necessity TEA), were transformed through the population aged 15–64 years, following Nicolini (2011). Other independent variables, specifically those that are

traditionally included in a production function, namely, gross capital formation (GKF), employment, government consumption and savings, were obtained from the WDI. The variable GKF, as well as government consumption and savings, are measured in constant values at 2005 $US. Meanwhile, TEA, opportunity TEA and necessity TEA were obtained from the GEM project.

Table 4.1 shows those dependent and independent variables used in this chapter, including their details and sources. Our final sample consists of an unbalanced panel with data on 289 observations and 43 countries: 25 OECD countries and 18 non-OECD countries[2] (see Appendix 5 for a list of countries).

We link the national economic growth per capita to the traditional factors of capital, employment, government consumption and savings (Bleaney & Nishiyama, 2002), along with our factor of entrepreneurial activity, by including these factors into a Cobb–Douglas production function. Using the natural logarithm to estimate it, we obtain the following equation:

$$\ln y_{it} = \varphi \ln ea_{it} + \beta \ln x_{it} + \ln \alpha_i + \mu_{it} \tag{4.1}$$

where:

i is the country and t is time.
ln y_{it}: natural logarithm of the GDP per population aged 15–64.
ln x_{it}: natural logarithm of a vector of control variables (GKF, employment, government consumption and savings) per population aged 15–64.
ln ea_{it}: natural logarithm of the entrepreneurial activity.
Ln α_i: natural logarithm of the dummy variable for each country (fixed-effects constant).
μ_{it}: error term.

In this chapter, given the availability of data from 2002 to 2012 (43 countries), we estimated random- and fixed-effects models and we used the Hausman specification test to check whether fixed- or random-effects model are appropriate. The test allows us to see that fixed-effects specification for the overall TEA, opportunity TEA and necessity TEA models ($X^2(3) = 44.94$, Prob $>X^2 = 0.00$; $X^2(3) = 44.90$, Prob $>X^2 = 0.00$; $X^2(3) = 45.14$, Prob $>X^2 = 0.00$, respectively), which rejects the null hypothesis that the difference in coefficients is not systematic. Additionally, since heteroskedasticity is identified, we estimate linear regressions with robust variance estimates, which are based on a variable list of equation-level scores and a covariance matrix. As probably the level of economic growth in period t is associated with the level of economic growth in period *t-1*, a test is applied to check whether serial correlation in the idiosyncratic errors of a linear panel-data model exists. We find that autocorrelation problems are present ($F(1,36) = 129.81$, Prob > F = 0.00). In order to control for the possible endogeneity of entrepreneurship and the two-ways relationship between economic growth and entrepreneurial activity, a

[2] We used the classification of the OECD: http://www.oecd.org/about/membersandpartners/list-oecd-member-countries.htm

Table 4.1 Description of variables

Variable		Definition	Source[a]
Dependent variable	Gross Domestic Product per capita (GDPpc)	GDP at purchaser's prices is the sum of gross value added by all resident producers in the economy plus any product taxes and minus any subsidies not included in the value of the products divided by population. Data are in constant 2005 U.S. dollars	WDI 2002–2012
Entrepreneurship capital types	Overall entrepreneurial activity (TEA)	Total early-stage entrepreneurial activity. Percentage of adults aged 18–64 setting up a business or owning–managing a young firm (up to 3.5 years old), including self-employment	GEM APS 2002–2012
	Opportunity TEA	Opportunity TEA is the percentage of adults aged 18–64 setting up a business or owning–managing a young firm (up to 3.5 years old), including self-employment who are motivated to pursue perceived business opportunities	GEM APS 2002–2012
	Necessity TEA	Necessity TEA is the percentage of adults aged 18–64 setting up a business or owning–managing a young firm (up to 3.5 years old), including self-employment who are involved in entrepreneurship because they have no better option for work	GEM APS 2002–2012
Control variables	Gross capital formation (GKF)	Gross capital formation (formerly gross domestic investment) consists of outlays on additions to the fixed assets of the economy plus net changes in the level of inventories. Data are in constant 2005 U.S. dollars	WDI 2002–2012
	Employment	Employment to population is the number of a country's population that is employed	WDI 2002–2012
	Government consumption	General government final consumption expenditure which includes all government current expenditures for purchases of goods and services. Data are in constant 2005 U.S. dollars	WDI 2002–2012
	Savings	Gross domestic savings are calculated as GDP less final consumption expenditure (total consumption)	WDI 2002–2012
Instrumental variables	Population ages 15–64	Total population between the ages 15–64 is the number of people who could potentially be economically active	WDI 2002–2012

[a]*WDI* World Development Indicators (WDI) by World Bank. http://databank.worldbank.org/data/home.aspx; *GEM* Global Entrepreneurship Monitor (GEM). http://www.gemconsortium.org/

two-stage least squares estimation is suggested as appropriate method (Acs et al., 2012). To this purpose as well as to overcome autocorrelation issues, we introduce one lagged period of our dependent variable as instrument to explain each entrepreneurship capital type (Audretsch & Keilbach, 2008), and two additional instruments such as those younger than 15 or older than 64 that are dependent of to the working-age population (Age) and the square of this latest variable (Age^2). Some authors such as Acs et al. (2012) and Storey (2003) suggest that demographic variables have shown that individuals in these age cohorts tend to initiate entrepreneurial projects, which mean that these variables may be valid instruments. To test their validity, each of the two-stage least squares estimations reports the test of underidentification (Kleibergen-Paap's statistic) and overidentification (Hansen's J statistic) of instruments. The Kleibergen-Paap's statistic proposes a null hypothesis in which the equation is underidentified. A rejection of this hypothesis indicates that the matrix is full column rank (i.e., the model is identified). As a complementary test, the Hansen's J statistic looks for valid instruments. In this case, the null hypothesis is based on the idea that the instruments are valid, which mean, uncorrelated with the error term. The p-value suggests the probability that the test statistic is zero, which would imply acceptance of the null hypothesis. The partial instrumental variables R^2 is also reported and describes how much of the squared residuals in the first-stage regression is explained by the instrumental variables. This test alongside partial p-value shows how good the instrumental variables are at explaining entrepreneurship.

4.4 Results and Discussion

Means, standard deviations, maximum, minimum value and correlation coefficients of the variables used in this study are reported in Table 4.2. This tables displays that the GDPpc was significantly correlated with traditional variables, namely, the gross capital formation, employment, government consumption and instruments (Bleaney & Nishiyama, 2002). Also, as it can be appreciated, the correlation between GDPpc and overall TEA is very high, since the entrepreneurship capital diminishes as income grows (Carree et al., 2002, 2007). The same correlation is perceived for the levels of opportunity TEA and necessity TEA. Given the correlations among the independent variables, we wanted to see whether problems of multicollinearity exist, which might affect the significance of the main parameters in the regressions, through variance inflation factor (VIF) computations. After we compute the test, we find that the VIF values were low (lower than 5.03).

Table 4.3 shows the estimations results with robust variance estimates. Based on Carree and Thurik (2008) and Carree et al. (2002, 2007), we include in some models time fixed effects to account for the business cycle. In this regard, model 1 includes the first type of entrepreneurship (overall TEA), as well as control variables and time fixed-effects. We estimate this model for all the countries in the sample. Model 2 also assesses time fixed effects and opportunity TEA; whereas model 3 estimates

Table 4.2 Descriptive statistics and correlation matrix

	Variables	Obs.	Mean	Std. Dev.	Min	Max	1	2
1	Ln GDPpc	289	10.159	1.012	7.124	11.540	1	
2	Ln TEA	289	1.981	0.574	0.336	3.693	−0.478*	1
3	Ln opportunity TEA	289	1.663	0.562	−0.211	3.387	−0.298*	0.953*
4	Ln necessity TEA	289	0.258	0.964	−2.365	2.494	−0.726*	0.772*
5	Ln GKF	284	25.096	1.634	21.244	28.766	0.297*	−0.197*
6	Ln employment	289	15.999	1.622	12.003	20.440	−0.210*	0.102
7	Ln government consumption	289	2.884	0.291	1.843	3.334	0.560*	−0.450*
8	Ln savings	284	8.695	1.021	4.903	10.802	0.897*	−0.407*
9	Age	289	66.734	2.847	53.052	73.783	0.073	−0.227*
		3	**4**	**5**	**6**	**7**	**8**	**9**
3	Ln opportunity TEA	1						
4	Ln necessity TEA	0.586*	1					
5	Ln GKF	−0.184*	−0.103	1				
6	Ln employment	0.042	0.281*	0.835*	1			
7	Ln government consumption	−0.385*	−0.499*	0.121	−0.222*	1		
8	Ln savings	−0.238*	−0.659*	0.294*	−0.218*	0.480*	1	
9	Age	−0.226*	−0.092	0.185*	0.052	0.052	0.258	1

*$p < 0.01$

the third type of entrepreneurship (necessity TEA). Model 4 includes only OECD countries and overall TEA, and model 5 considers only non-OECD countries and overall TEA (both of them with time fixed effects). Finally, model 6 considers the overall TEA only in pre-crisis, whilst model 7 assesses overall TEA in post-crisis.[3] All the models are highly significant ($p < 0.01$), which mean that the explanatory variables jointly explain the variance of economic growth.

Concerning the hypotheses testing, hypothesis 1 proposes that entrepreneurship has a positive effect on economic growth. In this case, our sample allowed us to find a positive impact of entrepreneurship such as the overall TEA on economic growth ($\varphi = 0.302$, $p < 0.01$). Thus, this result is consistent with Audretsch (2007) and Audretsch and Keilbach (2004a, 2004b, 2005), who provide evidence on a positive relationship between the new input (entrepreneurship) and the economic growth, assessed through a Cobb–Douglas production function. Nonetheless, we use a different variable in order to understand entrepreneurship, such as a homogenous measure in all countries, which is consistent with the concept of entrepreneurship capital. This result could suggest that entrepreneurship is an important mechanism enables economic growth in all the countries contained in our sample. In fact, for each country in our sample, if the TEA increases by 1% through time, the GDP per

[3] Based on Phelps (2010), we classified the pre-crisis periodsas 2002–2006 and the post-crisis periodas 2009–2012.

Table 4.3 Regression analysis explaining economic growth

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Ln GDPpc	Ln GDPpc	Ln GDPpc	Ln GDPpc	Ln GDPpc	Ln GDPpc	Ln GDPpc
	All countries	All countries	All countries	OECD countries	non-OECD countries	All countries before crisis	All countries after crisis
Entrepreneurship capital types							
Ln TEA	0.302***			0.230***	0.428	0.098***	0.144**
	(0.093)			(0.061)	(0.336)	(0.022)	(0.065)
Ln opportunity TEA		0.326***					
		(0.118)					
Ln necessity TEA			0.083***				
			(0.030)				
Control variables							
Ln GKF	0.133**	0.120*	0.179***	0.067*	0.294*	0.155***	0.194**
	(0.064)	(0.067)	(0.049)	(0.035)	(0.177)	(0.045)	(0.081)
Ln employment	0.242	0.141	0.166	−0.024	0.771	0.414	0.084
	(0.217)	(0.234)	(0.143)	(0.198)	(0.856)	(0.298)	(0.177)
Ln government consumption	0.392**	0.588***	0.030	0.303*	0.683*	0.160	0.253*
	(0.159)	(0.216)	(0.080)	(0.172)	(0.376)	(0.142)	(0.132)
Ln savings	0.048	0.030	0.069***	0.070	−0.025	−0.003	0.035
	(0.046)	(0.052)	(0.023)	(0.058)	(0.117)	(0.036)	(0.043)
Time fixed-effects	Yes	Yes	No	Yes	Yes	No	No
Partial instrumental variables R^2	0.057	0.044	0.064	0.097	0.037	0.242	0.091
Partial p-value	0.008	0.028	0.004	0.003	0.526	0.000	0.019
Valid instruments (p-value)	0.449	0.869	0.000	0.784	0.701	0.439	0.119
Observations	236	236	236	168	68	67	119

Heteroskedasticity corrected standard errors are shown in parentheses. Estimates for time fixed effects dummies are not presented but can be supplied upon request
***p < 0.01; **p < 0.05; *p < 0.10

capita increases by 0.302%, ceteris paribus. Concerning Wong et al.'s (2005) findings, our study is differentiated by statistical significance. Whereas Wong et al. did not strong support in terms of overall TEA, we agree on the importance of this factors to the economic growth process. These results contribute to the discussion established by Wennekers and Thurik (1999), who analyze the association between entrepreneurship and economic growth, assessed through the Solow–Swan model as Audretsch suggested. By following this approach, Minniti and Lévesque (2010)

concluded that entrepreneurial activity is the action of alert individuals who are willing to incur costs in exchange for expected profits, which is an incentive mechanism within the process of economic growth.

Hypothesis 2 suggests that opportunity TEA has a positive effect on economic growth. We find that this measure is positively associated with economic growth ($\varphi = 0.326$, $p < 0.01$). Opportunity TEA defines a particular characteristic in each country in terms of the innovation process. According to Wong et al. (2005), entrepreneurial activity influenced by opportunity identification tends to affect positively the economic growth. Nonetheless, they did not find statistically significant evidence. Instead, our findings suggest that for each country in our sample, if opportunity TEA increases by 1% through time, the GDP per capita increases by 0.326%, ceteris paribus. This is again consistent with Audretsch and Keilbach's (2004a, 2008) and Audretsch et al.'s (2008) results, as they find that entrepreneurial activity associated with innovation has a positive influence on economic growth. Moreover, we highlight that the effect of opportunity TEA on economic growth does not significantly differ among these countries. Valliere and Peterson (2009) support this idea, who suggest that those countries urging entrepreneurial activity based on innovation could obtain improved outcomes in terms of economic performance. Therefore, we are confident that entrepreneurship is a relevant element in promoting economic growth, on which social endowment is a factor that has a relevant influence. Additionally, according to Braunerhjelm, Acs, Audretsch, and Carlsson (2010) and Mueller (2007), innovative entrepreneurship is one missing link in converting knowledge into economically relevant knowledge; thus, spillovers could be obtained to increase the economic growth.

We suggest in Hypothesis 3 that necessity TEA has a lower effect on economic growth than opportunity TEA. In this case, entrepreneurial activity analyzed through necessity TEA has a significant influence on economic growth ($\varphi = 0.083$, $p > 0.01$). However, as we mentioned before, the Hansen's J statistic rejects the null hypothesis, implicating that the estimation result should be analyzed carefully. This result could indicate that demographical factors are not accurate to explain the relationship between necessity entrepreneurship and economic growth. Additionally, it may be possible to assume that the election of an entrepreneurial career could be a solution in the short run, but harmful in the long run, especially in the creation of aggregate value in the economy. In this regard, our results are in line with Wong et al. (2005), who did not find any significance association between necessity TEA and economic growth. A possible explanation could be based on the U-shaped form discovered by Carree et al. (2002, 2007), van Stel et al. (2005), and Wennekers et al. (2005), among others, who explain that some developing countries have a negative relationship between entrepreneurship and economic growth, while other developing countries have a flatter relationship between these two variables Valliere and Peterson (2009). found similar results, arguing that a high prevalence of necessity entrepreneurs exists in developing countries, which could not represent significant added value to economic growth. These authors suggested that necessity TEA could contribute to reducing the unemployment rate, but not to increasing the total output (Valliere & Peterson, 2009). Furthermore, this could imply that those non-OECD

countries tend to have more necessity than opportunity entrepreneurship, as Wennekers et al. (2005) found. This result enables further analysis regarding the distinction between groups of countries and the testing of whether or not non-OECD countries are equally influenced by entrepreneurship, assuming that these countries have a higher necessity entrepreneurship rate.

In this sense, hypothesis 4 proposes that entrepreneurship has a greater impact on the economic growth of OECD than non-OECD countries. Although in both groups of countries the effect of entrepreneurial activity is positive, we found that the impact of entrepreneurial activity, such as overall TEA, on non-OECD economic growth is not significant (model 4: $\varphi = 0.230$, $p < 0.01$ vs. model 5: $\varphi = 0.428$, $p > 0.1$). In this case, it is important to notice that Hansen's J statistic is not rejected at any significant level. Following these results, we are in the line of the study by Wennekers et al. (2005), who suggested that there appears to be a U-shaped relationship between the level of economic development and the rate of entrepreneurship. The study by van Stel et al. (2005) showed that entrepreneurship has a positive effect on economic growth in high-income countries but a negative effect in developing countries. Although Wennekers et al. (2005) found that those countries with a low-income level tend to have more necessity entrepreneurship, and hence a U-shaped form exists, our findings also may indicate that for each country in the OECD group, if the overall TEA increases by 1% through time, the GDP per capita increases by 0.230%, ceteris paribus. These results are consistent with Dejardin (2000), who suggested that high levels of the entrepreneurship rate are associated with high rates of growth. These results could be explained by entrepreneurial activity that creates jobs and adds value, which is expected to be higher in developed countries, as Naudé (2010, 2011) suggested.

To equilibrate the difference between developing and developed economies, non-OECD countries should focus on increasing the human capital, upgrading the technology availability and promoting enterprise development (Acs & Szerb, 2007). It is important to design development policies based on early-stage entrepreneurial activity as its main antecedents are perceptual variables that are difficult to change in the short-run. Additionally, non-OECD countries need an adequate prevalence of large multinational companies that provide external effects. For instance, through spin-offs that encourage researchers to create new business and subcontracting to small firms that pull new ventures to the markets, which could improve the productivity and reduce the uncertainty (Wennekers et al., 2005). Additionally, these countries should try to achieve scale economies by fostering both internal and foreign direct investment, by promoting the development of infrastructure and management education (Wennekers et al., 2005). In this sense, a higher amount of entrepreneurship rates could guarantee enhanced economic performance and faster rates of economic growth, especially in those (low-income) countries with a high level of the unemployment rate, and hence entrepreneurship could result as an important mechanism to reduce it. Furthermore, these results suggest that at the microeconomic level, the choices, activities and functions of entrepreneurs may stimulate also the economic growth in non-OECD, regardless of whether individuals are motivated by opportunity or by necessity. What matters is the total effect of entrepreneurial activ-

ity on economic growth. As the present analysis is conducted at the aggregative macroeconomic level, we are able to distinguish between these different roles of the entrepreneurs, pointing out the importance that should take this factor in non-OECD countries. As in OECD countries, the policy makers must take into account that the process implies long-term strategies required to high potential entrepreneurship, which should increase in these countries (Wong et al., 2005). According to these authors, entrepreneurship takes a long time to obtain results in terms of employment and growth, even more so considering that these countries' poverty rate is higher due to the structural problems (Bruton et al., 2013).

Hypothesis 5 proposes that entrepreneurship has a positive effect on economic growth, but the effect is higher after crisis period. Although in both periods the effect of entrepreneurship is positive, we found that the impact of entrepreneurship, such as overall TEA, on economic growth is higher in the post-crisis than in the pre-crisis period (model 7: $\varphi = 0.120$, $p < 0.05$ vs. model 6: $\varphi = 0.099$, $p < 0.01$). The results could reflect the policy discussion by Copeland and James (2014), who claimed that policy strategies for entrepreneurship must be addressed to job creation and productivity growth. This could imply that the change in growth is faster in the post-crisis period. According to Román et al. (2013), the entrepreneurship endowment in the post-crisis period could imply both the transition of unemployment to self-employment and the creation of jobs; thus, entrepreneurship could be an important policy element to overcome post-crisis periods and achieve a higher economic growth. Furthermore, according to Bjørnskov and Foss (2013), entrepreneurship is most effective in terms of raising productivity under resource allocation encouraged by the public sector, which tends to change in post-crisis periods. In this sense, they suggested that states can successfully raise the effectiveness of entrepreneurship in terms of increasing the overall productivity, basically through investments in public "infrastructure services," which improve processes, products and organizations (Bjørnskov & Foss, 2013). In this sense, Năstase and Kajanus (2009) suggested programs that involve business incubators, clusters of innovative SMEs and science and technology parks, in which development agencies play an important role in facilitating appropriate access to financing for SMEs at the local and regional level. This changes in institutions, regulations, etc., as well as a larger amount of private funds could encourage the demand for entrepreneurs in post-crisis periods. Braunerhjelm and Henrekson (2013) suggested that entrepreneurial activity could be helpful for learning, adopting and adapting particular policies from the specific countries and to solving the difficulties involved in pre-crisis and crisis periods. Possible impacts of entrepreneurship on growth after the crisis period could be changes in new production methods and managerial skills, which involve the role of absorbing surplus labor, providing innovative intermediate inputs to final-good-producing firms, permitting greater specialization in manufacturing and raising productivity and employment in both the modern and the traditional sector (Gries & Naudé, 2010; Stephens & Partridge, 2011).

These findings could indicate that a positive relationship between overall TEA, opportunity TEA (statistically significant) and necessity TEA (not valid instruments) on economic growth in a heterogeneous sample (high- and low-income

countries) exist. Hence, it is very relevant for the economy that a country with a relatively high absolute number of at least one type of entrepreneurship. Regarding the homogenous sample, we found that entrepreneurial activity is more positively related to OECD countries than non-OECD countries (not statistically significant), which could indicate that entrepreneurial activity should be more urged in developing countries to obtain similar results as developed ones. This is to those results comparing the pre-crisis and post-crisis periods. In this case, the change in economic growth after a crisis could be partly explained because of entrepreneurship policies that encourage the creation of jobs through self-employment. In terms of public policy, our results highlight the importance of entrepreneurship to economic growth, especially characterized by the innovation process. Additionally, our findings point out, similar to the current literature, the importance of focusing on appropriate strategies to encourage entrepreneurial activity, otherwise the effect of entrepreneurship on growth will be null or even negative in terms of economic growth, as Shane (2009) suggested.

4.5 Conclusions

In this chapter, longitudinal panel data (for the period 2002–2012) were used to investigate empirically the effect of entrepreneurial activity on economic growth. Using a conceptual framework that links entrepreneurship capital with economic growth (Audretsch, 2007; Audretsch & Keilbach, 2004a, 2004b, 2005), we analyzed the influence of overall TEA, opportunity TEA and necessity TEA on economic growth. We also distinguished the effect of overall TEA on economic growth in OECD and non-OECD countries and pre- and post-crisis periods. We overcame the endogeneity issues through instrumental variables, useful to understand the effect of entrepreneurship capital on economic growth.

In terms of the main results, first, there is evidence of a positive relationship between overall TEA and economic growth. A high level of entrepreneurship, measured as overall entrepreneurial activity, is associated with high rates of economic growth. Second, we also encountered a positive relationship between opportunity TEA and economic growth. Similar to overall TEA, entrepreneurship capital analyzed according to entrepreneurial activity based on opportunities encourages economic growth, although the impact is lower than that of overall TEA and higher than that of necessity TEA (which is not statistically significant). These results suggest that the entrepreneurship capital types, especially overall and opportunity TEA, could be key factors in achieving economic growth. In addition, it is important for governments to redefine the policies that promote entrepreneurship in each country. In terms of long-run growth, strategies related to entrepreneurship motivated by the exploration and evaluation of opportunities are relevant and completely useful. Otherwise, entrepreneurial activity motivated by necessity could solve short-run problems, but have no effect on long-run economic growth.

Regarding the groups of countries (OECD and non-OECD), we also found that entrepreneurial activity is more related to economic growth in OECD countries than in non-OECD countries, which is in line with extant research. This could imply that entrepreneurship as a capital endowment fosters faster-developed economies. This finding was consistent when we ran a regression considering the pre- and post-crisis periods. We found that the effect of entrepreneurship is higher on economic growth in the post-crisis period in all countries than in the pre-crisis period. These results could serve for public policy design that encourages entrepreneurship behavior, especially that one capable of creating jobs and improving the national productivity.

Finally, according to Urbano, Aparicio, and Audretsch (2018) and Valliere and Peterson (2009), the prevalence and economic role of different sorts of entrepreneurs may drastically vary among countries. Part of this variance is due to national conditions and part of it is due to socio-cultural influences. Different types of entrepreneurial activity are therefore likely to play varying roles in the economic growth among emerging and developed countries. Based on Copeland and James (2014), it is possible to say that crises periods could create possible changes in the institutional structure, not only related to the public policy of entrepreneurship, but also possibly related to the self-motivation of each individual who looks for his own benefit and social welfare. By considering this idea, we identified a possible limitation in our model, which consisted of including some demographical variables as instruments in order to differentiate this effect given the heterogeneity of countries in the sample. In some cases (models 5 and 7) were necessary assume a specific significance level to carry out the analysis. Future works could assess some variables to control the environmental characteristics. For instance, Urbano and Alvarez (2014) highlighted the importance of institutional factors to understanding the configuration of entrepreneurial activity among countries that have different development level. Based on these ideas, it could be possible relax the assumptions presented in this chapter and perform a more precise cross-country exploration. The next chapters address this limitation by assessing simultaneity the effect of institutions on entrepreneurship, and subsequently on growth and development.

References

Acs, Z., Desai, S., & Hessels, J. (2008). Entrepreneurship, economic development and institutions. *Small Business Economics, 31*(3), 219–234.

Acs, Z., Desai, S., & Klapper, L. F. (2008). What does "entrepreneurship" data really show? *Small Business Economics, 31*(3), 265–281.

Acs, Z. J., & Amorós, J. E. (2008). Entrepreneurship and competitiveness dynamics in Latin America. *Small Business Economics, 31*(3), 305–322.

Acs, Z. J., & Armington, C. (2006). *Entrepreneurship, geography and American economic growth*. New York: Cambridge University Press.

Acs, Z. J., Audretsch, D. B., Braunerhjelm, P., & Carlsson, B. (2012). Growth and entrepreneurship. *Small Business Economics, 39*(2), 289–300.

Acs, Z. J., & Szerb, L. (2007). Entrepreneurship, economic growth and public policy. *Small Business Economics, 28*(2–3), 109–122.

Agarwal, R., Audretsch, D., & Sarkar, M. B. (2007). The process of creative construction: Knowledge spillovers, entrepreneurship, and economic growth. *Strategic Entrepreneurship Journal, 1*(3–4), 263–286.

Aldrich, H. E., & Martinez, M. A. (2003). Entrepreneurship as social construction. In Z. J. Acs & D. B. Audretsch (Eds.), *Handbook of entrepreneurship research* (pp. 387–427). Dordrecht, The Netherlands: Kluwer Academic Publishers.

Amin, A. (2000). Industrial districts. In E. Sheppard & T. Barnes (Eds.), *Companion to economic geography* (pp. 149–168). Oxford: Blackwell.

Audretsch, D. B. (2007). Entrepreneurship capital and economic growth. *Oxford Review of Economic Policy, 23*(1), 63–78.

Audretsch, D. B., Bönte, W., & Keilbach, M. (2008). Entrepreneurship capital and its impact on knowledge diffusion and economic performance. *Journal of Business Venturing, 23*(6), 687–698.

Audretsch, D. B., & Keilbach, M. (2004a). Does entrepreneurship capital matter? *Entrepreneurship Theory and Practice, 28*(5), 419–429.

Audretsch, D. B., & Keilbach, M. (2004b). Entrepreneurship capital and economic performance. *Regional Studies, 38*(8), 949–959.

Audretsch, D. B., & Keilbach, M. (2004c). Entrepreneurship and regional growth: An evolutionary interpretation. *Journal of Evolutionary Economics, 14*(5), 605–616.

Audretsch, D. B., & Keilbach, M. (2005). Entrepreneurship capital and regional growth. *The Annals of Regional Science, 39*(3), 457–469.

Audretsch, D. B., & Keilbach, M. (2008). Resolving the knowledge paradox: Knowledge-spillover entrepreneurship and economic growth. *Research Policy, 37*(10), 1697–1705.

Audretsch, D. B., Van Leeuwen, G., Menkveld, B., & Thurik, R. (2001). Market dynamics in the Netherlands: Competition policy and the role of small firms. *International Journal of Industrial Organization, 19*(5), 795–821.

Autio, E. (2008, August 21–23). *High-and low-aspiration entrepreneurship and economic growth in low-income economies*. Paper presented at the UNU-WIDER Workshop on Entrepreneurship in Economic Development, Helsinki, Finland.

Bjørnskov, C., & Foss, N. (2013). How strategic entrepreneurship and the institutional context drive economic growth. *Strategic Entrepreneurship Journal, 7*(1), 50–69.

Blanchflower, D. G. (2000). Self-employment in OECD countries. *Labour Economics, 7*(5), 471–505.

Bleaney, M., & Nishiyama, A. (2002). Explaining growth: A contest between models. *Journal of Economic Growth, 7*(1), 43–56.

Braunerhjelm, P., Acs, Z., Audretsch, D. B., & Carlsson, B. (2010). The missing link: Knowledge diffusion and entrepreneurship in endogenous growth. *Small Business Economics, 34*(2), 105–125.

Braunerhjelm, P., & Henrekson, M. (2013). Entrepreneurship, institutions, and economic dynamism: Lessons from a comparison of the United States and Sweden. *Industrial and Corporate Change, 22*(1), 107–130.

Bruton, G. D., Ahlstrom, D., & Obloj, K. (2008). Entrepreneurship in emerging economies: Where are we today and where should the research go in the future. *Entrepreneurship Theory and Practice, 32*(1), 1–14.

Bruton, G. D., Ahlstrom, D., & Puky, T. (2009). Institutional differences and the development of entrepreneurial ventures: A comparison of the venture capital industries in Latin America and Asia. *Journal of International Business Studies, 40*(5), 762–778.

Bruton, G. D., Ketchen, D. J., & Ireland, R. D. (2013). Entrepreneurship as a solution to poverty. *Journal of Business Venturing, 28*(6), 683–689.

Cace, C., Nicolaescu, V., & Cace, S. (2011). The social programs run by the Romanian Orthodox Church during the period of the economic crisis. *Revista de Cercetare şi Intervenţie Socială, 35*, 28–45.

Campbell, N. D., Heriot, K. C., & Jauregui, A. (2010). State regulatory spending: Boon or brake for new enterprise creation and income? *Economic Development Quarterly, 24*(3), 243–250.

Carree, M., van Stel, A., Thurik, R., & Wennekers, S. (2002). Economic development and business ownership: An analysis using data of 23 OECD countries in the period 1976–1996. *Small Business Economics, 19*(3), 271–290.

Carree, M., van Stel, A., Thurik, R., & Wennekers, S. (2007). The relationship between economic development and business ownership revisited. *Entrepreneurship and Regional Development, 19*(3), 281–291.

Carree, M. A., & Thurik, A. R. (2008). The lag structure of the impact of business ownership on economic performance in OECD countries. *Small Business Economics, 30*(1), 101–110.

Colino, A., Benito-Osorio, D., & Rueda-Armengot, C. (2014). Entrepreneurship culture, total factor productivity growth and technical progress: Patterns of convergence towards the technological frontier. *Technological Forecasting and Social Change, 88*, 349–359.

Copeland, P., & James, S. (2014). Policy windows, ambiguity and commission entrepreneurship: Explaining the relaunch of the European Union's economic reform agenda. *Journal of European Public Policy, 21*(1), 1–19.

Cumming, D., & Li, D. (2013). Public policy, entrepreneurship, and venture capital in the United States. *Journal of Corporate Finance, 23*, 345–367.

Dejardin, M. (2000). *Entrepreneurship and economic growth: An obvious conjunction?* Namur, Belgium: University of Namur.

Gries, T., & Naudé, W. (2010). Entrepreneurship and structural economic transformation. *Small Business Economics, 34*(1), 13–29.

Iyigun, M. F., & Owen, A. L. (1999). Entrepreneurs, professionals, and growth. *Journal of Economic Growth, 4*(2), 213–232.

Kraus, S., Rigtering, J. C., Hughes, M., & Hosman, V. (2012). Entrepreneurial orientation and the business performance of SMEs: A quantitative study from the Netherlands. *Review of Managerial Science, 6*(2), 161–182.

Lawton Smith, H. (2003). Knowledge organizations and local economic development: The cases of Oxford and Grenoble. *Regional Studies, 37*(9), 899–909.

Levie, J., & Autio, E. (2008). A theoretical grounding and test of the GEM model. *Small Business Economics, 31*(3), 235–263.

Liñán, F., & Fernandez-Serrano, J. (2014). National culture, entrepreneurship and economic development: Different patterns across the European Union. *Small Business Economics, 42*(4), 685–701.

Lucas Jr., R. E. (1988). On the mechanics of economic development. *Journal of Monetary Economics, 22*(1), 3–42.

Lucas, R. E. (1978). On the size distribution of business firms. *Bell Journal of Economics, 9*(2), 508–523.

Minniti, M., & Lévesque, M. (2010). Entrepreneurial types and economic growth. *Journal of Business Venturing, 25*(3), 305–314.

Mueller, P. (2007). Exploiting entrepreneurial opportunities: The impact of entrepreneurship on growth. *Small Business Economics, 28*(4), 355–362.

Năstase, C., & Kajanus, M. (2009). The impact of the global crisis on SME and entrepreneurship behavior–Romania and Finland cases. *Amfiteatru Economic, 3*, 752–753.

Naudé, W. (2010). Entrepreneurship, developing countries, and development economics: New approaches and insights. *Small Business Economics, 34*(1), 1–12.

Naudé, W. (2011). Entrepreneurship is not a binding constraint on growth and development in the poorest countries. *World Development, 39*(1), 33–44.

Nicolini, R. (2011). Labour productivity in Spain: 1977–2002. *Applied Economics, 43*(4), 465–485.

Noseleit, F. (2013). Entrepreneurship, structural change, and economic growth. *Journal of Evolutionary Economics, 23*(4), 735–766.

Onofrei, M., & Lupu, D. (2012). The management of economic decline and the dimension of organizational change. *Amfiteatru Economic, 32*, 470–484.

Phelps, E. S. (2010). Post-crisis economic policies. *Journal of Policy Modeling, 32*(5), 596–603.
Putnam, R. D. (1993). *Making democracy work. Civic traditions in modern Italy*. Princeton, NJ: Princeton University Press.
Reynolds, P., Bosma, N., Autio, E., Hunt, S., De Bono, N., Servais, I., et al. (2005). Global entrepreneurship monitor: Data collection design and implementation 1998–2003. *Small Business Economics, 24*(3), 205–231.
Reynolds, P., Camp, S., Bygrave, W., Autio, E., & Hay, M. (2001). *Global Entrepreneurship Monitor*. 2001 executive report. Babson College, London Business School, Kauffman Center for Entrepreneurial Leadership.
Reynolds, P. D., Camp, S. M., Bygrave, W. D., Autio, E., & Hay, M. (2002). *Global entrepreneurship monitor global 2002 executive report*. Kansas City, MO: Kaufman Center.
Reynolds, P. D., Hay, M., Bygrave, W. D., Camp, S. M., & Autio, E. (2000). *Global entrepreneurship monitor: 2000 executive report*. Kansas City, MO: Kauffman Center for Entrepreneurial Leadership.
Román, C., Congregado, E., & Millán, J. M. (2013). Start-up incentives: Entrepreneurship policy or active labour market programme? *Journal of Business Venturing, 28*(1), 151–175.
Romer, P. M. (1986). Increasing returns and long-run growth. *Journal of Political Economy, 94*(5), 1002–1037.
Sanyang, S. E., & Huang, W. C. (2010). Entrepreneurship and economic development: The EMPRETEC showcase. *International Entrepreneurship and Management Journal, 6*(3), 317–329.
Schramm, C. J. (2006). *The entrepreneurial imperative*. Livingston, NJ: Collins.
Schumpeter, J. A. (1911). *The theory of economic development: An inquiry into profits, capital, credit, interest, and the business cycle*. London: Transaction Books.
Shane, S. (2009). Why encouraging more people to become entrepreneurs is bad public policy. *Small Business Economics, 33*(2), 141–149.
Simmie, J. (2003). Innovation and urban regions as national and international nodes for the transfer and sharing of knowledge. *Regional Studies, 37*(6–7), 607–620.
Solow, R. M. (1956). A contribution to the theory of economic growth. *The Quarterly Journal of Economics, 70*(1), 65–94.
Solow, R. M. (2007). The last 50 years in growth theory and the next 10. *Oxford Review of Economic Policy, 23*(1), 3–14.
Stenholm, P., Acs, Z. J., & Wuebker, R. (2013). Exploring country-level institutional arrangements on the rate and type of entrepreneurial activity. *Journal of Business Venturing, 28*(1), 176–193.
Stephan, U., & Uhlaner, L. M. (2010). Performance-based vs socially supportive culture: A cross-national study of descriptive norms and entrepreneurship. *Journal of International Business Studies, 41*(8), 1347–1364.
Stephens, H. M., & Partridge, M. D. (2011). Do entrepreneurs enhance economic growth in lagging regions? *Growth and Change, 42*(4), 431–465.
Storey, D. (2003). Entrepreneurship, small and medium sized enterprises and public policies. In Z. J. Acs & D. B. Audretsch (Eds.), *Handbook of entrepreneurship research* (pp. 473–511). Boston: Kluwer.
Swan, T. W. (1956). Economic growth and capital accumulation. *The Economic Record, 32*(2), 334–361.
Thornton, P. H., & Flynne, K. H. (2003). Entrepreneurship, networks and geographies. In Z. Acs & D. Audretsch (Eds.), *Handbook of entrepreneurship research* (pp. 401–433). Dordrecht, The Netherlands: Kluwer Academic Publishers.
Thurik, A. R., Carree, M. A., Van Stel, A., & Audretsch, D. B. (2008). Does self-employment reduce unemployment? *Journal of Business Venturing, 23*(6), 673–686.
UN – Commission on Wolrd Financial and Economic Crisis. (2009, June). Conference on the world financial and economic crisis and its impact on development, (Outcome Document, Draft).

Urbano, D., & Alvarez, C. (2014). Institutional dimensions and entrepreneurial activity: An international study. *Small Business Economics, 42*(4), 703–716.

Valliere, D., & Peterson, R. (2009). Entrepreneurship and economic growth: Evidence from emerging and developed countries. *Entrepreneurship and Regional Development, 21*(5), 459–480.

van Stel, A., & Carree, M. (2004). Business ownership and sectoral growth: An empirical analysis of 21 OECD countries. *International Small Business Journal, 22*(4), 389–419.

van Stel, A., Carree, M., & Thurik, R. (2005). The effect of entrepreneurial activity on national economic growth. *Small Business Economics, 24*(3), 311–321.

Wennekers, S., & Thurik, R. (1999). Linking entrepreneurship and economic growth. *Small Business Economics, 13*(1), 27–56.

Wennekers, S., van Stel, A., Thurik, R., & Reynolds, P. (2005). Nascent entrepreneurship and the level of economic development. *Small Business Economics, 24*(3), 293–309.

Wong, P. K., Ho, Y. P., & Autio, E. (2005). Entrepreneurship, innovation and economic growth: Evidence from GEM data. *Small Business Economics, 24*(3), 335–350.

Chapter 5
Social Progress Orientation, Entrepreneurship and Economic Development

5.1 Introduction

As it was mentioned, since Schumpeter (1911) attributed to entrepreneurs the capacity to influence the business cycle and its subsequent path dependence through innovation, many scholars have studied the importance of entrepreneurship and small business on economic development (Acs, Audretsch, Braunerhjelm, & Carlsson, 2012; Audretsch & Keilbach, 2004a; Meagher, 2007; van Stel, Storey, & Thurik, 2007; Wennekers & Thurik, 1999; Wennekers, van Stel, Thurik, & Reynolds, 2005). Given the importance of entrepreneurship in the development process, academia has been interested in the factors that promote entrepreneurship by different approaches (Anderson, Dana, & Dana, 2006; Bruton, Ahlstrom, & Li, 2010; Shane & Venkataraman, 2000; Urbano, Aparicio, & Audretsch, 2018; Veciana & Urbano, 2008; Verheul, Wennekers, Audretsch, & Thurik, 2002). Among those factors, some authors suggest that socioeconomic factors determine new business formation (Carree, van Stel, Thurik, & Wennekers, 2002, 2007; Freytag & Thurik, 2007; Naudé, Amorós, & Cristi, 2014; Uhlaner & Thurik, 2007; Wennekers et al., 2005). In addition, those factors framed by institutional economics have been considered a promising and useful approach for the study of entrepreneurship (Bruton et al., 2010; Thornton, Ribeiro-Soriano, & Urbano, 2011; Veciana & Urbano, 2008). In this sense, institutions can be formal or informal (North, 1990, 2005).

Formal institutions are commonly known as laws or regulations, whereas informal institutions are seen as values, beliefs and so on. In the light of this approach, we introduce social progress orientation (SPO) as a value beyond economic terms that promotes social welfare. Societies oriented towards social progress may provide an adequate climate for the deployment of the individual's full potential. In this sense, we could consider SPO as an informal institution. In that regard, Stephan and Uhlaner (2010) find that a social supportive culture, in contrast to a performance-based society, encourages independence-based entrepreneurship, which is associated

D. Urbano et al., *Institutions, Entrepreneurship, and Economic Performance*,
International Studies in Entrepreneurship 41,
https://doi.org/10.1007/978-3-030-13373-3_5

by Reynolds et al. (2005) with entrepreneurial activity driven by opportunity (TEA OPP). Others such as Naudé, Amorós, and Cristi (2013) and Naudé et al. (2014) find that subjective well-being and life satisfaction promote entrepreneurship driven by opportunity, which in turn could affect positively the economic development level (Carlsson et al., 2013).

Although institutions have been generally associated with economic development (Acemoglu & Robinson, 2012; North, 1990), since the early 2000s some scholars have suggested that institutions condition the endogenous factors instead of impacting directly on the development process (Acemoglu, Gallego, & Robinson, 2014; Rodrik, 2003). In that sense, entrepreneurial activity can affect economic development (Acs, Desai, & Hessels, 2008; Ács, Autio, & Szerb, 2014; Audretsch & Keilbach, 2004a, 2004b, 2005, 2008; Audretsch, Bönte, & Keilbach, 2008). Moreover, some authors suggest a positive impact of knowledge-based entrepreneurship on economic development (Audretsch et al., 2008; Carlsson et al., 2013). Given that entrepreneurship is generally seen as a conduit of knowledge (Agarwal, Audretsch, & Sarkar, 2007; Audretsch, 2007; Audretsch & Keilbach, 2008; Noseleit, 2013), where TEA OPP increases knowledge spillovers, enabling positive impact on economic development (Aparicio, Urbano, & Gómez, 2016; Audretsch et al., 2008). The literature presented above shows that the factors influencing TEA OPP and the sequence that links TEA OPP with economic development are analyzed in isolation.

Thus, the objective of this chapter is to examine how SPO through opportunity entrepreneurship affects economic development. Because of the interaction and interdependence involving SPO, opportunity entrepreneurship and economic development, a unidirectional model would lead to biased results. For that reason, we consider simultaneously the impact of SPO on opportunity entrepreneurship and that of this variable on economic development. The virtue of this approach is not only in the correction of the statistical bias. By explicitly instrumenting opportunity entrepreneurship in a second equation, we are able to analyse how policy could actually influence economic development by generating more entrepreneurial activity based on opportunity. With this two-equation approach, we implicitly link the two disparate literatures presented above.

Estimating these two equations through three-stage least-square (3SLS) method and using pooled data with information for 2005 and 2012 from the Global Entrepreneurship Monitor (GEM), the Indices of Social Development (ISD), and World Development Indicators (WDI), we provide empirical evidence of the impact of civic activism, voluntary spirit and inclusion of minorities as a measure of SPO on entrepreneurship driven by opportunity and this variable on economic development. By introducing the concept of SPO and examining the impact on opportunity entrepreneurship and subsequently on economic development, these findings advance the application of the institutional approach to the study of the determinants of the entrepreneurship driven by opportunity and economic development in an integrative manner. So far, these two phenomena have been analysed in isolation by the extant literature, and therefore this research provides comprehensive insights into the complex interrelations among environmental factors such as SPO,

opportunity entrepreneurship and economic development. In addition, this research combines the traditional approach to progress based on economic development (Engelbrecht, 2014; Porter, 2013; Stiglitz, Sen, & Fitoussi, 2009) with the SPO through entrepreneurship driven by opportunity.

After this introduction, the chapter is structured as follows. In Sect. 5.2, we discuss the theoretical framework, which is based on an institutional approach and the link between entrepreneurship and economic development. In Sect. 5.3, we present the data and the model. Results and discussion are presented in Sect. 5.4. Finally, Sect. 5.5 concludes and highlights the future research lines.

5.2 Theoretical Framework

5.2.1 Understanding the Relationship Between Social Progress Orientation and Entrepreneurship Driven by Opportunity

As mentioned before, Schumpeter (1911) gave entrepreneurship a capital role for the understanding of how the economic system works. That mechanism is driven by entrepreneurs with an inseparable and embedded innovative component. The innovations implemented by the entrepreneurs within the markets produce disturbances that lead to new path dependency producing economic development. In that context, entrepreneurship driven by opportunity is predominantly found in countries characterized by the innovation-driven stage such as Nordic countries, Western European countries and English speaking countries (Amorós & Bosma, 2014). Similarly, these countries are traditionally associated to a high level of social progress. Although the traditional approach to social progress is GDP-oriented, a more people-centred perspective is gaining momentum among international bodies and scholars (Alkire & Santos, 2010; Engelbrecht, 2014; Porter, 2013; Rojas, 2011; Stiglitz, Sen, & Fitoussi, 2009). In that regard, the World Bank (WB), with the World Development Indicators (WDI), and the United Nations Development Programme (UNDP), with the Human Development Index (HDI), have devised measurements that consider other social outcomes beyond GDP such as poverty, inequality, education and health care, among others. A similar approach is followed by Porter (2013), who devised the Social Progress Index to measure the social progress of countries. The index is formed of three dimensions, basic human needs, (nutrition, basic medical care, water and sanitation, shelter and personal safety), foundations of well-being (access to basic knowledge, communication and information, good health and ecosystem sustainability) and opportunity (personal rights, freedom of choice, tolerance and inclusion and access to advanced education).

The reviewed literature shows that alternatives to GDP consider a broad range of outcomes when it comes to defining and measuring social progress; however, our research considers social progress orientation (SPO) as a value beyond economic terms that promotes social welfare. The relationship between SPO and entrepreneurship that is driven by innovation and opportunity can be understood

through the institutional approach (North, 1990, 2005). According to North (North, 1990, 2005), the institutional framework can be classified in terms of formal institutions (set of rules, laws, procedures, regulations and constitutions) and informal institutions (set of values, taboos, customs, beliefs and attitudes embedded in a society commonly known as culture). Building on North, Scott (1995) suggested that institutions are formed by three elements or pillars (regulative, normative, and cultural-cognitive) that, combined with activities and resources, provide meaning to social life and can explain current behavior. These institutions act as constraints of social interaction and thus provide incentives and opportunities for economic development (Kwon & Yi, 2009) that would otherwise not exist (Hodgson, 2006, p. 2). Drawing from this approach some authors suggest that institutional factors determine entrepreneurial activity (Aidis, Estrin, & Mickiewicz, 2008; Bruton et al., 2010; Hayton, George, & Zahra, 2002; Salimath & Cullen, 2010; Thornton et al., 2011; Welter, 2005). Others suggest that procedures for starting a business affect entrepreneurship negatively (van Stel et al., 2007), and that risk-taking and creativity encourage entrepreneurial behavior (Alvarez & Urbano, 2012). If we focus on informal institutions, some authors probe the cultural dimensions[1]affecting entrepreneurship (Aidis et al., 2008; Davidsson & Wiklund, 1997; McGrath, MacMillan, Yang, & Tsai, 1992; Shane, 1993, 1995; Thomas & Mueller, 2000; Wennekers, Thurik, van Stel, & Noorderhaven, 2007). Therefore, it is in informal institutions where SPO is embedded.

As mentioned before, our research considers SPO as a value beyond economic terms that promotes social welfare. In that sense, postmaterialism (Inglehart, 1977, 1990) puts a similar emphasis on values beyond material terms. Postmaterialism addresses the cultural change toward values beyond material and economic goals that post-industrial societies have set in the last decades. This shift from traditional survival values to secular values of self-expression is known as the development sequence (Inglehart & Baker, 2000). As economic development takes place, modern societies give more attention to the quality of life, non-monetary well-being (health care and public education), freedom of choice and association (Inglehart & Welzel, 2005). The relationship between postmaterialist values and entrepreneurship has been explored by few researchers (Morales & Holtschlag, 2013; Uhlaner & Thurik, 2007). This relationship is found to be pervasive, meaning that postmaterialist values affect entrepreneurship negatively (Uhlaner & Thurik, 2007). Nevertheless, taking into account the different stages of development among countries, some questions remain open, especially when it comes to differentiating between the underlying motivations behind the entrepreneurial activity. Previous research has shown that as development rises from a certain level, so does opportunity and innovative entrepreneurship. This pattern is characterized by a U-shaped relationship and suggests that development offers more opportunities for entrepreneurs (Carree et al., 2002, 2007; Urbano, Aparicio, S., & Querol, 2016; Wennekers et al., 2005). Accordingly, entrepreneurship that is driven by innovation and opportunity is predominant in countries that are in the innovation-driven stage of development and

[1]As defined by Hofstede (1980, 2005): “Individualism vs. Collectivism”; “Power Distance”; “Masculinity vs. Femininity”; “Uncertainty Avoidance”; and “Long Term Orientation”.

have higher rates of subjective well-being (Amorós & Bosma, 2014; Baron, Hmieleski, & Henry, 2012). In that sense, some researchers, such as Naudé et al. (2013, 2014), suggest that entrepreneurship can be boosted by subjective well-being and life satisfaction since individuals can deploy more innovative potential when survival needs are satisfied. Others, such as Stephan, Patterson, Kelly, and Mair (2016) and Stephan and Uhlaner (2010), find that a socially supportive culture, as opposed to a performance-oriented culture, can encourage entrepreneurial activity. Socially supportive cultures reflect a set of values related to a more human-centered orientation (encouragement and rewards for being fair, altruistic, generous, caring and kind to one another) (House, Hanges, Javidan, Dorfman, & Gupta, 2004).

A similar approach was developed by the International Institute of Social Studies (ISS) of the Hague, part of Erasmus University, with the Indices of Social Development (ISD) in 2011[2]to track the informal institutions that promote human and social development. These informal institutions are measured through six dimensions (Foa & Tanner, 2012; van Staveren, Webbink, de Haan, & Foa, 2014; Webbink, 2012): civic activism, clubs and associations, intergroup cohesion, interpersonal safety and trust, gender equality and inclusion of minorities. Therefore, some of these dimensions could be elements of social progress orientation (Urbano et al., 2016). Civic activism refers to the social norms that enable greater citizen participation in public decisions, media, and social movements such as protests and negotiations. The mechanism behind the civic activism that promotes entrepreneurship can be addressed through institutional entrepreneurship, which is considered an important stream of research (Bruton et al., 2010). Following this stream, institutional entrepreneurship is defined as the social movements that create new forms of organizations in order to solve social problems (Dees, 1998; DiMaggio, 1988; Rao, Morrill, & Zald, 2000). These social problems are market failures and also constitute a source of opportunities for institutional entrepreneurs/activists that can mobilize resources to fulfill these underserved needs through new forms of organization (Rao et al., 2000, pp. 238–239). Building on that stream of research, the social entrepreneurship literature describes new forms of organization as opportunity-exploitation startup processes triggered by the recognition of a social disequilibrium (Martin & Osberg, 2007). Other defining elements of social entrepreneurship are its innovative nature and its capacity to add value as the ultimate goal (Austin, Stevenson, & Wei-Skillern, 2006; Mair & Marti, 2006). Given that, we propose the following hypotheses:

Hypothesis 1: Social progress orientation positively affects entrepreneurial activity driven by opportunity.

Hypothesis 1a: Civic activism positively affects entrepreneurship driven by opportunity.

The voluntary spirit (VOL) to engage in community membership could also be seen as a dimension of social progress orientation and therefore influence entrepreneurial activity. Similarly, the clubs and associations of ISD are defined as the com-

[2]The methodology of these indices is matching percentiles; further details can be found in Foa and Tanner (2012). http://www.indsocdev.org/resources.

munity ties that act as a safety net for the poor by facilitating economic and social assistance. Social ties and connections, such as those found within families and local communities, help individuals to survive. Given the definition of voluntary spirit, it is possible to link this dimension with the social capital approach. The existing literature recognizes the positive impact of social capital on entrepreneurial activity (Aldrich & Kim, 2007; Davidsson & Honig, 2003; Kim & Kang, 2014; Lee, 2012; Schulz & Baumgartner, 2013; among others). According to Casson and Della Giusta (2007), the role of social capital in entrepreneurship can be analyzed in terms of the entrepreneurship process. This stepwise process is composed of opportunity seeking, resource mobilization and market organization. The first step, opportunity seeking, is highly influenced by information gathering. Entrepreneurs with access to social capital (clubs, associations, informal networks, and other meetings) can also gain access to information about business opportunities and thus exploit them (Bauernschuster, Falck, & Heblich, 2010). In the same vein, Kwon, Heflin, and Ruef (2013) find empirical evidence for this virtuous feedback loop, which is propelled by the enhanced flow of information among potential customers, entrepreneurs and partners. A similar logic can be applied for resource mobilization, where the trust gained through social capital is key for the acquisition of the financial, tangible and intangible resources that entrepreneurs otherwise cannot possess (Aldrich & Martinez, 2001; Liao & Welsch, 2005). Finally, when an entrepreneur tries to access the market, social capital is shown to be a valid conduit for transforming opportunities into innovative products (Alvarez & Busenitz, 2001; Anderson, Park, & Jack, 2007). For each one of the steps of the entrepreneurship process, social capital is shown as a factor promoting entrepreneurship. Others find that the social capital in high-tech and innovative sectors (Anderson et al., 2007; Sorenson, 2003) is especially determinant. Thus, given the suggested link between innovation and opportunity entrepreneurship, we propose the following hypothesis:

Hypothesis 1b: Voluntary spirit positively affects entrepreneurship driven by opportunity.

The capacity to accept cultural diversity could also be seen as a dimension of social progress orientation. Therefore, the interpersonal safety and trust account for the capacity of acceptance of diverse groups and cultures. This type of entrepreneurship is found in communities that share a common cultural heritage or origin where social interrelations influence behavior and economic transactions (Aldrich & Waldinger, 1990; Zhou, 2004). Generally, ethnic entrepreneurs are characterized by an integrative social component, which includes trust and solidarity (Portes & Zhou, 1992). This integrative social component can be found in environments characterized by ethnic diversity and it attracts human capital, which in turn encourages creativity, innovativeness, long-term investment decisions and entrepreneurship (Florida, 2002; Lee, Florida, & Acs, 2004; Turok, 2004). Existing qualitative literature suggests that ethnic diversity brings new perspectives into the entrepreneurship process, especially into opportunity seeking (Nijkamp, Sahin, & Baycan-Levent, 2010; Ram & Jones, 2008; van Delft, Gorter, & Nijkamp, 1999). Empirical studies also find a positive impact of group associations on entrepreneurship because of the different perspec-

tives brought to the stage of opportunity seeking. In that sense, Levie (2007) finds that ethnic minorities are more likely to engage in entrepreneurship than their UK correspondents thanks to a better level of education, skills, different perceptions of opportunities and attitudes toward new business activity. Other empirical studies link ethnicity, cultural diversity, interpersonal safety and trust with superior proactive entrepreneurship (Nathan & Lee, 2013; Pathak & Muralidharan, 2016), innovative start-ups (Audretsch, Dohse, & Niebuhr, 2010) and opportunity entrepreneurship (Alvarez & Urbano, 2013). Thus, we propose the following hypothesis:

Hypothesis 1c: Inclusion of minorities positively affects entrepreneurship driven by opportunity.

5.2.2 Entrepreneurship Driven by Opportunity to Achieve Economic Development

The relationship between entrepreneurship and economic development has been widely studied in the literature (Acs et al., 2012, 2014; Acs & Szerb, 2007; Audretsch et al., 2008, among others). However, as Aparicio, Urbano, and Audretsch (2016) and Aparicio, Urbano, and Gómez (2016), Wennekers et al. (2005), and Wong, Ho, and Autio (2005) discuss and suggest, more empirical recent evidence is needed given the fluctuations of GDP across countries. Thus, entrepreneurship (especially that based on innovation and opportunity) still attracts the attention of many scholars from different disciplines (Coad, Segarra, & Teruel, 2016; Segarra & Teruel, 2014; Thornton et al., 2011). According to Carlsson et al. (2013), it is argued that entrepreneurship is a factor that mediates the development process. Therefore, the study of entrepreneurship comprises two streams; namely, the antecedents and consequences of entrepreneurial activity. One stream of entrepreneurship research is focused on exploring its determinants. The previous section above tried to explore the institutional factors that determine entrepreneurship.

However, the question of how the role of entrepreneurship driven by innovation and opportunity not only in economic growth but also in economic development still remains (Aparicio, Urbano, & Audretsch, 2016; Dean & McMullen, 2007; Wong et al., 2005). The answer of this might lead to explore the new firms' capacity to create and spark knowledge at the same time into society (Acs et al., 2012). Indeed, Audretsch and Keilbach (2008) and Acs et al. (2012) suggest that entrepreneurship could be a vehicle for transferring knowledge to the economy and, thus, creating social value.

Rodrik (2003) suggests that to achieve economic development it is important to take into consideration three components: (1) endogenous factors, which contain the determinants that are directly related to economic growth, (2) partly endogenous factors, which could interact to affect economic growth (i.e. institutions), and (3) exogenous factors which consist of geography and natural resources. The positive interrelationship between these components could be reflected as a dynamic of economic develop-

ment. As we have mentioned, entrepreneurship has been assessed as an endogenous factor in economic growth, which is a necessary condition for development.

In the field of economic growth, Romer (1986) includes a variable of knowledge in the neo-classical production function. Likewise, Aghion and Howitt (1992) and Romer (1990) suggest an endogenous growth model, which contains both knowledge and innovative entrepreneurs generating higher economic development through creative destruction. Nevertheless, other authors suggest that a "chain" may exist that links institutions to economic growth throughout entrepreneurial activity (Agarwal et al., 2007; Audretsch, 2007; Audretsch & Keilbach, 2008; Noseleit, 2013; Urbano & Aparicio, 2016). McMullen (2011) suggests that an innovation process may be achieved if the institutions encourage individuals to pursue innovative initiatives. According to this author, it is possible to generate inclusive growth through entrepreneurship, which in turn is affected by the institutional environment. Similar literature argues that innovative projects are the key to solving the poverty puzzle. Hall, Matos, Sheehan, and Silvestre (2012) and Khavul and Bruton (2013) highlight the importance of innovation and entrepreneurship as a recipe to include all society into the economic system. Drawing on this literature, we propose the following hypothesis:

Hypothesis 2: Entrepreneurship driven by opportunity has a positive effect on economic development.

5.3 Data and Methods

As we noted before, this chapter examines how social progress orientation (SPO) through entrepreneurship driven by opportunity affects economic development, and they influence each other. The specification of a growth function assumes implicitly that entrepreneurial activity is exogenous. However, as we mentioned in previous chapters, entrepreneurship needs to be endogenized. In this regard, Carlsson et al. (2013) suggest that future studies in this research field should consider the factors that affect entrepreneurial activity and its role in socioeconomic outcomes. By simultaneously treating entrepreneurship and economic growth, it is possible to overcome the endogeneity problem between these two variables (Acs et al., 2012; Audretsch et al., 2008; Urbano & Aparicio, 2016). Taking this into account, we specify a set of equations that enable us to understand the causal chain running through SPO, entrepreneurship and inclusive growth. Hence, the first equation considers this recursive structure explicitly as well as other control variables that affect entrepreneurial activity. Namely, the equation of entrepreneurship (E_i) takes the form:

$$E_{it} = f\left(CVA_{it}, VOL_{it}, ICM_{it}, v_{it}\right) \tag{5.1}$$

where CVA_{it}, VOL_{it} and ICM_{it} are vectors collecting information about civic activism, the voluntary spirit and the inclusion of minorities, respectively, that are used as proxies of SPO and vi is the controlling vector that influences entrepreneur-

ial activity in country *i*. The vector of control is referred to economic growth. The relationship between economic outcome and entrepreneurship is thought to exhibit a feedback effect (Acs & Szerb, 2007; Audretsch et al., 2008; Mueller, 2007; Noseleit, 2013; Wennekers & Thurik, 1999). However, for the purpose of this research, we assume the impact of economic development on entrepreneurship through the opportunities for entrepreneurs that growth can provide (Galindo & Méndez, 2014).

To specify the sequence from SPO, opportunity entrepreneurship and economic development, an augmented production function that includes an explicit measure of entrepreneurship driven by opportunity is estimated. Drawing on this, we are able to assess the impact of SPO on opportunity entrepreneurship on the one hand, and the impact of this last variable on economic development on the other. The second equation is a Cobb-Douglas function of the form:

$$Y_i = \alpha OE_i^{\beta_1} K_i^{\beta_2} HE_i^{\beta_3} I_i^{\beta_4} EL_i^{\beta_5} L_i^{\beta_6}$$

Given that we do not control for education level, we follow Romer (1986) and assume that the labor coefficient (β_6) is set at one. It means that there exist externalities, knowledge is given (and expressed through opportunity entrepreneurship), and capital is foregone consumption. Dividing output by labor we obtain:

$$Y_i / L_i = \alpha OE_i^{\beta_1} K_i^{\beta_2} HE_i^{\beta_3} I_i^{\beta_4} EL_i^{\beta_5} \tag{5.2}$$

where Y_i is economic outcome of country i, measured as GDP, L_i is total labour force (thus Y_i/L_i is labour productivity, one of the proxies of economic development), OE_i represents its endowment of entrepreneurship by opportunity, K_i, HE_i, I_i and EL_i are country i's endowment of capital, health expenditures, inflation rate and expectancy life rate, as control variables in production function, respectively. Hence, this specifies formally that opportunity entrepreneurship could impact on the economic development of countries. In Eq. (5.2), our approach is an extension of that chosen by Audretsch and Keilbach (Audretsch & Keilbach, 2004a, 2004b, 2005) and Audretsch et al. (2008) who emphasize that the impact of entrepreneurship on economic development should consider institutional factors; therefore we focus on these equations. Using three-stage least-squares regression (3SLS), we estimate these two equations simultaneously in order to correct for the simultaneity bias (e.g. Intriligator, Bodkin, & Hsiao, 1996). Given that this technique considers the correlation of the disturbance of each simultaneous equation, its estimators are considered asymptotically more efficient than ordinal least square (OLS) estimators whether each equation is regressed separately or not (Wooldridge, 2010; Zellner & Theil, 1962). According to Wooldridge (2010), the technique, by estimating the coefficients within a generalized least square (GLS) framework, adjusts the weighting matrix for potential heteroskedasticity of the errors.

Thus, we use pooling data for the periods 2005 and 2012. Our first dependent variable, opportunity entrepreneurship, is the best-known indicator of the Global Entrepreneurship Monitor (GEM), which is measured through opportunity total

entrepreneurial activity (TEA). Entrepreneurship driven by opportunity shows those entrepreneurs that are motivated to pursue perceived business opportunities. The second dependent variable is the economic performance indicator, obtained though the GDP constant prices at 2005 $US divided by the total labour force (L), which is one of the best-known proxies of economic development. The sources of data for measuring these dependent variables are GEM and the World Development Indicator (WDI) of the World Bank.

The data on independent variables were obtained from the Indices of Social Development (ISD) website database. Data on control variables for Eq. (5.2) were sourced from WDI by World Bank. The variable *K* is measured in constant values at 2010 $US, *L* is the percentage of the labor force available in each economy, *GC* is the final government consumption at constant prices, *P* is the number of inhabitants in each country and *HE* is the percentage of government expenditures in health. According to Bleaney and Nishiyama (2002), the previous variables have been proved to be accurate control variables in a growth model. Following the methodology used by Wong et al. (2005), we used natural logarithms in those level variables to estimate the three equations. Accordingly, by transforming these variables it is possible to interpret the coefficient as a percentage change in the dependent variable given by one percentage change of the independent variables. Table 5.1 presents a list of dependent and independent variables used in this study, including their sources. Our final sample consists of pooled data on 81 observations and 56 countries (see Appendix 6).

5.4 Results and Discussion

Table 5.2 reports the means, standard deviations, and correlation coefficients of the variables used in this study. As Table 5.2 shows, entrepreneurship driven by opportunity (TEA OPP) is significantly correlated with some of the dimensions used to measure social progress orientation (SPO). Also, labour productivity was significantly correlated with the control variables and TEA OPP. Given the correlations among independent variables, we tested for the problem of multicollinearity of both equations through variance inflation factor (VIF) computations, which might affect the significance of the main parameters in the regressions. Although 3SLS does not allow us to obtain VIF directly, we computed this test for each equation. The VIF values were low (lower than 1.77 for Eq. 5.1, and 1.03 for Eq. 5.2).

Table 5.3 shows the results of linear regressions with robust variance estimates. Model 1 considers only the linear regression with robust variance estimates of the first equation (TEA OPP is a function of SPO's dimensions), Model 2 assesses the second equation (economic development is a function of TEA OPP) through robust variance estimates, and Model 3, Model 4 and Model 5 estimate both equations simultaneously using OLS, 2SLS and the method presented in the previous section (3SLS), respectively. All the models are highly significant ($p < 0.01$) and have high explanatory power, explaining 49.0% of the variance of TEA OPP and 65.3% of the

Table 5.1 Description of variables

Equation 1		
Dependent variable	**Description**	**Source**[a]
Entrepreneurship driven by opportunity (TEA OPP)	Percentage of those involved in TEA (Total Entrepreneurial Activity) who (i) claim to be driven by opportunity as opposed to finding no other option for work; and (ii) who indicate the main driver for being involved in this opportunity is being independent or increasing their income, rather than just maintaining their income	Global entrepreneurship Monitor (GEM) for the period 2005 and 2012
Independent variable	**Description**	**Source**
Civic activism (CVA)	Measure the social norms, organizations, and practices which facilitate greater citizen involvement in public policies and decisions. Values from 0 to 1	The Indices of Social Development (ISD) for the years 2005 and 2010
Voluntary spirit (VOL)	Measure the membership in local voluntary associations. Data is based on the clubs and associations dimension. Values from 0 to 1	The Indices of Social Development (ISD) for the years 2005 and 2010
Inclusion of minorities (ICM)	Measure the levels of discrimination against vulnerable groups such as indigenous peoples, migrants, refugees, or lower caste groups. Values from 0 to 1	The Indices of Social Development (ISD) for the years 2005 and 2010
Control variables	Economic growth$_{t-1}$. Percentage of variation of the GDP ($US constant of 2005) lagged one period	Word Development Indicators (WDI) for the period 2004 and 2011
Equation 2		
Dependent variable	**Description**	**Source**
Gross Domestic Product (GDP)/total labour population (Y/L)	GDP at purchaser's prices is the sum of gross value added. Data are in constant 2005 U.S. The total labour force is the supply of labour available for producing goods and services in an economy	WDI for the years 2005 and 2012
Independent variable	**Description**	**Source**
Entrepreneurship driven by opportunity (TEA OPP)	Percentage of those involved in TEA (Total Entrepreneurial Activity) who (i) claim to be driven by opportunity as opposed to finding no other option for work; and (ii) who indicate the main driver for being involved in this opportunity is being independent or increasing their income, rather than just maintaining their income	GEM for the years 2005 and 2012
Gross capital formation (constant 2005 US$)	Gross capital formation (formerly gross domestic investment) consists of outlays on additions to the fixed assets of the economy plus net changes in the level of inventories. Data are in constant 2005 U.S. Dollars	WDI for the years 2005 and 2012

(continued)

Table 5.1 (continued)

Health expenditures	Capital spending from government (central and local) budgets, external borrowings and grants (including donations from international agencies and nongovernmental organizations), and social (or compulsory) health insurance funds. (Percentage of government expenditure)	WDI for the years 2005 and 2012
Inflation	Annual percentage change in the cost to the average consumer of acquiring a basket of goods and services that may be fixed or changed at specified intervals, such as yearly	WDI for the years 2005 and 2012
Life expectancy	Life expectancy at birth indicates the number of years a newborn infant would live if prevailing patterns of mortality at the time of its birth were to stay the same throughout its life	WDI for the years 2005 and 2012

[a]*GEM* Global Entrepreneurship Monitor: http://www.gemconsortium.org/, *ISD* Indices of Social Development: http://www.indsocdev.org/data-access.html; *WDI*, World Development Indicators: http://data.worldbank.org/data-catalog/world-development-indicators

Table 5.2 Descriptive statistics and correlation matrix

Variable		**Mean**	**Std. Dev.**	**1**	**2**	**3**	**4**
1	Lnteaopp	3.880	0.289	1			
2	Ln civic_ activism	−0.582	0.097	0.452***	1		
3	Ln clubs_and_ associations	−0.677	0.164	0.421***	0.420***	1	
4	Ln inclusion	−0.681	0.126	0.457***	0.702***	0.269	1
5	Ln GDP growth t-1	1.276	0.822	0.110	−0.440***	−0.158	−0.351***
6	Ln Y/L	10.262	1.176	0.447***	0.880***	0.362***	0.709***
7	Ln capital	24.844	1.673	0.167	0.449***	0.259	0.211
8	Ln health expenditures	2.623	0.328	0.409***	0.443***	0.315***	0.541***
9	Ln inflation	1.074	0.689	−0.286	−0.652***	−0.365***	−0.581***
10	Ln life expectancy	4.329	0.106	0.298***	0.590***	0.162	0.586***
Variable		**5**	**6**	**7**	**8**	**9**	**10**
5	Ln GDP growth t-1	1					
6	Ln Y/L	−0.450***	1				
7	Ln capital	−0.342***	0.421***	1			
8	Ln health expenditures	−0.214	0.453***	0.189	1		
9	Ln inflation	0.297	−0.683***	−0.341***	−0.273	1	
10	Ln life expectancy	−0.316***	0.653***	0.397***	0.368***	−0.508***	1

It means that t-test of correlations tends to be stochastically different from zero
***$p < 0.01$

Table 5.3 Estimating entrepreneurship driven by opportunity and economic development

	(1)	(2)	(3)	(4)	(5)
Dependent variable Eq. 5.1	**Ln TEA opp**		**Ln TEA opp**	**Ln TEA opp**	**Ln TEA opp**
Ln civic_activism	0.696*		0.651	0.703*	0.888**
	(0.407)		(0.410)	(0.402)	(0.380)
Ln clubs_and_associations	0.525***		0.538***	0.485***	0.409***
	(0.162)		(0.178)	(0.164)	(0.156)
Ln inclusion	0.781***		0.796***	0.775***	0.753***
	(0.278)		(0.297)	(0.279)	(0.265)
Ln GDP growth t-1	0.134***		0.150***	0.169***	0.163***
	(0.041)		(0.036)	(0.053)	(0.050)
Constant	5.007***		4.982***	4.938***	4.989***
	(0.139)		(0.168)	(0.160)	(0.154)
R-sq	0.447 [0.000]		0.472 [0.000]	0.490 [0.000]	0.486 [0.000]
Dependent variable Eq. 5.2		**Ln Y/L**	**Ln Y/L**	**Ln Y/L**	**Ln Y/L**
Ln TEA opp		0.619*	0.638*	1.195	1.175+
		(0.368)	(0.344)	(0.774)	(0.733)
Ln capital		0.076	0.078	0.228*	0.235*
		(0.071)	(0.058)	(0.130)	(0.123)
Ln health expenditures		0.560**	0.556*	0.416	0.487
		(0.276)	(0.306)	(0.385)	(0.360)
Ln inflation		−0.705***	−0.702***	−0.614***	−0.580***
		(0.180)	(0.155)	(0.183)	(0.171)
Ln life expectancy		3.372**	3.350***	2.122*	2.169*
		(1.617)	(1.007)	(1.252)	(1.174)
Constant		−9.308	−9.337**	−9.694**	−10.226**
		(6.674)	(4.219)	(4.867)	(4.553)
N	77	74	71	64	64
R-sq		0.653 [0.000]	0.652 [0.000]	0.603 [0.000]	0.599 [0.000]
Hausman specification tests					
2SLS vs. OLS			0.000		
3SLS vs. OLS			0.298		
3SLS vs. 2SLS			0.298		

Heteroskedasticity corrected standard errors are shown in parentheses
***p < 0.01; **p < 0.05; *p < 0.10; + = 0.10

variance of economic development, respectively. In addition, for robustness check purpose, we computed the Hausman test to compare systematic differences between the coefficients obtained with OLS, 2SLS and 3SLS. The results show that there are not systematic differences in coefficients of both equations modelled through 3SLS vs. OLS and 3SLS vs. 2SLS. Although the standard errors of 3SLS coefficients are

marginally higher than OLS for Eq. 5.2, these results are lower than 2SLS, meaning that the endogeneity problem is overcame through different stages. In this case, the estimation results are more efficient than 2SLS. Thus, according to Zellner and Theil (1962), the 3SLS may provide more consistent estimators than OLS, which are suitable for the analysis.

The first model considers Eq. 5.1, which contains civic activism (CVA), voluntary spirit (VOL), inclusion of minorities (ICM) and the control variable (GDP growth lagged one period). The results show that CVA, VOL and ICM have a positive and significant influence (0.696, $p < 0.1$; 0.525, $p < 0.01$; 0.781, $p < 0.01$, respectively) on TEA OPP. Model 1 explains 44.7% of the variation in entrepreneurship by opportunity, indicating that in terms of R2 the model has a good fit. The second model considers the second equation, which assesses the relationship between TEA OPP and economic development. The results show that TEA OPP has positive and significant influence (0.619, $p < 0.1$) on economic development. Model 2 also explains 65.3% of the variation in economic development, indicating that in terms of R2 the model also has a good fit. In respect of the models 3–5, which consider both equations simultaneously, the results show that the dimensions of SPO – CVA (0.651, $p > 0.1$ in Model 3; 0.703, $p < 0.1$ in Model 4; and 0.888, $p < 0.05$ in Model 5); VOL (0.538, $p < 0.01$ in Model 3; 0.485, $p < 0.01$ in Model 4; and 0.409, $p < 0.01$ in Model 5); and ICM (0.796, $p < 0.01$ in Model 3; 0.775, $p < 0.01$ in Model 4; and 0.753, $p < 0.01$ in Model 5) – affect economic development through TEA OPP. Also using this method, Model 3 explains 47.2% and 65.2% of the variation of TEA OPP and economic development, respectively; Model 4 explains 49.0% and 60.3%; while Model 5 fits in 48.6% for TEA OPP and 59.9% for economic development. The control variable, GDP growth$_{t-1}$, is found to affect positively TEA OPP in all models, keeping track with the existing literature (Galindo & Méndez, 2014). Thus, we could suggest the feedback effects that economic growth and entrepreneurship enjoy are a source of new business opportunities that need to be detected and exploited.

As regards hypotheses testing, in Hypothesis 1a we suggest a positive impact of civic activism (CVA) on entrepreneurship driven by opportunity (TEA OPP). According to the results, societies with greater CVA enjoy greater TEA OPP; therefore, hypothesis 1a is not rejected. In this sense, existing literature links civic activism with new firm formation as a means to challenge market failures and to create social value through the detection and exploitation of the opportunities embedded in the political environment (Dees, 1998; DiMaggio, 1988; Rao et al., 2000). Other authors posit social entrepreneurship as a process where the combination of resources and innovation is convergent with social improvement (Austin et al., 2006; Mair & Marti, 2006). Thus, this innovative character of social entrepreneurship can be translated into new firm creation based on opportunity motives. For Hypothesis 1b, we suggest a positive impact of voluntary spirit (VOL) on entrepreneurship driven by opportunity (TEA OPP). According to the results, societies with greater VOL exhibit greater TEA OPP, and thus hypothesis 1b is not rejected. As noted in the theoretical section, we associate VOL with social capital. Therefore, in environments where VOL is high the information can flow smoothly among entre-

preneurs, customers and suppliers, allowing better access to opportunities, resources and markets (Aldrich & Martinez, 2001; Anderson et al., 2007; Bauernschuster et al., 2010). Consequently, and consistent with the existing research, we find that TEA OPP can flourish in environments more prone to social capital (networks, associations, and so on). Social capital is found to be a factor that influences entrepreneurship positively (Aidis et al., 2008; Davidsson & Honig, 2003; Kwon et al., 2013; among others). For Hypothesis 1c we suggested a positive impact of inclusion of minorities (ICM) on entrepreneurship driven by opportunity (TEA OPP). According to the results, societies with greater ICM have greater TEA OPP, and thus hypothesis 1c is not rejected. ICM can be translated into a more social cohesion in communities characterized by high cultural diversity and in turn provide an appropriate environment for attracting creative and innovative entrepreneurs (Florida, 2002; Turok, 2004). These results are consistent with Alvarez and Urbano (2013), who suggest a positive impact of cultural diversity on TEA OPP. Others suggest that this type of environment can also be seen as a source of opportunities because of the variety of needs that the diverse cultures may express (Ram & Jones, 2008; van Delft et al., 1999).

Coming back to Hypothesis 1, we predicted that social progress orientation (SPO) would impact positively on entrepreneurship driven by opportunity (TEA OPP). As presented before, this study finds that societies with a stronger SPO characterized by civic activism (CVA), voluntary spirit (VOL) and inclusion of minorities (ICM) exhibit superior TEA OPP; thus, Hypothesis 1 is not rejected. These results may suggest that SPO provides a set of environmental factors that allow the deployment of people's potential and is manifested through TEA OPP. Inglehart (1977, 1990) stated that postmaterialist values are about free choice, self-realization and the deployment of the full personal potential. In that sense, behind TEA OPP there are motives related to personal improvement that can be accommodated in the postmaterialist perspective. Our results are also consistent with Stephan and Uhlaner (2010), who find that a socially supportive culture encourages TEA OPP. This socially supportive culture is characterized by a humane orientation. In the same vein, Naudé et al. (2013, 2014), also suggest that subjective well-being and life satisfaction influence TEA OPP positively. When controlled for economic development, this environment is alleged to bring opportunities for entrepreneurs who possess agency (the motivations behind TEA OPP may find a better fit in more socially progressed environments). The results are also aligned with the existing literature that suggests a "U-shaped" relationship between development and entrepreneurial activity. As development takes place entrepreneurial activity decreases to the point where TEA OPP increases (Carree et al., 2002; Wennekers et al., 2005).

Linking with the previous results, Hypothesis 2 suggested that TEA OPP has a positive effect on economic development. We find that TEA OPP is positively related to economic development ($\beta_1 = 0.638$, $p < 0.1$, in Model 3; and $\beta_1 = 1.175$, $p = 0.1$, in Model 5). Therefore, Hypothesis 2 is not rejected. As we mentioned before, TEA OPP defines a different characteristic in each country in terms of innovation processes. According to Wong et al. (2005) and Urbano and Aparicio (2016), among others, entrepreneurial activity influenced by opportunities tends to impact

positively on economic development. However, they do not find statistically significant evidence. In contrast, our results suggest that for each country in our sample, if TEA OPP increases by 1%, the GDP per labour population increases by 0.638% (Model 3) and 1.175% (Model 5), ceteris paribus. This is consistent with Audretsch and Keilbach's (2004a) results. According to these authors, the entrepreneurial activity associated with innovation has a positive impact on economic performance. Also, we point out that the effect of TEA OPP on economic development does not significantly differ among these countries. This idea, supported by Valliere and Peterson (2009), suggests that those countries that encourage entrepreneurial activity based on innovation could obtain improved outcomes in terms of economic performance. Also, according to Braunerhjelm et al. (2010) and Mueller (2007), entrepreneurial activity based on innovation is one missing link in converting knowledge into economically relevant knowledge, and therefore spillovers could be obtained to increase economic development. Therefore, we can suggest that TEA OPP has a relevant role in promoting economic development, where the institutional endowment presents superior SPO.

5.5 Conclusions

The purpose of this chapter was to analyse the effect of social progress orientation (SPO) on economic development through entrepreneurship driven by opportunity. Using a three-stage least squares (3SLS) method and information from the Global Entrepreneurship Monitor (GEM), the Indices of Social Development (ISD) and the World Development Indicators (WDI) from the World Bank (WB), we find that SPO impacts positively on economic development through opportunity entrepreneurship. Building on postmaterialism (Inglehart, 1977, 1990), we conceptualize SPO through the dimensions of civic activism, clubs and associations and inclusion of minorities. The civic activism (CVA) dimension measures participation in public life and the civic engagement. We build on the existing literature on institutional and social entrepreneurship to find a positive impact on opportunity entrepreneurship and subsequently on economic development. The voluntary spirit (VOL) dimension measures the membership in voluntary associations, and thus it can be associated with social capital. We find a positive impact on entrepreneurship driven by opportunity and, in turn, on economic development. For the inclusion of minorities (ICM) dimension, literature on ethnic entrepreneurship and cultural diversity was surveyed and we found that superior ICM encourages opportunity entrepreneurship, which, in turn, promotes economic development. Thus, taking our findings altogether, we suggest that SPO can be a valid instrument for the promotion of economic development through entrepreneurship driven by opportunity.

This research contributes to the existing literature in the following ways. By introducing the concept of SPO, it contributes to the application of the institutional approach to the study of the determinants of entrepreneurship and the endogenous factors of economic development in an integrative manner. So far, the analyzed lit-

erature suggests that these two phenomena have been analyzed in isolation. In addition, this research explores the ISD database, which, to our knowledge, has been neglected to date. Our findings concur with the recent call for a more people-oriented approach to social progress (Porter, 2013; Stiglitz, Sen, & Fitoussi, 2009) and add new insights to the argument that SPO and economic development are not mutually exclusive. To sum up, following the Schumpeterian stream and using the institutional approach, this research serves two different fields of study, the entrepreneurship field and the economic development field.

Regarding implications, our research can offer new insights for entrepreneurs and policy makers. By understanding the factors that promote new firm creation, especially the one that is driven by opportunity, they could direct actions to promote economic development. In this context, we find that SPO can be a factor to take into account. For instance, if we consider the ICM dimension of SPO, Jewish communities of ex-pats require a kosher certificate for the selling and consumption of certain food items. Thus, adapting the portfolio to kosher requirements can be seen as a business opportunity for those entrepreneurs involved in food production and certification.

For policy makers who seek levers for boosting economic performance, we suggest that reinforcing SPO produces a positive impact on opportunity entrepreneurship, which, in turn, affects economic development as an endogenous factor. These insights can be useful for the design of programmes designed to promote economic development through entrepreneurial activity, especially that driven by opportunity. For instance, if we consider the CAS dimension, the social capital accrued in enterprise incubator centres can provide entrepreneurs with the elements to detect and exploit business opportunities that otherwise would be difficult to reach. Incubator centres are at the core of public policies to promote economic development across regions (Bøllingtoft & Ulhøi, 2005). In that regard, the European Union (EU) is promoting entrepreneurship with the Entrepreneurship 2020 Action Plan, of which incubators are an important part.

Our research also has some limitations. For instance, we consider two different years, 2005 and 2012, which are separated by the great recession of 2008. This economic downturn may have affected the cultural values from 2008 onwards, bearing in mind that our sample was built with ISD data from 2010 with little reflection of such events. According to Inglehart (1977, 1990), values are stable and cultural change is produced by generational replacement or economic long-standing increase (decrease); thus, we expect that in further deliveries the ISD may offer new waves of data to build new research. Concerning the econometric techniques, ideally and initially a longitudinal analysis was considered; however, the lack of year-to-year data is a common failing of all databases that aim to measure culture, values, attitudes, and so on. The ISD is by no means an exception. This fact led us to adopt pooled regression. Also, the operationalization of SPO through the ISD is open to criticism, especially when the cultural dimensions of Hofstede can offer a better explored and contrasted approach to entrepreneurship research (Hayton et al., 2002; Salimath & Cullen, 2010). The decision to use the dimensions of the ISD was based on theoretical and practical reasons, as stated before; existing research on institu-

tional entrepreneurship, social entrepreneurship, social capital, ethnic entrepreneurship and cultural diversity offered a convenient fit for CVA, VOL and ICM, respectively. For further research and given our first approach to SPO, there is the need to amplify the theoretical foundations and test in the validity of the SPO more extensively, an idea reinforced by the over-identification problem identified through the Lagrange multiplier. As mentioned before, the application of longitudinal analysis can help to validate our findings over time. Other multivariate techniques can also be applied to prove and enhance the construct validity, especially factor analysis. Given that the ISD provides six dimensions, capturing the essence of the construct with factor analysis may enhance the representativeness of the SPO. In that sense, as mentioned before, the usage of Hofstede's cultural dimensions may provide sounder foundations for capturing the essence of social progress orientation (SPO).

References

Acemoglu, D., Gallego, F., & Robinson, J. A. (2014). Institutions, human capital and development. *The Annual Review of Economics, 6*, 875–912.

Acemoglu, D., & Robinson, J. (2012). *Why nations fail: The origins of power. Prosperity and poverty*. London: Profile Books.

Acs, Z. J., Audretsch, D. B., Braunerhjelm, P., & Carlsson, B. (2012). Growth and entrepreneurship. *Small Business Economics, 39*(2), 289–300.

Ács, Z. J., Autio, E., & Szerb, L. (2014). National systems of entrepreneurship: Measurement issues and policy implications. *Research Policy, 43*(3), 476–494.

Acs, Z. J., Desai, S., & Hessels, J. (2008). Entrepreneurship, economic development and institutions. *Small Business Economics, 31*(3), 219–234.

Acs, Z. J., & Szerb, L. (2007). Entrepreneurship, economic growth and public policy. *Small Business Economics, 28*(2–3), 109–122.

Agarwal, R., Audretsch, D., & Sarkar, M. B. (2007). The process of creative construction: Knowledge spillovers, entrepreneurship, and economic growth. *Strategic Entrepreneurship Journal, 1*(3–4), 263–286.

Aghion, P., & Howitt, P. (1992). A model of growth through creative destruction. *Econometrica, 60*(2), 323–351.

Aidis, R., Estrin, S., & Mickiewicz, T. (2008). Institutions and entrepreneurship development in Russia: A comparative perspective. *Journal of Business Venturing, 23*(6), 656–672.

Aldrich, H. E., & Kim, P. H. (2007). Small worlds, infinite possibilities? How social networks affect entrepreneurial team formation and search. *Strategic Entrepreneurship Journal, 1*(1–2), 147–165.

Aldrich, H. E., & Martinez, M. A. (2001). Many are called, but few are chosen: An evolutionary perspective for the study of entrepreneurship. *Entrepreneurship Theory and Practice, 25*(4), 41–56.

Aldrich, H. E., & Waldinger, R. (1990). Ethnicity and entrepreneurship. *Annual Review of Sociology, 16*(1), 111–135.

Alkire, S., & Santos, M. E. (2010). *Acute multidimensional poverty: A new index for developing countries*. Working paper No. 38. Oxford Poverty & Human Development Initiative (OPHI). http://www.ophi.org.uk/wp-content/uploads/ophi-wp38.pdf. Accessed 1 Apr 2014.

Alvarez, C., & Urbano, D. (2012). Cultural-cognitive dimension and entrepreneurial activity: A cross-country study. *Revista de Estudios Sociales, 44*, 146–157.

Alvarez, C., & Urbano, D. (2013). Diversidad cultural y emprendimiento. *Revista de Ciencias Sociales, 19*(1), 154–169.
Alvarez, S. A., & Busenitz, L. W. (2001). The entrepreneurship of resource-based theory. *Journal of Management, 27*(6), 755–775.
Amorós, J. E., & Bosma, N. (2014). Global Entrepreneurship Monitor 2013 global report. *Global Entrepreneurship Monitor*. http://www.gemconsortium.org/docs/download/3106. Accessed 26 Sept 2014.
Anderson, A., Park, J., & Jack, S. (2007). Entrepreneurial social capital conceptualizing social capital in new high-tech firms. *International Small Business Journal, 25*(3), 245–272.
Anderson, R. B., Dana, L. P., & Dana, T. E. (2006). Indigenous land rights, entrepreneurship, and economic development in Canada: "Opting-in" to the global economy. *Journal of World Business, 41*(1), 45–55.
Aparicio, S., Urbano, D., & Audretsch, D. (2016). Institutional factors, opportunity entrepreneurship and economic growth: Panel data evidence. *Technological Forecasting and Social Change, 102*, 45–61.
Aparicio, S., Urbano, D., & Gómez, D. (2016). The role of innovative entrepreneurship within Colombian business cycle scenarios: A system dynamics approach. *Futures, 81*, 130–147.
Audretsch, D. B. (2007). *The entrepreneurial society*. Oxford, UK: Oxford University Press.
Audretsch, D. B., Bönte, W., & Keilbach, M. (2008). Entrepreneurship capital and its impact on knowledge diffusion and economic performance. *Journal of Business Venturing, 23*(6), 687–698.
Audretsch, D. B., Dohse, D., & Niebuhr, A. (2010). Cultural diversity and entrepreneurship: A regional analysis for Germany. *Annals of Regional Science, 45*(1), 55–85.
Audretsch, D. B., & Keilbach, M. (2004a). Does entrepreneurship capital matter? *Entrepreneurship Theory and Practice, 28*(5), 419–429.
Audretsch, D. B., & Keilbach, M. (2004b). Entrepreneurship capital and economic performance. *Regional Studies, 38*(8), 949–959.
Audretsch, D. B., & Keilbach, M. (2005). Entrepreneurship capital and regional growth. *The Annals of Regional Science, 39*(3), 457–469.
Audretsch, D. B., & Keilbach, M. (2008). Resolving the knowledge paradox: Knowledge-spillover entrepreneurship and economic growth. *Research Policy, 37*(10), 1697–1705.
Austin, J., Stevenson, H., & Wei-Skillern, J. (2006). Social and commercial entrepreneurship: Same, different, or both? *Entrepreneurship Theory and Practice, 30*(1), 1–22.
Baron, R. A., Hmieleski, K. M., & Henry, R. A. (2012). Entrepreneurs' dispositional positive affect: The potential benefits–and potential costs–of being "up". *Journal of Business Venturing, 27*(3), 310–324.
Bauernschuster, S., Falck, O., & Heblich, S. (2010). Social capital access and entrepreneurship. *Journal of Economic Behavior and Organization, 76*(3), 821–833.
Bleaney, M., & Nishiyama, A. (2002). Explaining growth: A contest between models. *Journal of Economic Growth, 7*(1), 43–56.
Bøllingtoft, A., & Ulhøi, J. P. (2005). The networked business incubator – leveraging entrepreneurial agency? *Journal of Business Venturing, 20*(2), 265–290.
Braunerhjelm, P., Acs, Z. J., Audretsch, D. B., & Carlsson, B. (2010). The missing link: Knowledge diffusion and entrepreneurship in endogenous growth. *Small Business Economics, 34*(2), 105–125.
Bruton, G. D., Ahlstrom, D., & Li, H.-L. (2010). Institutional theory and entrepreneurship: Where are we now and where do we need to move in the future? *Entrepreneurship Theory and Practice, 34*(3), 421–440.
Carlsson, B., Braunerhjelm, P., McKelvey, M., Olofsson, C., Persson, L., & Ylinenpää, H. (2013). The evolving domain of entrepreneurship research. *Small Business Economics, 41*(4), 913–930.
Carree, M., van Stel, A., Thurik, R., & Wennekers, S. (2002). Economic development and business ownership: An analysis using data of 23 OECD countries in the period 1976–1996. *Small Business Economics, 19*(3), 271–290.

Carree, M., van Stel, A., Thurik, R., & Wennekers, S. (2007). The relationship between economic development and business ownership revisited. *Entrepreneurship and Regional Development, 19*(3), 281–291.

Casson, M., & Della Giusta, M. (2007). Entrepreneurship and social capital analyzing the impact of social networks on entrepreneurial activity from a rational action perspective. *International Small Business Journal, 25*(3), 220–244.

Coad, A., Segarra, A., & Teruel, M. (2016). Innovation and firm growth: Does firm age play a role? *Research Policy, 45*(2), 387–400.

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

Davidsson, P., & Wiklund, J. (1997). Values, beliefs and regional variations in new firm formation rates. *Journal of Economic Psychology, 18*(2–3), 179–199.

Dean, T. J., & McMullen, J. S. (2007). Toward a theory of sustainable entrepreneurship: Reducing environmental degradation through entrepreneurial action. *Journal of Business Venturing, 22*(1), 50–76.

Dees, J. G. (1998). The meaning of social entrepreneurship. Comments and suggestions contributed from the Social Entrepreneurship Funders Working Group. pp. 6.

DiMaggio, P. J. (1988). Interest and agency in institutional theory. Institutional patterns and organizations. *Culture and Environment, 1*, 3–22.

Engelbrecht, H.-J. (2014). A general model of the innovation-subjective well-being nexus. *Journal of Evolutionary Economics, 24*(2), 377–397.

Florida, R. (2002). The rise of the creative class. *The Washington Monthly, 34*(5), 15–25.

Foa, R., & Tanner, J. C. (2012). *Methodology of the indices of social development*. Institute for Social Studies Working Paper Series, Working paper 2012–4. http://www.indsocdev. Org. Accessed 1 Oct 2014.

Freytag, A., & Thurik, R. (2007). Entrepreneurship and its determinants in a cross-country setting. *Journal of Evolutionary Economics, 17*(2), 117–131.

Galindo, M. Á., & Méndez, M. T. (2014). Entrepreneurship, economic growth, and innovation: Are feedback effects at work? *Journal of Business Research, 67*(5), 825–829.

Hall, J., Matos, S., Sheehan, L., & Silvestre, B. (2012). Entrepreneurship and innovation at the base of the pyramid: A recipe for inclusive growth or social exclusion? *Journal of Management Studies, 49*(4), 785–812.

Hayton, J. C., George, G., & Zahra, S. A. (2002). National culture and entrepreneurship: A review of behavioral research. *Entrepreneurship Theory and Practice, 26*(4), 33–52.

Hodgson, G. M. (2006). What are institutions? *Journal of Economic Issues, 40*(1), 1–25.

Hofstede, G. (1980). *Culture's consequences: International differences in work-related values*. Beverly Hills, CA: Sage.

Hofstede, G. (2005). *Culture and organizations: Software of the mind*. Revised and expanded (2nd ed.). New York: McGraw-Hill.

House, R. J., Hanges, P. J., Javidan, M., Dorfman, P. W., & Gupta, V. (2004). *Culture, leadership and organizations: The GLOBE study of 62 societies*. Thousand Oaks, CA: Sage. http://www.aeaweb.org/annual_mtg_papers/2006/0108_1015_0204.pdf. Accessed 15 Aug 2014.

Inglehart, R. (1977). *The silent revolution: Changing values and political styles in advanced industrial society*. Princeton, NJ: Princeton University Press.

Inglehart, R. (1990). *Culture shift in advanced industrial society*. Princeton, NJ: Princeton University Press.

Inglehart, R., & Baker, W. E. (2000). Modernization, cultural change, and the persistence of traditional values. *American Sociological Review, 65*(1), 19–51.

Inglehart, R., & Welzel, C. (2005). *Modernization, cultural change, and democracy: The human development sequence*. New York: Cambridge University Press.

Intriligator, M., Bodkin, R., & Hsiao, C. (1996). *Econometric models, techniques and applications* (2nd ed.). Upper Saddle River, NJ: Prentice Hall.

Khavul, S., & Bruton, G. D. (2013). Harnessing innovation for change: Sustainability and poverty in developing countries. *Journal of Management Studies, 50*(2), 285–306.
Kim, B. Y., & Kang, Y. (2014). Social capital and entrepreneurial activity: A pseudo-panel approach. *Journal of Economic Behavior & Organization, 97*, 47–60.
Kwon, H.-J., & Yi, I. (2009). Economic development and poverty reduction in Korea: Governing multifunctional institutions. *Development and Change, 40*(4), 769–792.
Kwon, S.-W., Heflin, C., & Ruef, M. (2013). Community social capital and entrepreneurship. *American Sociological Review, 78*(6), 980–1008.
Lee, S.-Y., Florida, R., & Acs, Z. (2004). Creativity and entrepreneurship: A regional analysis of new firm formation. *Regional Studies, 38*(8), 879–891.
Lee, T. (2012). *Can women's social capital mitigate the gendered disadvantage in firm growth?* Princeton, NJ: Department of Sociology, Princeton University.
Levie, J. (2007). Immigration, in-migration, ethnicity and entrepreneurship in the United Kingdom. *Small Business Economics, 28*(2–3), 143–169.
Liao, J., & Welsch, H. (2005). Roles of social capital in venture creation: Key dimensions and research implications. *Journal of Small Business Management, 43*(4), 345–362.
Mair, J., & Marti, I. (2006). Social entrepreneurship research: A source of explanation, prediction, and delight. *Journal of World Business, 41*(1), 36–44.
Martin, R. L., & Osberg, S. (2007). Social entrepreneurship: The case for definition. *Stanford Social Innovation Review, 5*(2), 28–39.
McGrath, R. G., MacMillan, I. C., Yang, E. A. Y., & Tsai, W. (1992). Does culture endure, or is it malleable? Issues for entrepreneurial economic development. *Journal of Business Venturing, 7*(6), 441–458.
McMullen, J. S. (2011). Delineating the domain of development entrepreneurship: A market-based approach to facilitating inclusive economic growth. *Entrepreneurship Theory and Practice, 35*(1), 185–193.
Meagher, K. (2007). Manufacturing disorder: Liberalization, informal enterprise and economic 'ungovernance' in African small firm clusters. *Development and Change, 38*(3), 473–503.
Morales, C. E., & Holtschlag, C. (2013). Post materialist values and entrepreneurship: A multilevel approach. *International Journal of Entrepreneurial Behavior and Research, 19*(3), 266–282.
Mueller, P. (2007). Exploiting entrepreneurial opportunities: The impact of entrepreneurship on growth. *Small Business Economics, 28*(4), 355–362.
Nathan, M., & Lee, N. (2013). Cultural diversity, innovation, and entrepreneurship: Firm-level evidence from London. *Economic Geography, 89*(4), 367–394.
Naudé, W., Amorós, J. E., & Cristi, O. (2014). "Surfeiting, the appetite may sicken": Entrepreneurship and happiness. *Small Business Economics, 42*(3), 523–540.
Naudé, W. A., Amorós, J. E., & Cristi, M. (2013). *"Romanticizing penniless entrepreneurs?" The relationship between start-ups and human wellbeing across countries*. IZA Discussion Paper 7547. http://www.econstor.eu/handle/10419/80527. Accessed 15 Apr 2014.
Nijkamp, P., Sahin, M., & Baycan-Levent, T. (2010). Migrant entrepreneurship and new urban economic opportunities: Identification of critical success factors by means of qualitative pattern recognition analysis. *Tijdschrift Vooreconomische en Sociale Geografie, 101*(4), 371–391.
North, D. C. (1990). *Institutions, institutional change and economic performance*. Cambridge, MA: Cambridge University Press.
North, D. C. (2005). *Understanding the process of economic change*. Princeton, NJ: Princeton University Press.
Noseleit, F. (2013). Entrepreneurship, structural change, and economic growth. *Journal of Evolutionary Economics, 23*(4), 735–766.
Pathak, S., & Muralidharan, E. (2016). Informal institutions and their comparative influences on social and commercial entrepreneurship: The role of in-Group collectivism and interpersonal trust. *Journal of Small Business Management, 54*(S1), 168–188.

Porter, M. E. (2013). Social Progress Index 2013. *Social Progress Imperative*. http://www.prueba04.info/wpcontent/uploads/2009/01/SocialProgressIndex2013.pdf. Accessed 30 June 2014.

Portes, A., & Zhou, M. (1992). Gaining the upper hand: Economic mobility among immigrant and domestic minorities. *Ethnic and Racial Studies, 15*(4), 491–522.

Ram, M., & Jones, T. (2008). Ethnic-minority businesses in the UK: A review of research and policy developments. *Environment and Planning. C, Government & Policy, 26*(2), 352–374.

Rao, H., Morrill, C., & Zald, M. N. (2000). Power plays: How social movements and collective action create new organizational forms. *Research in Organizational Behavior, 22*, 239–282.

Reynolds, P., Bosma, N., Autio, E., Hunt, S., De Bono, N., Servais, I., et al. (2005). Global entrepreneurship monitor: Data collection design and implementation 1998–2003. *Small Business Economics, 24*(3), 205–231.

Rodrik, D. (2003). Introduction: What do we learn from country narratives? In D. Rodrik (Ed.), *In search of prosperity: Analytic narratives on economic growth* (pp. 1–19). Princeton, NJ: Princeton University Press.

Rojas, M. (2011). The 'Measurement of economic performance and social progress' report and quality of life: Moving forward. *Social Indicators Research, 102*(1), 169–180.

Romer, P. M. (1986). Increasing returns and long-run growth. *Journal of Political Economy, 94*(5), 1002–1037.

Romer, P. M. (1990). Endogenous technological change. *Journal of Political Economy, 98*(5, Part 2), S71–S102.

Salimath, M. S., & Cullen, J. B. (2010). Formal and informal institutional effects on entrepreneurship: A synthesis of nation-level research. *International Journal of Organizational Analysis, 18*(3), 358–385.

Schulz, T., & Baumgartner, D. (2013). Volunteer organizations: Odds or obstacle for small business formation in rural areas? Evidence from Swiss municipalities. *Regional Studies, 47*(4), 597–612.

Schumpeter, J. A. (1911). *The theory of economic development: An inquiry into profits, capital, credit, interest, and the business cycle*. London: Transaction Books.

Scott, W. R. (1995). *Institutions and organizations*. Los Angeles: Sage.

Segarra, A., & Teruel, M. (2014). High-growth firms and innovation: An empirical analysis for Spanish firms. *Small Business Economics, 43*(4), 805–821.

Shane, S. (1993). Cultural influences on national rates of innovation. *Journal of Business Venturing, 8*(1), 59–73.

Shane, S. (1995). Uncertainty avoidance and the preference for innovation championing roles. *Journal of International Business Studies, 26*(1), 47–68.

Shane, S., & Venkataraman, S. (2000). The promise of entrepreneurship as a field of research. *Academy of Management Review, 25*(1), 217–226.

Sorenson, O. (2003). Social networks and industrial geography. *Journal of Evolutionary Economics, 13*(5), 513–527.

Stephan, U., Patterson, M., Kelly, C., & Mair, J. (2016). How organizations drive positive social change: A review and an integrative framework. *Journal of Management, 42*(5), 1250–1281.

Stephan, U., & Uhlaner, L. M. (2010). Performance-based vs socially supportive culture: A cross-national study of descriptive norms and entrepreneurship. *Journal of International Business Studies, 41*(8), 1347–1364.

Stiglitz, J., Sen, A., & Fitoussi, J. P. (2009). *The measurement of economic performance and social progress revisited. Reflections and overview*. Paris: Commission on the Measurement of Economic Performance and Social Progress.

Thomas, A. S., & Mueller, S. L. (2000). A case for comparative entrepreneurship: Assessing the relevance of culture. *Journal of International Business Studies, 31*(2), 287–301.

Thornton, P. H., Ribeiro-Soriano, D., & Urbano, D. (2011). Socio-cultural factors and entrepreneurial activity: An overview. *International Small Business Journal, 29*(2), 105–118.

Turok, I. (2004). Cities, regions and competitiveness. *Regional Studies, 38*(9), 1069–1083.

Uhlaner, L., & Thurik, R. (2007). Postmaterialism influencing total entrepreneurial activity across nations. *Journal of Evolutionary Economics, 17*(2), 161–185.

Urbano, D., & Aparicio, S. (2016). Entrepreneurship capital types and economic growth: International evidence. *Technological Forecasting and Social Change, 102*, 34–44.

Urbano, D., Aparicio, S., & Audretsch, D. (2018). Twenty-five years of research on institutions, entrepreneurship, and economic growth: What has been learned? Small Business Economics. In Press, https://doi.org/10.1007/s11187-018-0038-0.

Urbano, D., Aparicio, S., Guerrero, M., Noguera, M., & Torrent-Sellens, J. (2016). Institutional determinants of student employer entrepreneurs at Catalan universities. *Technological Forecasting and Social Change, 123*, 271–282. https://doi.org/10.1016/j.techfore.2016.06.021

Valliere, D., & Peterson, R. (2009). Entrepreneurship and economic growth: Evidence from emerging and developed countries. *Entrepreneurship and Regional Development, 21*(5), 459–480.

van Delft, H., Gorter, C., & Nijkamp, P. (1999). In search of ethnic entrepreneurship opportunities in the city-a comparative policy study 99-059/3. Tinbergen Institute Discussion Paper.

van Staveren, I., Webbink, E., de Haan, A., & Foa, R. (2014). The last mile in analyzing wellbeing and poverty: Indices of social development. *Forum for Social Economics, 43*(1), 8–26.

van Stel, A., Storey, D. J., & Thurik, A. R. (2007). The effect of business regulations on nascent and young business entrepreneurship. *Small Business Economics, 28*(2–3), 171–186.

Veciana, J. M., & Urbano, D. (2008). The institutional approach to entrepreneurship research. Introduction. *International Entrepreneurship and Management Journal, 4*(4), 365–379.

Verheul, I., Wennekers, S., Audretsch, D., & Thurik, R. (2002). An eclectic theory of entrepreneurship: Policies, institutions and culture. In D. Audretsch, R. Thurik, I. Verheul, & S. Wennekers (Eds.), *Entrepreneurship: Determinants and policy in a European-US comparison* (pp. 11–81). New York: Springer US.

Webbink, E. (2012). Inclusion of Minorities. *The Indices of Social Development*. http://www.indsocdev.org/resources/ISD%20Inclusion%20of%20Minorities.pdf. Accessed 5 June 2014.

Welter, F. (2005). Entrepreneurial behavior in differing environments. In D. Audretsch, H. Grimm, & C. W. Wessner (Eds.), *Local heroes in the global village* (pp. 93–112). New York: Springer US.

Wennekers, S., & Thurik, R. (1999). Linking entrepreneurship and economic growth. *Small Business Economics, 13*(1), 27–56.

Wennekers, S., Thurik, R., van Stel, A., & Noorderhaven, N. (2007). Uncertainty avoidance and the rate of business ownership across 21 OECD countries, 1976–2004. *Journal of Evolutionary Economics, 17*(2), 133–160.

Wennekers, S., van Stel, A., Thurik, R., & Reynolds, P. (2005). Nascent entrepreneurship and the level of economic development. *Small Business Economics, 24*(3), 293–309.

Wong, P. K., Ho, Y. P., & Autio, E. (2005). Entrepreneurship, innovation and economic growth: Evidence from GEM data. *Small Business Economics, 24*(3), 335–350.

Wooldridge, J. M. (2010). *Econometric analysis of cross-section and panel data* (2nd ed.). Cambridge, MA: MIT Press.

Zellner, A., & Theil, H. (1962). Three-stage least squares: Simultaneous estimation of simultaneous equations. *Econometrica, 30*(1), 54–78.

Zhou, M. (2004). Revisiting ethnic entrepreneurship: Convergencies, controversies, and conceptual advancements. *International Migration Review, 38*(3), 1040–1074.

Chapter 6
Institutional Context, Entrepreneurial Activity, and Social Progress

6.1 Introduction

As it was mentioned in previous chapters, the type of motivation, which entrepreneurs respond to, is likely to influence the contribution of entrepreneurial activity to economic growth (Audretsch, Bönte, & Keilbach, 2008; Audretsch & Keilbach, 2008). Accordingly, entrepreneurship is a factor that must be considered in the analysis of growth theory, and therefore further results should be taken into account for policy implications (Solow, 2007). Audretsch and Keilbach (2004a, 2004b, 2004c, 2008), exploring entrepreneurship as capital endowment required for economic growth, emphasize the importance of understanding those factors affecting entrepreneurship in order to understand the key role played by entrepreneurship in the growth process. Here, the institutional environment has been posited as influencing the impact of entrepreneurship on economic performance (Baumol & Strom, 2007; Méndez-Picazo, Galindo Martín, & Ribeiro-Soriano, 2012).

North and Thomas (1973) suggest that institutions influence those endogenous factors that have a direct impact on economic development. This process must be understood not only in terms of income but also in terms of broader social characteristics (Sen, 1999). Economic growth and its measurement need to be rethought, challenged and considered in a broader context (Henderson, Storeygard, & Weil, 2012). According to Henderson et al. (2012), economic performance is the individual self-expression that is related to the minutest aspects of society. Accordingly, Young (2012) claims that alternative economic performance measures need to go beyond merely measuring economic growth in a narrow sense per se, but need to incorporate the socio-economic evolution of individuals at both the subnational and country levels. For instance, Sen (1999) suggests a multidimensional criterion to capture the real evolution of a society. Instead of limiting the economic development measure to income criteria, other factors should also be included, such as education, health, environment, among others, in order to obtain not only an ordinal

D. Urbano et al., *Institutions, Entrepreneurship, and Economic Performance*,
International Studies in Entrepreneurship 41,
https://doi.org/10.1007/978-3-030-13373-3_6

measure but also a cardinal approach. Thus, several indicators such as the Human Scale Development (Max-Neef, Elizalde, & Hopenhayn, 1991), Human Development Index (Desai, 1991) and The Standard of Living (Sen, 1988), among others, have been introduced in economic development analysis.

The Social Progress Imperative, a non-profit organization, recently proposed a recent index that embraces this broader perspective. This index is composed of three dimensions that contain factors such as the creation of opportunities—personal rights, access to higher education, personal freedom and choice, and equity and inclusion—; the foundations of well-being—access to basic knowledge, access to information and communications, health, and wellness and ecosystem sustainability—; and basic human needs—nutrition and basic medical care, air, water and sanitation, shelter, and personal safety. These elements conform to the social progress index (SPI), which has the main purpose to measure the development stage of each country. According to Stern, Wares, Orzell, and O'Sullivan (2014), the theoretical foundations of SPI combine institutional perspectives of the development process. Hence, productive outcomes, human capabilities and institutional setting are assumed to create a more comprehensive measure of development, which is represented by social progress. In addition, Stern et al. (2014) aim to understand social progress as the interaction of three levels—individual, represented by capabilities; organizational, which is associated with productive outcomes; and environmental as a result of the institutional configuration. Similar to North and Thomas (1973), the authors analyze the phenomena from an institutional perspective.

Thus, using the theoretical approach of institutional economics (North, 1990, 2005), the main purpose of this chapter is to examine whether and how a country's institutional context influences the manner in which entrepreneurial activity affects social progress. Although this framework has been applied to the field of entrepreneurship with social outcomes (Aidis, Welter, Smallbone, & Isakova, 2007; Stephan, Uhlaner, & Stride, 2015; Terjesen, Hessels, & Li, 2016; Urbano, Ferri, Peris-Ortiz, & Aparicio, 2017), Audretsch and Keilbach (2008), Audretsch et al. (2008), and Baumol and Strom (2007) claim that more studies concerning the interrelationship between institutional context, entrepreneurial activity and social progress are needed. Through this, two distinct and disparate lines into the field of entrepreneurship research could be combined together, suggesting new elements for both theoretical and policy implications (Carlsson et al., 2013).

Considering simultaneously the impact of institutional context on entrepreneurial activity, and this variable's effect on social progress, we are able to address biases resulting from estimation of a simple unidirectional model. The virtue of this approach is not only in the correction of the statistical bias. By explicitly instrumenting entrepreneurship in a second equation, we are able to analyze how different public strategies could actually influence social progress by generating more entrepreneurial activity. In addition, since the traditional approach to progress and development has been GDP-oriented, this research tries to go further by applying a simultaneous equation to the analysis of social progress as an index of economic development driven by entrepreneurial activity.

Using pooled data with information over the period 2012 and 2014 from the Global Entrepreneurship Monitor (GEM), the Social Progress Imperative, World Development Indicators (WDI), Doing Business (both from World Bank) and Center for Systemic Peace, we provide empirical evidence of the impact of the number of tax payments, the time required to start a business, and established democracy on entrepreneurial activity (measured through the number of owners in start-up and new businesses and the ratio between opportunity and necessity entrepreneurship), and these two measures of entrepreneurship on social progress index.

The reminder of this chapter is as follows. In Sect. 6.2, we discuss the theoretical framework, which is based on institutional economics. Section 6.3 presents the data and model, and Sect. 6.4 describes and discusses the results. Section 6.5 presents policy implications. And finally, we make our conclusions and highlight the future research lines in Sect. 6.6.

6.2 Conceptual Framework

As mentioned in Chap. 1, understanding institutions as the rules of the game (North, 1990, 2005), it is possible to reduce the transaction costs (through formal institutions) and the uncertainty caused by the social interactions (through informal institutions). According to North and Thomas (1973), institutions do not impact directly on economic development, rather they act as fundamental determinants that either encourage or discourage the productive process that ultimately generates growth and development. This simple scheme opens up questions about which endogenous factors could be affected by institutions that are conducive to development.

6.2.1 Institutions and Entrepreneurial Activity

As discussed in Chap. 1, Bruton, Ahlstrom, and Li (2010) and Carlsson et al. (2013) emphasize that the field of entrepreneurship has become more robust by using an institutional lens to understand the variation of entrepreneurial activity across countries. In particular, Bruton et al. (2010) and Baumol and Strom (2007) suggest that, taking into account this the link to institutions, the evolving domain of entrepreneurship should be considered as an important element to be included in the complex process of development.

Drawing on Gnyawali and Fogel (1994), many authors have empirically estimated the effect of government regulation on entrepreneurship (Djankov, La Porta, Lopez-De-Salines, & Shleifer, 2002; van Stel, Storey, & Thurik, 2007). For example, Djankov et al. (2002) found that those governments creating many regulations as control mechanisms discourage the intention to become an entrepreneur. Their analysis suggests that firms have to pay taxes to operate internally and must have the amount of capital subscribed, resulting in a bias towards formalized firms. Djankov

et al. (2002) show that those developed countries ranked the highest in terms of the (least) amount of taxes required to start a new business are actually characterized by a strong welfare state. In the middle and lower part of the ranking appear those developing countries requiring higher levels of taxes to start a new business. Van Stel et al. (2007) conducted a similar exercise with new data, and although their findings are not conclusive in terms of the amount of taxes required to start a new business, they show that bureaucracy deters entrepreneurial activity. Another similar conclusion drawn is that young firms prefer to locate their plants where better regulatory protection is offered (Chowdhury, Desai, Audretsch, & Belitski, 2015; Coeurderoy & Murray, 2008). However, Fisman and Svensson (2007) find that taxes not only affect the creation of a firm but also its future growth. They provide evidence regarding the case of Uganda, where a 1% increase in taxes implies a 3% decrease in the growth of firms. Lawless (2013) suggest that the amount of taxes also discourages foreign direct investment, which implies a lower level of capital from abroad. This, in turn, deters new business formation and firm growth. Croce, Kung, Nguyen, and Schmid (2012) find that fiscal policy implemented during the crisis period affected the productivity growth and distorted profits. Djankov, Ganser, McLiesh, Ramalho, and Shleifer (2010) investigate how taxes affect both investment and entrepreneurship. They provide evidence suggesting that taxes have a large adverse impact on financial channels, such as aggregate investment and foreign direct investment, hence affecting entrepreneurial activity (Belitski, Chowdhury, & Desai, 2016). Thus, we propose the following hypothesis:

Hypothesis 1: The number of tax payments has a negative effect on entrepreneurial activity.

Djankov et al. (2002) also analyze other regulatory factors that affect firm entry, which are related to intangible assets such as time. While Djankov et al. (2002) find that time is negatively related to new-firm formation, van Stel et al. (2007) conclude that these variables are unrelated. Nonetheless, Muñoz and Kibler (2016) discuss that productivity is lost dealing with inefficient bureaucracies and regulations that take up a lot of time. Empirically, Monteiro and Assunção (2012) analyze the impact of bureaucracy simplification on the time required to start a business with microenterprise formalization in Brazil. They observe that the number of start-ups increases when the length of the bureaucracy process is reduced. The estimated results suggest that the implementation of procedure reforms increases the new-firm formation rate by one percentage point. Furthermore, in terms of job creation, Branstetter, Lima, Taylor, and Venâncio (2014) came to similar conclusions in the case of Portugal. Here, the bureaucratic costs imposed in terms of time required to start a business is found to deter the entrepreneurship that creates employment. Aparicio, Urbano, and Audretsch (2016) found that the time required to create a startup has a negative impact on entrepreneurship. Their results show that regulations benefit the incumbent firms, discouraging competition across the industry and ultimately reducing economic growth. Stenholm, Acs, and Wuebker (2013) found similar results. They extend the analysis assessing the impact not only on the rate of entrepreneurial activity, but also on the type of entrepreneurial activity. Stenholm et al.

(2013) show that although regulations such as the time to start a business have little impact on innovative and high-growth new ventures, the effect is negative. On the basis of this reasoning we offer the following hypothesis:

Hypothesis 2: The time required to start a business negatively affects entrepreneurial activity.

Van Stel et al. (2007), Terjesen, Hessels, and Li (2016), Djankov et al. (2002), and Angulo-Guerrero, Pérez-Moreno, and Abad-Guerrero (2017) discuss the regulatory factors together with the legal origin and political structure. According to these authors, the importance of this discussion is associated with who legislates the regulations and what benefits are obtained from them. Djankov et al. (2002) provide evidence that the autocratic, socialist and French legal system tends to increase regulatory constraints. The next question should be whether these consolidated political structures affect entrepreneurial activity or not. For instance, van Stel et al. (2007) discuss how established democracy sets up the regulatory factors that affect nascent and young firms. Aidis et al. (2007) analyze how the transition from a socialist structure to a more democratic one affects female entrepreneurship. Pinotti (2012) provides empirical evidence suggesting that the trust generated in democracies tends to undermine the regulatory processes, and hence encourages entrepreneurial activity and market competition. Acemoglu (2008) finds that democracies tend to facilitate the entry of new business into each industry and thus contributes to a more efficient income distribution. Ireland, Tihanyi, and Webb (2008) highlight that democracies with articulated societies tend to encourage entrepreneurial activity, while populism and socialism tend to deter entrepreneurship. Accordingly, we propose the following hypothesis:

Hypothesis 3: Countries with an established democracy positively influence entrepreneurial activity.

6.2.2 Entrepreneurship and Social Progress

It is suggested that entrepreneurship plays an important role not only in terms of economic growth, but also in terms of social progress (McMullen, 2011; van Praag & Versloot, 2007; Wennekers & Thurik, 1999). Nonetheless, the extant literature linking entrepreneurship to economic development has not analyzed actual measures of social progress. This question can be explored further by considering the capacity to create new firms and at the same time to generate new knowledge into society. Indeed, Audretsch and Keilbach (2008) suggest that entrepreneurial activity could be a key factor in generating higher growth and development by creating knowledge spillovers.

According to Reynolds et al. (2005), entrepreneurial activity can be considered a relevant factor that encourages individuals to pursue market opportunities and creates benefits for themselves as well as for society. In this regard, it is recognized that

entrepreneurs have potential to contribute to prosperity and economic welfare (Blackburn & Ram, 2006; Urbano & Alvarez, 2014). Thus, entrepreneurship acts as a gear within the complex engine of economic development (Audretsch et al., 2008). Additionally, Audretsch et al. argue that those individuals pursuing an entrepreneurial career tend to include more people into the development process of new products and services based on new knowledge. This, in turn, creates synergies that are useful to acquire competitive advantage vis-a-vis other entrepreneurs. In this sense, Wong, Ho, and Autio (2005) and Noseleit (2013) point out that entrepreneurship rates reflect the creation of knowledge and technology that could affect positively on social progress. Moreover, Carree, van Stel, Thurik, and Wennekers (2007) associate the innovative capacity of the owners with the level of social progress. Following these authors, countries with a high level of innovative activity tend to encourage the virtuous circle constituted between business ownership and social progress. In addition, Carree et al. (2007) suggest that these countries tend to facilitate new business creation in order to generate permanent progress for the entire society. Thus, we propose the following hypothesis:

Hypothesis 4: The number of business owners is positively related to social progress.

As Reynolds et al. (2005) suggest, entrepreneurs should be differentiated based on their motivations, which are associated with the capacity to perceive opportunity and transform it into a new business. As mentioned in previous chapters, those countries that exhibit a high degree of opportunity entrepreneurship are expected to be highly developed in terms of social and economic characteristics; whereas those individuals in developing countries that are not employed and the labor market is very restrictive to them, find in necessity entrepreneurship an escape. By definition, those countries that present higher rates of necessity entrepreneurship tend to suffer from high rates of unemployment, a large underground or informal economy and social disadvantages. In this sense, the policy prescription is to prioritize the motivation towards opportunity entrepreneurship, given its high value to society (Ács, Autio, & Szerb, 2014; Acs, Desai, & Hessels, 2008; Devece, Peris-Ortiz, & Rueda-Armengot, 2016). On these bases, various authors have approached the analysis of entrepreneurial activity by assessing the ratio between opportunity and necessity entrepreneurship, which co-exist together according to the institutional context (Acs & Amorós, 2008; Block, Sandner, & Spiegel, 2015). For instance, Acs, Desai, and Hessels (2008) provide evidence that the ratio of opportunity entrepreneurship with respect to necessity entrepreneurship is positively correlated with economic development measured through GDP per capita. In addition, Block and Koellinger (2009) analyze the satisfaction with start-ups in order to contribute to well-functioning economies. These authors find that satisfaction is positively correlated with the ratio between the opportunity–necessity entrepreneurship ratio. On the basis of these considerations, we propose the following hypothesis:

Hypothesis 5: The ratio of opportunity entrepreneurship with respect to necessity entrepreneurship is positively related to social progress.

6.3 Methods

As we noted earlier, the objective of this chapter is contributing to the literature by linking a country's institutional environment to the way in which entrepreneurial activity affects social progress. Given the interplay between these variables (Aparicio et al., 2016; Audretsch & Keilbach, 2008), we specify the economic development process throughout two equations approach. The first equation considers this recursive structure explicitly as well as the other variables that affect entrepreneurship. Hence, this equation is specified as:

$$EA_i = f\left(IC_i, x_i\right) \tag{6.1}$$

where IC_i represents the institutional context, and x_i is the vector of control variables that influence entrepreneurial activity (EA) in country i. The vector of control variables refers to the gross domestic product (GDP) per capita.

To specify the institutional context, entrepreneurial activity and social progress, a development function that includes an explicit measure of entrepreneurial activity is estimated. On this basis, we are able to test the impact of the institutional context on entrepreneurship on the one hand and the impact of entrepreneurship on social progress on the other. The second equation has the following form:

$$SP_i = f\left(EA_i, z_i\right) \tag{6.2}$$

where SP_i is the social progress of country i, measured as an index between 0 and 100, EA_i represents its endowment of entrepreneurial activity, and z_i represents a vector with control variables reflecting the stage of development—K_i is country i's endowment of capital, X_i is country i's exports volume. Thus, Eq. (6.2) specifies formally that entrepreneurship contributes to the social progress of countries. The extent to which we apply this methodology, it might be possible to enhance the model presented by Audretsch and Keilbach (2004b, 2004c, 2008) and Audretsch et al. (2008). Therefore, we focus on these two equations, which are estimated simultaneously using three-stage least-squares regression (3SLS) to correct for the simultaneity bias (Zellner & Theil, 1962). Similar models have used this method to estimate the relationship between entrepreneurship and economic growth, because of their ability importance to estimate efficiently models with bi-causality (Aparicio et al., 2016; Audretsch & Keilbach, 2008).

Thus, we use pooled data for the period 2012–2014. Our first dependent variable, entrepreneurial activity, is an indicator of the Global Entrepreneurship Monitor (GEM), which is measured as the number of owners in startups and new firms, as well as using opportunity Total Entrepreneurial Activity (TEA) and necessity TEA. Opportunity TEA shows those entrepreneurs who are motivated to pursue perceived business opportunities, while necessity TEA captures those entrepreneurs who cannot get a job.

The second dependent variable is the economic development indicator, obtained through three dimensions that contain creations of opportunities, the foundations of

well-being, and basic human needs. The three dimensions conform to the Social Progress Index. The sources of data to measure these dependent variables are the GEM and the Social Progress Imperative.

The data for the independent variables, specifically those that reflect the institutional context, were obtained from Doing Business (the number of taxes paid by the firms and the time required to start a business) and Center for System Peace (established democracy). Meanwhile, data on the GDP per capita were obtained from the World Development Indicators (WDI) database. The number of taxes paid by firms measures the total amount of taxes reported by the chamber of commerce in each economy; the time required to start a business is the total days that it takes any new firm to register in the chamber of commerce; and established democracy is an 11-point scale (0–10), derived from codings of the competitiveness of political participation, the openness and competitiveness of executive recruitment, and constraints on the chief executive. Gross capital formation (K), obtained from the WDI, is measured in constant values at 2005 $US; and exports refer to the value of all goods and other market services provided to the rest of the world as a percentage of constant GDP.

Table 6.1 presents a list of the dependent and independent variables used in this study, including their sources. Our final sample consists of pooled data with 87 observations and 63 countries (see Appendix 7).

6.4 Results and Discussion

Table 6.2 reports the means, standard deviations and correlation coefficients of the previous variables. As Table 6.2 shows, both measures of entrepreneurial activity are significantly correlated with tax payments, time to start a business and established democracy. Furthermore, the social progress index is significantly correlated with exports as well as both measures of entrepreneurial activity. Given the correlations among the independent variables, we test for the problem of multicollinearity in both equations through variance inflation factor (VIF) computations, which might affect the significance of the main parameters in the regressions. Although 3SLS does not allow the VIF to be obtained directly, we compute this test separately for each equation in models 4 and 8, which assess the two measures of entrepreneurship and social progress, respectively. The VIF values are low (lower than 1.86 for Eq. 6.1 and 1.08 for Eq. 6.2 in model 4; and 1.86 for Eq. 6.1 and 1.07 for Eq. 6.2 in model 8).

Table 6.3 shows the results of linear regressions with robust variance estimates. Models 1, 2, 3 and 4 consider both equations but the dependent variable of Eq. 6.1 is the ratio between opportunity and necessity entrepreneurship, while in Eq. 6.2 the dependent variable is the opportunity index, foundations of well-being index, basic human needs index, and the overall social progress index, respectively. Models 5, 6, 7 and 8 are similar to the previous models, but in this case, the dependent variable of Eq. 6.1 is the number of business owners. All the models are highly significant

Table 6.1 Description of variables

Variable	Description	Source[a]
Equation 1		
Business owners	Average number of owners in start-up or young business	GEM 2012–2013
Opportunity/ necessity TEA	Ratio computed with TEA opportunity and TEA necessity. TEA opportunity and necessity: Total Entrepreneurial Activity reporting opportunity or necessity as a major motive, respectively	GEM 2012–2013
Tax payments	The total number of taxes and contributions paid, during the 2nd year of operation	Doing business 2012–2013
Time to start a business	The median duration (in days) necessary to complete a procedure with government agencies and no extra payments	Doing business 2012–2013
Established democracy	Additive 11-point scale (0–10), derived from the competitiveness of political participation, the openness and competitiveness of executive recruitment, and constraints on the chief executive	Center for systemic peace 2012–2013
GDP per capita	Sum of gross value added by all resident producers in the economy divided by midyear population. Constant values at 2005 US$	WDI 2012–2013
Equation 2		
Social progress index	The index scores from a 0 to 100 scale, created through individual indices such as opportunity, foundations of wellbeing and basic human needs	The social progress imperative 2013–2014
Opportunity index	Based on 0–100 scale, the index measures the degree to which a country's population is free of restrictions on its rights and its people are able to make their own personal decisions	The social progress imperative 2013–2014
Foundations for wellbeing index	Based on 0–100 scale, the index measures whether a population has access to basic education, ideas and information from both inside and outside their own country	The social progress imperative 2013–2014
Basic human needs index	Based on 0–100 scale, the index assesses how well a country provides for its people's essential needs by measuring whether people have enough food to eat and are receiving basic medical care and healthy services	The social progress imperative 2013–2014
Capital	Fixed assets of the economy plus net changes in the level of inventories. Constant values at 2005 US$	WDI 2012–2013
Exports	Value of all goods and other market services provided to the rest of the world, respect to the GDP	WDI 2012–2013

[a]*GEM* Global Entrepreneurship Monitor: http://www.gemconsortium.org/; Doing Business: http://http://www.doingbusiness.org; Center for Systemic Peace: http://http://www.systemicpeace.org; The Social Progress Imperative: http://http://www.socialprogressimperative.org

($p < 0.001$) and have a relatively high explanatory power, explaining 40.3% of the variance in entrepreneurial activity and 13.8% of the variance in social progress. In addition, for models 4 and 8, we compute the Hausman test to compare the coefficients obtained with Ordinal Least Square (OLS) and 3SLS. The results show that

Table 6.2 Descriptive statistics and correlation matrix

		Mean	Std. Dev	1	2	3	4	5	6	7	8
1	Ln business owners	0.522	0.162	1							
2	Ln opportunity/necessity TEA	1.137	0.577	0.306*	1						
3	Ln social progress index	4.147	0.233	0.458*	0.384*	1					
4	Ln tax payments	2.653	0.697	−0.442*	−0.359*	−0.384*	1				
5	Ln time to start a business	2.785	0.825	−0.425*	−0.329*	−0.415*	0.316*	1			
6	Established democracy	7.989	2.687	0.409*	0.354*	0.621*	−0.223	−0.354*	1		
7	Ln GDP per capita	9.016	1.386	0.606*	0.501*	0.740*	−0.548*	−0.441*	0.669*	1	
8	Ln capital	25.119	1.628	0.224	0.089	0.182	−0.480*	−0.191	0.122	0.475*	1
9	Ln exports	3.535	0.480	−0.038	0.155	0.309*	0.115	−0.278	0.176	0.245	−0.221

*$p < 0.01$

Table 6.3 Results of simultaneous equation through three-stage least-square (3SLS)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Dep. variable Eq. 6.1	**Ln opportunity/ necessity TEA**	**Ln opportunity/ necessity TEA**	**Ln opportunity/ necessity TEA**	**Ln opportunity/ necessity TEA**	**Ln business owners**	**Ln business owners**	**Ln business owners**	**Ln business owners**
Ln tax payments	−0.210**	−0.237**	−0.219**	−0.218**	−0.053**	−0.058**	−0.056**	−0.055**
	(0.104)	(0.110)	(0.105)	(0.105)	(0.023)	(0.025)	(0.025)	(0.024)
Ln time to start a business	−0.087	−0.146*	−0.146*	−0.124*	−0.032*	−0.048***	−0.049***	−0.042**
	(0.075)	(0.079)	(0.076)	(0.075)	(0.017)	(0.018)	(0.018)	(0.018)
Established democracy	0.070**	0.041	0.044	0.054	0.025***	0.020**	0.020**	0.022***
	(0.033)	(0.034)	(0.034)	(0.033)	(0.008)	(0.008)	(0.008)	(0.008)
Ln GDP per capita	0.072	0.062	0.067	0.068	0.004	−0.000	0.001	0.002
	(0.086)	(0.087)	(0.086)	(0.086)	(0.019)	(0.020)	(0.020)	(0.020)
Constant	0.715	1.274	1.149	1.003	0.499***	0.639***	0.625***	0.581***
	(0.855)	(0.875)	(0.859)	(0.857)	(0.188)	(0.200)	(0.199)	(0.194)
R^2	0.287	0.329	0.326	0.317	0.382	0.410	0.409	0.403
Dep. variable Eq. 6.2	**Ln opportunity index**	**Ln foundations of wellbeing index**	**Ln basic human needs index**	**Ln social progress index**	**Ln opportunity index**	**Ln foundations of wellbeing index**	**Ln basic human needs index**	**Ln social progress index**
Ln capital	0.044	0.011	0.066	0.039	0.055	0.020	0.079**	0.050
	(0.039)	(0.038)	(0.051)	(0.039)	(0.034)	(0.032)	(0.040)	(0.032)
Ln exports	0.117	0.154**	0.244**	0.171**	0.130**	0.160***	0.260***	0.184***
	(0.075)	(0.076)	(0.099)	(0.076)	(0.057)	(0.057)	(0.072)	(0.056)
Ln opportunity/ necessity TEA	0.300**	0.181	0.286*	0.252**				
	(0.125)	(0.122)	(0.163)	(0.126)				
Ln business owners					1.126***	0.645*	1.018**	0.912***
					(0.365)	(0.342)	(0.434)	(0.347)
Constant	2.183**	3.130***	1.340	2.257**	1.635*	2.760***	0.749	1.756**
	(1.082)	(1.059)	(1.414)	(1.089)	(0.863)	(0.809)	(1.026)	(0.820)
R^2	0.129	0.107	0.164	0.138	0.011	0.089	0.225	0.133
Observations	62	62	62	62	62	62	62	62

Robust standard errors in parentheses
*p < 0.10; **p < 0.05; ***p < 0.01

the coefficients of both equations modeled through the techniques are not significantly different ($p > 0.1$) for both models. However, according to Baltagi (2005, p. 127), if the null hypothesis of the Hausman test is not rejected, this means that the expected value of the residuals tends to be zero, which implies good specification of the models. Here, the 3SLS estimators are consistent and asymptotically more efficient than single equation estimators obtained through OLS. Thus, 3SLS appears an appropriate technique to produce better results.

Regarding model 1, the results indicate that the number of tax payments and established democracy are highly significant, as predicted. On the one hand, the number of tax payments generates a reduction in the opportunity–necessity entrepreneurship ratio, which is positively associated with the opportunity index; on the other hand, the established democracy is positively associated with the ratio, and thus the opportunity in society. Similarly, the results of model 2 show that the number of tax payments and the time required to start a business have a negative and significant influence ($p < 0.1$) on the entrepreneurship ratio. However, this variable seems not to be significant in explaining the variations of foundations of well-being. Model 3 indicates that only the number of tax payments and the time required to start a business are highly significant and have the expected signs of the coefficients. Nonetheless, the entrepreneurship ratio does not have a significant impact on the basic human needs index. In the case of model 4, both the number of tax payments and the time required to start a business have a negative impact on the opportunity–necessity entrepreneurship ratio ($p < 0.1$), which explains the variations of the social progress index ($p < 0.05$). Similarly, in models 5, 6 and 7 the opportunity–necessity entrepreneurship ratio explains the variation of the dimensions of social progress: opportunity index, foundations of well-being index and basic human needs index, respectively. For all these models, the regulatory institutions, such as the number of tax payments and the time required to start a business, negatively affect ($p < 0.1$) the variation of the number of business owners, on the one hand; on the other, the established democracy is positively related to this variable. Finally, model 8 shows that both regulatory institutions used in previous models have a negative effect on the number of business owners, which is highly related to the Social Progress Index ($p < 0.01$).

Concerning the hypotheses testing, we follow the measures of institutions suggested by Voigt (2013), which try to reflect the regulatory atmosphere and political system of each country. For instance, Hypothesis 1 posits that the number of tax payments has a negative influence on entrepreneurship. In our case, all models show that this variable has a negative and significant influence on entrepreneurship in all countries (for models 1–4, an average impact of $b = -0.221$, $p < 0.05$; and for models 5–8, an average impact of $b = -0.056$). Therefore, hypothesis 1 is supported by the data. The results show a negative relationship between the number of tax payments and entrepreneurship, similar to the relationship found in previous studies (Belitski et al., 2016; Djankov et al., 2010; Fisman & Svensson, 2007). Thus, with one additional percentage of the number of tax payments, entrepreneurship decreases by 0.221% for models 1–4, and 0.056% in models 5–8.

Hypothesis 2 suggests that time required to start a business has a negative influence on entrepreneurship. This hypothesis is supported by our data, which is generally consistent with the literature; the presence of bureaucratic constraints, such as the time required starting a business, decreases entrepreneurship (Branstetter et al., 2014; Monteiro & Assunção, 2012). Although this variable is not statistically significant in model 1, the result is expected. Models 2–4 show that the time required to start a business has a negative and significant influence on entrepreneurship in all countries (for models 2–4, the average impact is $b = -0.139$, $p < 0.1$; and for models 5–8, there is an average impact of $b = -0.043$). Thus, with one additional percentage in the amount of the time required to start a business, entrepreneurship decreases by 0.139% for models 2–4, and by 0.043% in models 5–8.

Hypothesis 3 suggests that an established democracy has a positive influence on entrepreneurship. Although the outcome is the expected one for all estimated models, only the coefficients in models 1 and 5–8 are positive and significant, supporting hypothesis 3; thus, countries with an established democracy encourage entrepreneurial activity (for model 1, an impact of $b = 0.070$, $p < 0.05$; while for models 5–8, an average impact of $b = 0.022$). These results support the conclusions of Djankov et al. (2002) and van Stel et al. (2007), who analyze the regulatory structure of each country based on their political system. According to these authors, the regulatory regime tends to affect entrepreneurship less in those countries with an established democracy or where there is a transition towards this system. For instance, Aidis et al. (2007) provide evidence showing that entrepreneurial activity is more dynamic in countries undergoing a transition process from communism to democracy. Also, Acemoglu (2008) suggests that the free market in democratic countries increases the opportunity for those new firms that are trying to enter into a specific industry. Accordingly, the entrepreneurial activity increases by 0.070% when countries have a well-established democracy (model 1), and 0.022% for models 5–8.

Hypotheses 6.4 and 6.5 posit that social progress is influenced positively by entrepreneurship, measured as the number of business owners, and the opportunity–necessity entrepreneurship ratio, respectively. We find that entrepreneurship is positively related to social progress ($b = 0.252$, $p < 0.05$, in model 4; and $b = 0.912$, $p < 0.01$, in model 8). As we mentioned before, both measures of entrepreneurial activity define different characteristics in each country in terms of the development process. According to Wong et al. (2005), opportunity entrepreneurial activity impacts positively on economic development. However, they do not find statistically significant evidence. In contrast, our results suggest that for each country in our sample, if entrepreneurship increases by 1%, the social progress index will increase by 0.252% (model 4) and 0.912% (model 8), ceteris paribus. This is consistent with Audretsch and Keilbach's (2004a) results. Furthermore, we point out that the effect of these two measures of entrepreneurship on social progress does not differ significantly among these countries. This idea, supported by Valliere and Peterson (2009), suggests that those countries that encourage entrepreneurial activity based on innovation could obtain improved outcomes in terms of economic per-

formance. Therefore, we could suggest that entrepreneurship has a relevant role in promoting social progress, in which institutional context is a factor that has a relevant influence. In addition, according to Braunerhjelm, Acs, Audretsch, and Carlsson (2010), entrepreneurial activity is a key missing link in converting knowledge into economically relevant knowledge; therefore, spillovers could be generated to increase economic development.

6.5 Policy Implications

The analysis of these results in terms of policy implications concerns both models using simultaneous estimation. Our results provide compelling empirical evidence regarding the approach proposed by Reynolds et al. (2005, p. 206), who suggest that entrepreneurial activity depends on the institutional context, and its effects are reflected in economic development (social progress). Thereby, factors such as regulations and political context are associated with formal institutions. The appropriate external context could help to facilitate a favorable endowment of entrepreneurship, which in turn is instrumental in the process of economic development. Given our results, public policy in general and regulatory agencies, in particular, should be consistent with the entrepreneurial intentions of individuals, as well as encouraging the long-run pursuit of opportunities in order to transform them into new businesses. We could suggest that a higher stable political system is essential to incentive a structure more compatible with entrepreneurship, which will ultimately promote social progress. Concerning tax payments and the time required to start a business as entry barriers, these should be relaxed to reduce the unnecessary bureaucracy that impedes entrepreneurial activity. Countries in our sample should find an appropriate balance between the capacity of regulation, in terms of procedures, and taxes in order to provide an incentive structure that is most conducive to the creation of new business.

Given results for our entrepreneurship measures, imply, by definition, that productive outcomes and human capabilities are impacted by the institutional context. This finding is consistent with the model proposed by Gnyawali and Fogel (1994), who identify those different elements involved in the entrepreneurial process which is also useful in spurring economic development. In this case, institutional dimensions such as regulatory, socioeconomic and nonfinancial assistance play a key role in fostering entrepreneurial activity, which at the same time facilitates the creation of opportunities (one of the dimensions in the SPI). This dynamic could imply that each strategy to increase the number of new business owners and entrepreneurs motivated by opportunity introduces a positive and constant loop, leading to a virtuous path of economic development.

The social process in which more entrepreneurs are involved is also beneficial in terms of well-being and human needs. Bruton, Ketchen, and Ireland (2013) discuss the importance of entrepreneurship as a mechanism to solve the problems of poverty in society. They suggest that one possible solution is to design incentives

encouraging individuals to become entrepreneurs. Our results are consistent with their conclusion in the sense that social progress, influenced by entrepreneurship, contains access to basic knowledge, information and communication, health, ecosystem sustainability, nutrition and basic medical care, air, water and sanitation, shelter and personal safety. Hence, a focused entrepreneurship strategy also facilitates access to all of these social requirements. Higher and improved results could be obtained if entrepreneurs are oriented towards a social system that breaks the vicious cycle of the poverty trap.

Shane (2009) emphasizes that entrepreneurial policy must be aimed at those entrepreneurs related to innovation and enjoy a higher likelihood of survival. This implies the provision of education and skills to all people in order that they can pursue innovative goals useful for them as well as for the rest of society. The opportunity–necessity entrepreneurship ratio is an example of the importance of either increasing opportunity entrepreneurship or decreasing necessity entrepreneurship, or a combination of both.

6.6 Conclusions

In this chapter, pooled data (for the periods 2012 and 2014) were used to examine how a country's institutional environment influences the way in which entrepreneurial activity affects social progress. Using the conceptual framework of institutional economics, we analyzed the influence of the number of tax payments, the time required to start a business and the established democracy on entrepreneurial activity, which at the same time allows for the achievement of social progress. The empirical results suggest that for all of the countries included in the sample, the institutions analyzed exert a strong and important influence on entrepreneurship, which in turn, is found to enhance social progress.

Three main results from this chapter should be highlighted. First, there is evidence that the institutional context affects entrepreneurial activity. This follows the recent results in the entrepreneurship literature, which has identified institutions as playing an important role in explaining entrepreneurship (Bruton et al., 2010; Thornton, Ribeiro-Soriano, & Urbano, 2011). Secondly, we found a positive relationship between entrepreneurial activity and social progress. These results suggest that entrepreneurship is a factor not only in achieving economic growth, but also in influencing economic development and social progress. Hence, it is important that public policy has a broad comprehension of the complex process in order to redefine the strategies conducive to entrepreneurial activity in each national context. In terms of long-term development, strategies related to enhancing the number of individuals involved in each business idea, as well as entrepreneurship driven by opportunity, are important. Thirdly, by combining the two sides of entrepreneurship research discussed by Carlsson et al. (2013), we would emphasize that institutions reflecting the regulatory regime and political system stability influence entrepreneurial activity, which ultimately will foster social progress. Here, theoretical and policy

implications could be derived, concerning the institutional factors that affect growth and development (North, 1990) through entrepreneurship.

Finally, some limitations regarding the sample size and short period of analysis need to be emphasized. Other data sets could only provide a greater sample for a heterogeneous group of countries, but not for specific ones such as developing countries. Additional institutional factors should be considered, as well as single index of entrepreneurial activity such as overall or innovative TEA (as shown in Chaps. 4 and 7), self-employment or the number of new firms registered. In that sense, it is possible to follow the studies by Urbano and Alvarez (2014) and Audretsch et al. (2008), in order to analyze how the institutions analyzed in these papers could also encourage entrepreneurial behavior and therefore enhance social progress.

References

Acemoglu, D. (2008). Oligarchic versus democratic societies. *Journal of the European Economic Association, 6*(1), 1–44.

Acs, Z., Desai, S., & Hessels, J. (2008). Entrepreneurship, economic development and institutions. *Small Business Economics, 31*(3), 219–234.

Acs, Z. J., & Amorós, J. E. (2008). Entrepreneurship and competitiveness dynamics in Latin America. *Small Business Economics, 31*(3), 305–322.

Ács, Z. J., Autio, E., & Szerb, L. (2014). National systems of entrepreneurship: Measurement issues and policy implications. *Research Policy, 43*(3), 476–494.

Aidis, R., Welter, F., Smallbone, D., & Isakova, N. (2007). Female entrepreneurship in transition economies: The case of Lithuania and Ukraine. *Feminist Economics, 13*(2), 157–183.

Angulo-Guerrero, M. J., Pérez-Moreno, S., & Abad-Guerrero, I. M. (2017). How economic reedom affects opportunity and necessity entrepreneurship in the OECD countries. *Journal of Business Research, 73*, 30–37.

Aparicio, S., Urbano, D., & Audretsch, D. (2016). Institutional factors, opportunity entrepreneurship and economic growth: Panel data evidence. *Technological Forecasting and Social Change, 102*, 45–61.

Audretsch, D. B., Bönte, W., & Keilbach, M. (2008). Entrepreneurship capital and its impact on knowledge diffusion and economic performance. *Journal of Business Venturing, 23*(6), 687–698.

Audretsch, D. B., & Keilbach, M. (2004a). Does entrepreneurship capital matter? *Entrepreneurship Theory and Practice, 28*(5), 419–429.

Audretsch, D. B., & Keilbach, M. (2004b). Entrepreneurship capital and economic performance. *Regional Studies, 38*(8), 949–959.

Audretsch, D. B., & Keilbach, M. (2004c). Entrepreneurship and regional growth: An evolutionary interpretation. *Journal of Evolutionary Economics, 14*(5), 605–616.

Audretsch, D. B., & Keilbach, M. (2008). Resolving the knowledge paradox: Knowledge-spillover entrepreneurship and economic growth. *Research Policy, 37*(10), 1697–1705.

Baltagi, B. (2005). *Econometric analysis of panel data* (3rd ed.). London: Wiley.

Baumol, W. J., & Strom, R. J. (2007). Entrepreneurship and economic growth. *Strategic Entrepreneurship Journal, 1*(3–4), 233–237.

Belitski, M., Chowdhury, F., & Desai, S. (2016). Taxes, corruption, and entry. *Small Business Economics, 47*(1), 201–216.

Blackburn, R., & Ram, M. (2006). Fix or fixation? The contributions and limitations of entrepreneurship and small firms to combating social exclusion. *Entrepreneurship and Regional Development, 18*(1), 73–89.

Block, J., & Koellinger, P. (2009). I can't get nosatisfaction – necessity entrepreneurship and procedural utility. *Kyklos, 62*(2), 191–209.

Block, J. H., Kohn, K., Miller, D., & Ullrich, K. (2015). Necessity entrepreneurship and competitive strategy. *Small Business Economics, 44*(1), 37–54.

Branstetter, L., Lima, F., Taylor, L. J., & Venâncio, A. (2014). Do entry regulations deter entrepreneurship and job creation? Evidence from recent reforms in Portugal. *The Economic Journal, 124*(577), 805–832.

Braunerhjelm, P., Acs, Z., Audretsch, D. B., & Carlsson, B. (2010). The missing link: Knowledge diffusion and entrepreneurship in endogenous growth. *Small Business Economics, 34*(2), 105–125.

Bruton, G. D., Ahlstrom, D., & Li, H.-L. (2010). Institutional theory and entrepreneurship: Where are we now and where do we need to move in the future? *Entrepreneurship Theory and Practice, 34*(3), 421–440.

Bruton, G. D., Ketchen, D. J., & Ireland, R. D. (2013). Entrepreneurship as a solution to poverty. *Journal of Business Venturing, 28*(6), 683–689.

Carlsson, B., Braunerhjelm, P., McKelvey, M., Olofsson, C., Persson, L., & Ylinenpää, H. (2013). The evolving domain of entrepreneurship research. *Small Business Economics, 41*(4), 913–930.

Carree, M., van Stel, A., Thurik, R., & Wennekers, S. (2007). The relationship between economic development and business ownership revisited. *Entrepreneurship and Regional Development, 19*(3), 281–291.

Chowdhury, F., Terjesen, S., & Audretsch, D. (2015). Varieties of entrepreneurship: Institutional drivers across entrepreneurial activity and country. *European Journal of Law and Economics, 40*(1), 121–148.

Coeurderoy, R., & Murray, G. (2008). Regulatory environments and the location decision: Evidence from the early foreign market entries of new-technology-based firms. *Journal of International Business Studies, 39*(4), 670–687.

Croce, M. M., Kung, H., Nguyen, T. T., & Schmid, L. (2012). Fiscal policies and asset prices. *Review of Financial Studies, 25*(9), 2635–2672.

Desai, M. (1991). Human development: Concepts and measurement. *European Economic Review, 35*(2), 350–357.

Devece, C., Peris-Ortiz, M., & Rueda-Armengot, C. (2016). Entrepreneurship during economic crisis: Success factors and paths to failure. *Journal of Business Research, 69*(11), 5366–5370.

Djankov, S., Ganser, T., McLiesh, C., Ramalho, R., & Shleifer, A. (2010). The effect of corporate taxes on investment and entrepreneurship. *American Economic Journal, 2*(3), 31–64.

Djankov, S., La Porta, R., Lopez-De-Salines, F., & Shleifer, A. (2002). The regulation of entry. *The Quarterly Journal of Economics, 117*(1), 1–37.

Fisman, R., & Svensson, J. (2007). Are corruption and taxation really harmful to growth? Firm level evidence. *Journal of Development Economics, 83*(1), 63–75.

Gnyawali, D. R., & Fogel, D. S. (1994). Environments for entrepreneurship development: Key dimensions and research implications. *Entrepreneurship Theory and Practice, 18*(4), 43–62.

Henderson, J. V., Storeygard, A., & Weil, D. N. (2012). Measuring economic growth from outer space. *American Economic Review, 102*(2), 994–1028.

Ireland, R. D., Tihanyi, L., & Webb, J. W. (2008). A tale of two politico-economic systems: Implications for entrepreneurship in Central and Eastern Europe. *Entrepreneurship Theory and Practice, 32*(1), 107–130.

Lawless, M. (2013). Do complicated tax systems prevent foreign direct investment? *Economica, 80*(317), 1–22.

Max-Neef, M. A., Elizalde, A., & Hopenhayn, M. (1991). *Human scale development: Conception, application and further reflections* (Vol. 1). New York: Apex Press.

McMullen, J. S. (2011). Delineating the domain of development entrepreneurship: A market-based approach to facilitating inclusive economic growth. *Entrepreneurship Theory and Practice, 35*(1), 185–193.

Méndez-Picazo, M.-T., Galindo Martín, M. Á., & Ribeiro-Soriano, D. (2012). Governance, entrepreneurship and economic growth. *Entrepreneurship and Regional Development, 24*(9–10), 865–867.

Monteiro, J., & Assunção, J. J. (2012). Coming out of the shadows? Estimating the impact of bureaucracy simplification and tax cut on formality in Brazilian microenterprises. *Journal of Development Economics, 99*(1), 105–115.

Muñoz, P., & Kibler, E. (2016). Institutional complexity and social entrepreneurship: A fuzzy-set approach. *Journal of Business Research, 69*(4), 1314–1318.

North, D. C. (1990). *Institutions, institutional change and economic performance*. Cambridge, MA: Cambridge University Press.

North, D. C. (2005). *Understanding the process of economic change*. Princeton, NJ: Princeton University Press.

North, D. C., & Thomas, R. P. (1973). *The rise of the western world: A new economic history*. Cambridge, UK: Cambridge University Press.

Noseleit, F. (2013). Entrepreneurship, structural change, and economic growth. *Journal of Evolutionary Economics, 23*(4), 735–766.

Pinotti, P. (2012). Trust, regulation and market failures. *Review of Economics and Statistics, 94*(3), 650–658.

Reynolds, P., Bosma, N., Autio, E., Hunt, S., De Bono, N., Servais, I., et al. (2005). Global entrepreneurship monitor: Data collection design and implementation 1998–2003. *Small Business Economics, 24*(3), 205–231.

Sen, A. (1988). *The standard of living*. Cambridge, UK: Cambridge University Press.

Sen, A. (1999). *Development as freedom*. Oxford, UK: Oxford University Press.

Shane, S. (2009). Why encouraging more people to become entrepreneurs is bad public policy. *Small Business Economics, 33*(2), 141–149.

Solow, R. M. (2007). The last 50 years in growth theory and the next 10. *Oxford Review of Economic Policy, 23*(1), 3–14.

Stenholm, P., Acs, Z. J., & Wuebker, R. (2013). Exploring country-level institutional arrangements on the rate and type of entrepreneurial activity. *Journal of Business Venturing, 28*(1), 176–193.

Stephan, U., Uhlaner, L. M., & Stride, C. (2015). Institutions and social entrepreneurship: The role of institutional voids, institutional support, and institutional configurations. *Journal of International Business Studies, 46*(3), 308–331.

Stern, S., Wares, A., Orzell, S., & O'Sullivan, P. (2014). *Social progress index 2014* (Methodological Report). Cambridge, MA: Social Progress Imperative.

Terjesen, S., Hessels, J., & Li, D. (2016). Comparative international entrepreneurship: A review and research agenda. *Journal of Management, 42*(1), 299–344.

Thornton, P. H., Ribeiro-Soriano, D., & Urbano, D. (2011). Socio-cultural factors and entrepreneurial activity: An overview. *International Small Business Journal, 29*(2), 105–118.

Urbano, D., & Alvarez, C. (2014). Institutional dimensions and entrepreneurial activity: An international study. *Small Business Economics, 42*(4), 703–716.

Urbano, D., Ferri, E., Peris-Ortiz, M., & Aparicio, S. (2017). Social entrepreneurship and institutional factors: A literature review. In M. Peris-Ortiz, F. Teulon, & D. Bonet-Fernandez (Eds.), *Social entrepreneurship in non-profit and profit sectors: Theoretical and empirical perspectives* (International Studies in Entrepreneurship) (Vol. 36, pp. 9–29). Cham, Switzerland: Springer.

Valliere, D., & Peterson, R. (2009). Entrepreneurship and economic growth: Evidence from emerging and developed countries. *Entrepreneurship and Regional Development, 21*(5), 459–480.

van Praag, C. M., & Versloot, P. H. (2007). What is the value of entrepreneurship? A review of recent research. *Small Business Economics, 29*(4), 351–382.

van Stel, A., Storey, D. J., & Thurik, A. R. (2007). The effect of business regulations on nascent and young business entrepreneurship. *Small Business Economics, 28*(2–3), 171–186.

Voigt, S. (2013). How (not) to measure institutions. *Journal of Institutional Economics, 9*(1), 1–26.
Wennekers, S., & Thurik, R. (1999). Linking entrepreneurship and economic growth. *Small Business Economics, 13*(1), 27–56.
Wong, P. K., Ho, Y. P., & Autio, E. (2005). Entrepreneurship, innovation and economic growth: Evidence from GEM data. *Small Business Economics, 24*(3), 335–350.
Young, A. (2012). The African growth miracle. *Journal of Political Economy, 120*(4), 696–739.
Zellner, A., & Theil, H. (1962). Three-stage least squares: Simultaneous estimation of simultaneous equations. *Econometrica, 30*(1), 54–78.

Chapter 7
General Conclusions

7.1 Main Conclusions

Entrepreneurship, defined as the process of exploring, evaluating and exploiting opportunities (Shane & Venkataraman, 2000), has turned out to be highly relevant for society (Blackburn & Ram, 2006; Carlsson et al., 2013). Hence, people involved in academia, policymaking and business have placed emphasis on the analysis of entrepreneurial activity across the world. According to Blackburn and Kovalainen (2009) and Landström, Harirchi, and Åström (2012), research in entrepreneurship has shown a rapid increase in different areas, which implies a dissemination of the field toward different frontiers. In this regard, although the explicit analysis of entrepreneurial activity was born with the Schumpeter's (1911) book, many disciplines have been motivated to explore such a phenomenon from their own perspectives (Carlsson et al., 2013). According to Alvarez, Young, and Woolley (2015), Bruton, Ahlstrom, and Li (2010), and Thornton, Ribeiro-Soriano, and Urbano (2011), most researchers in the entrepreneurship field have been interested in exploring economic, psychological, sociological and anthropological factors, among others. Nonetheless, the different approaches have led to disparate ideas ranging from antecedents and consequences of entrepreneurship, but not to a common view that embraces the entire complexity involved in entrepreneurial activity.

Some scholars have made an important attempt at comprehending those factors that affect both entrepreneurship and its consequences on economic performance (cf. Aparicio, Urbano, & Audretsch, 2016; Aparicio, Urbano, & Gómez, 2016; Audretsch & Keilbach, 2008; Bjørnskov & Foss, 2016; Terjesen, Hessles, & Li, 2016). It turns out that among those elements that influence entrepreneurial activity, these authors have identified that the institutional context is extremely relevant to explaining why entrepreneurship is formed within each country or region, and how it could contribute to enhancing the economic growth and development. According to Audretsch (2012), Carlsson et al. (2013), and Bruton et al. (2010), among others,

D. Urbano et al., *Institutions, Entrepreneurship, and Economic Performance*,
International Studies in Entrepreneurship 41,
https://doi.org/10.1007/978-3-030-13373-3_7

there is still a lacuna in the literature that includes both the antecedents and consequences of entrepreneurship, placing emphasis on institutions as those relevant factors for, and economic performance as the main final outcome guided by entrepreneurship. Therefore, the main objective of this book has been to explore the institutional factors encouraging the entrepreneurial activity that achieves higher economic performance across developing and developed countries. In particular, this book has been focused on specific objectives such as the exploration of the content and evolution of both the isolated relationships between institutions and entrepreneurship, and how the latter is linked to economic progress, as well as to: the whole causal chain that goes from institutions to entrepreneurship and economic development; the study of social intentionality, as a particular informal institution, related to entrepreneurial activity; the analysis of the effect of different entrepreneurship types on economic growth; and the examination of those institutional factors that enable a positive relationship between entrepreneurship and economic performance. Overall, in addition to shedding light on institutional economics, the results of this research show that entrepreneurship serves as a conduit that transfers the influence of different institutional settings on economic development.

The hypotheses have been assessed using country level data. For instance, for the different institutional factors evaluated within this research, Doing Business, Worldwide Governance Indicators, World Values Survey, Indices of Social Development, the Hofstede Centre, the United Nations Development Programme, the National Experts Survey of Global Entrepreneurship Monitor (GEM) and the Center for System Peace have been used. For entrepreneurship, the study has primarily used GEM (Adult Population Survey); and for economic performance, databases such as World Development Indicators and Social Progress Imperative have been employed. Additionally, several research techniques have been applied throughout the book: systematic literature review, multiple regression, instrumental variables and a three-stage least-square analysis.

Chapter 2, through synthesizing disparate strands of literature over the period 1992–2016, identifies past and current research about the institutional context shaping entrepreneurial activity and its effect on economic growth. This integrative analysis spans a broad spectrum of disparate literature, enabling a distinction between two different research lines in the entrepreneurship field. The findings of this chapter enable a broader comprehension of these two separate lines of research, which allows for an analysis of the interaction among institutions, entrepreneurship and economic growth. The systematic literature synthesis and review reveals that institutions could be related to economic performance through entrepreneurship, which would open new research questions about what institutional factors are conducive to entrepreneurship, which in turn spurs economic growth. Some of these ideas for further research are developed in the remaining sections of the book.

Chapter 3 examines the influence of social progress orientation on entrepreneurship from an international perspective. Using a multiple linear regression model with cross-sectional information from the Global Entrepreneurship Monitor, the

Indices of Social Development, the World Values Survey, the Hofstede Centre, the United Nations Development Programme and World Development Indicators, it is found that social progress orientation dimensions such as voluntary spirit, survival vs. self-expression values and power distance are related to entrepreneurial activity. More specifically, the main findings demonstrate that a high voluntary spirit had a positive and statistically significant impact on innovative early-stage entrepreneurial activity (TEA). In addition, necessity-driven TEA is highly discouraged in those societies with high voluntary spirit and self-expression values, whereas larger power distance increased the entrepreneurial activity driven by necessity. Based on these results, this study advances the literature by introducing and analyzing the concept of social progress orientation through examining the factors that influence innovative entrepreneurial activity in light of an institutional approach.

Once (informal) institutions are proven to be linked to entrepreneurship, Chap. 4 estimates the effect of entrepreneurial activity on economic growth. An augmented Cobb-Douglas production function is used, which introduces variables such as entrepreneurship into the analysis of growth as anendogenous factor. By using panel data analysis on 43 countries in the period from 2002 to 2012, this chapter employs different measures of entrepreneurship as a capital input. The estimations suggest that these variables have a positive effect on economic growth, specifically overall TEA and opportunity TEA. Distinguishing between groups of countries and periods of time, it is found that overall TEA has a greater effect on economic growth in OECD countries and in the post-crisis period for all the countries in our sample.

Having studied separately the institutional antecedents and the economic consequences of entrepreneurship, in which entrepreneurial activity driven by opportunity is found to be highly relevant, Chap. 5 extends the current debate on whether entrepreneurship driven by opportunitydo improve economic performance. This chapter aims to empirically examine how social progress orientation through entrepreneurship affects the development process. Using a pooled data of 81 observations and 56 countries and the three-stage least-squares method (3SLS), evidence is provided that social progress orientation measured through civic activism, voluntary spirit and inclusion of minorities has a positive and significant influence on opportunity entrepreneurship, which in turn, affects economic growth.

Chapter 6 attempts to examine how a country's institutional context influences the way in which entrepreneurial activity affects social progress. Following the theoretical approach of institutional economics, hypotheses are tested using pooled data from 62 countries (2012 and 2014) and simultaneous-equation model estimation. The findings suggest that business regulations decrease entrepreneurial activity, while established democracies provide a government context that is conducive to entrepreneurship. In addition, we find that entrepreneurial activity has a positive impact on the Social Progress Index, which is an alternative measure of economic development.

7.2 Implications

As pointed out in Chap. 1, this book contributes to both the theoretical debate and public policy implications. From a theoretical point of view, this research may contribute to the advances of the current knowledge in an area in which there is a space to keep working (the institutional antecedents and economic consequences of entrepreneurship), as some aspects remain underexplored.

Some of the main theoretical implications might be related to the evidence provided on the causal chain that explains the economic development process. Accordingly, North and Thomas (1973) and Rodrik (2003) have suggested that institutions conditioning those factors, are indirectly related to economic performance. The logics behind this idea is that, first, performance is pushed up by particular engines that create commercial and social value (Acs, Boardman, & McNeely, 2013); and second, although institutions matter to explain the differences among societies (North, 1990, 2005), they do not cause growth (Glaeser, La Porta, Lopez-de-Silanes, & Shleifer, 2004) simply because they frame the individual behavior of those who make productive decisions. On these bases and by applying mainly institutional economics, this research offers a set of empirical findings (Chaps. 5 and 6) that enables the understanding of such development, in which entrepreneurial activity plays an important role. Although literature exists that deals with this idea (Bjørnskov & Foss, 2016; Méndez-Picazo, Galindo Martín, & Ribeiro-Soriano, 2012; Urbano, Aparicio, & Audretsch, 2018), there is still a lacuna suggesting that more empirical evidence across countries is needed. Thereby, this book might contribute to this discussion by proposing different models that quantify the simultaneity running from institutions, entrepreneurship and economic development. In this regard, based on this research, it is possible to suggest that institutions (and particularly the informal ones) affect entrepreneurship, which is a conduit for accomplishing higher economic growth and development.

Regarding the simultaneity issues, additional implications might be derived from this research. According to Acs, Audretsch, Braunerhjelm, and Carlsson (2012) and Audretsch and Keilbach (2008), among others, studies dealing with the relationship between entrepreneurship and economic growth must overcome the existing endogeneity between these two variables. Hence, this research is an attempt to solve such problems by instrumenting entrepreneurship with specific institutional factors. Additionally, the different set of models and empirical strategies presented might constitute a robustness check for the idea that entrepreneurial activity mediates the relationship between the institutional context and economic development. In this regard, despite the fact that Chap. 4 does not include institutional factors, it establishes the idea that entrepreneurship should capture, in advance, some environmental characteristics in order to explain growth and development. Thus, Chaps. 5 and 6 operationalize different institutional settings that precede entrepreneurial activity, and subsequently affect the economic performance. The common empirical strategy presented in these chapters might offer to entrepreneurship scholars a fresh view on the importance of keeping conducting analysis at the country level, which requires

considering the endogeneity issues presented there. We suggest, therefore, that institutions (particularly the informal ones) should be considered in such analysis, which in addition, help to overcome the endogeneity between entrepreneurship and economic development.

In terms of operationalization, the present book tries to go one step further by introducing the concept of social progress orientation as a particular informal institution. In Chap. 3, the idea is explained that entrepreneurship is not only conditioned by the social characteristics, but also that it captures them quantitatively in order to represent the social intentionality toward progress. Consistent with North (2005), intentions aimed at improving the standard of living differentiate those developed societies from those in the developing stage. According to Uhlaner and Thurik (2007) and Stephan and Uhlaner (2010), additional evidence is needed to see whether cultural values and social features define the types of entrepreneurship across countries. Thereby, this research provides evidence in terms of those characteristics that go beyond the economic terms in order to explain the entrepreneurial formation. Accordingly, social progress orientation might constitute an important element to classify those societies encouraging productive entrepreneurship.

Another important implication of this book is related to those effects not only on economic performance, but also on social indicators such as poverty and social progress. According to Bruton, Ketchen, and Ireland (2013), Bruton, Ahlstrom, and Si (2015), and McMullen (2011), entrepreneurship and related factors (e.g. microlending) might be mechanisms for overcoming poverty and generating inclusive process. However, as Bruton et al. (2013) and Blackburn and Ram (2006) claim, there are few studies tackling this issue quantitatively, and therefore, further evidence may shed light on the effect that entrepreneurship has on the social progress mostly seen in developing countries. In this regard, Chap. 5 might be important for offering new evidence concerning the effects of entrepreneurship on growth, taking into account inclusive outcomes. Although in this case a simultaneous-equation model was also applied, this research put together the notion of social progress orientation as the intentionality characteristic of societies leading to entrepreneurship, and its subsequent influence on economic growth. As an additional step, this research estimated another equation to assess whether economic growth, influenced by entrepreneurial activity (directly) and social progress orientation (indirectly), reduces the poverty level across countries. In this regard, the evidence offered by this book indicates that entrepreneurship does generate economic growth and social inclusion.

Implications regarding not only an orientation but also a social progress outcome are also generated. Chapter 6 draws upon the idea that economic development (i.e. creation of opportunities, foundations of well-being, and basic human needs) is influenced by entrepreneurship (Leff, 1979). Consequently, this chapter assesses a new proxy of economic performance (i.e. Social Progress Index), which is a function of entrepreneurial activity that is affected at the same time by institutions. The evidence found that the number of owners not only affects social progress as a whole, but also each one of the factors that comprise the index. It might imply that entrepreneurial activity is one of the factors that may cause development by creating

(market) opportunities, new jobs that increase income and well-being and the inclusion of all society into the economic system. In this case, it turns out that it is important to identify those characteristics that encourage entrepreneurship. Here, Chap. 6 is in line with the discussion and findings in the extant literature (Djankov, La Porta, Lopez-De-Salines, & Shleifer, 2002; Leff, 1979; van Stel, Storey, & Thurik, 2007). In this sense, excessive regulations may be harmful for the creation of new businesses, and established democracies may create a stable environment pro-market in order to develop entrepreneurial projects.

Overall, the previous implications might suggest to entrepreneurship scholars that new data is appearing in the scene, and therefore, new empirical findings at all stages of the causal chain may be raised. The data and the operationalization of the variables presented in this research might also imply that scholars have the opportunity to validate our results, particularly on whether they hold across time. One of the advantages of the macro-level data use here is that there is a continuous agenda to gather information about institutions, entrepreneurship and economic development. By achieving this, it is possible to keep exploring and validating the determinants of economic performance.

With regard to the main theoretical implications, this book places emphasis on the role played by informal institutions within the relationship between entrepreneurship and economic performance. On the one hand, though some authors have found similar results in terms of entrepreneurial activity and economic growth (Acs et al., 2012; Audretsch & Keilbach, 2008), through this book we suggest that formal and informal institutions constitute a framework that plays an active role in defining why the effect of new businesses creation might differ across developed and developing countries. And on the other, although North (1990, 2005) has explained such differences mainly due to the institutional context, entrepreneurship had been implicit in his analysis (as well as in other mainstream theories in Economics). In this sense, by drawing the scheme presented by North and Thomas (1973) and Rodrik (2003), this research is an attempt to demonstrate that entrepreneurship could be a factor that follows such theoretical models. Thus, through this book, we suggest that institutional economics is a framework to understand economic development (North, 1990, 2005) through entrepreneurship.

From a public policy point of view, this research might serve to shed light on possible answers regarding what determines economic development. As mentioned before, entrepreneurship is a key factor in explaining the complexity involved in the development process. Thus, by knowing those institutional factors that affect different types of entrepreneurial activity, it could be possible to discuss some public strategies that encourage people to become entrepreneurs, and at the same time enhance the level of economic development. The present research identifies some possible variables that create a sensitive response to entrepreneurial activity, which ultimately affects growth and development.

Chapter 3, for instance, allows the observation that it is not only the cultural values, but also the intention to be better developed socially and economically that creates an environment where certain types of entrepreneurship may be encouraged. In this sense, Arshed, Carter, and Mason (2014), McMullen (2011), and Shane

(2009), among others, suggest that public policies should create mechanisms that increase the level of entrepreneurial activity capable of surviving and growing across time. It implies that governments should identify what entrepreneurship they are creating within their countries in order to define the most accurate rules of the game that shape the entrepreneurial interactions. Although Chap. 3 uses cross-sectional data, it might be useful to suggest that it is importance to establish long-term policies that ultimately define informal institutions (Williamson, 2000) such as the culture and social progress orientation. For example, creating social cohesion through collaborations and community efforts should be considered by policy makers in order to foster entrepreneurial persistence. In line with this idea, Chap. 5 serves to claim that short- and long-term public strategies allow for the achievement of innovative entrepreneurship, capable of creating social value and development.

Power distance, another factor used to characterize social progress orientation, is conclusive in its negative effect on innovative and opportunity entrepreneurship. Inequality created among groups may generate coordination problems, which brings some obstacles for the market development and opportunity seeking. Chapter 5 may illustrate that control of corruption serves a mechanism to controlling power distance. This idea is in line with Anokhin and Schulze (2009) and Liñán and Fernandez-Serrano (2014), who argue that control of corruption is highly relevant for the entrepreneurial process based on the discovery, evaluation and exploitation of opportunities. Similarly, Jetter, Agudelo, and Ramírez Hassan (2015) suggest that social advances (e.g. education, health, inclusion, etc.) and industrial transformation, among others, create less corrupt societies. Thereby, redistribution mechanisms, social inclusion, well-defined regulatory actors, the active participation of the whole society in the design of public budget, and the subsequent assessment of the use of such public funds are highly relevant (see Chap. 6).

7.3 Limitations and Future Research Lines

Although some implications have been derived from the present research, there is still much to do. Thus, the book has several theoretical and empirical limitations that in somehow might create opportunities to keep moving forward in future research lines. Theoretically, the limitations are related to the concept of the entrepreneurship, which lacks a universal definition (Shane & Venkataraman, 2000; Audretsch, Kuratko, & Link, 2015). Nonetheless, this research has tried to follow Reynolds et al.'s (2005, p. 208) definition, which states that entrepreneurship is "the net result of individual decisions to pursue entrepreneurial initiatives". In this sense, various measures of entrepreneurship have been employed in order to explore whether a variety of different businesses effectively fits in such definition. Although the data availability is a limitation by itself, the use of different rates and types of entrepreneurial activity might cause confusions in the interpretation of entrepreneurship as a mechanism that connects institutions and economic development. Nonetheless, different scholars have shown that the use of GEM data is expanding within

entrepreneurship research, indicating its accuracy for measuring entrepreneurial activity across countries, as well as the opportunity to conduct analyses with long time series and similar measures of entrepreneurship (Bosma, 2013).

Another theoretical limitation found in this research is related to the concept of performance. On the one hand, the results of this book are initially presented in isolation, which leads to the understanding of each link. Although this structure might create confusion due to the separate analysis of the results, we believe that it was necessary to conduct such strategy before examining the objectives established within Chaps. 5 and 6, which try to explore the proximate and fundamental determinants of development. In most of these chapters, conscious that growth is a necessary but not sufficient condition for economic development, this research has mainly used variables of economic growth rather than development, which properly represent performance. Acemoglu, Gallego, and Robinson (2014) has provided evidence to answer the general question in economic growth: why are some countries richer than others? Accordingly, the main discussion around this query converges on the analysis of national growth or income as a proxy for performance (Acemoglu & Robinson, 2012; Rodrik, 2003). In entrepreneurship research, Wennekers, van Stel, Thurik, and Reynolds (2005) have discussed the correlation between entrepreneurial activity and economic development, suggesting that there exists a "U-shaped" form between these two variables. Here, the relationship analyzed ran from economic development to entrepreneurship. Carree, van Stel, Thurik, and Wennekers (2002, 2007), however, were pioneering in providing evidence about the opposite direction. In their works, the proxy for economic development was GDP per capita. Based on this evidence, Chaps. 4, 5, and 6 were focused on this validated but limited proxy of performance. Nonetheless, Chaps. 7 and 8 aimed to move forward by analyzing inclusive growth and social progress. According to McMullen (2011) and Bruton et al. (2013), alternative measures of economic development need to be assessed in models where entrepreneurship plays an important role. In this regard, authors such as Antonelli and Gehringer (2017) and Fritsch and Wyrwich (2017), among others, open the possibility to keep exploring the influence of entrepreneurial activity on development, by reducing income inequality and poverty, and by allowing social progress.

Similar to the previous limitation, this book has found that the operationalization of institutions, and particular the distinction between formal and informal ones, might have problematic results. Although this research was built upon North's (1990, 2005) ideas, in some cases it was not possible to conduct an analysis distinguishing between formal and informal factors. For example, Chaps. 3 and 5 were only focused on informal institutions, since it was related to the concept of social progress orientation on the socio-cultural characteristics of countries. In this regard, by combining this approach and Williamson's (2000) ideas, subsequent research could introduce the notion of social progress orientation joint with formal regulatory factors, which undoubtedly differ across developed and developing countries. Other examples of this limitation are found in Chap. 6, which instead of treating variables as either formal or informal institutions, it went directly toward understanding the institutional context. This research is conscious that some subtle

differences should be taken into consideration, especially because developed and developing countries pose cultural characteristics that generate divergent behaviors within each country, as well as among each group of countries. Possible solutions might follow the idea of conducting research by taking into account a multilevel approach (Estrin, Korosteleva, & Mickiewicz, 2013; Urbano & Alvarez, 2014), as well as other theoretical contributions (DiMaggio & Powell, 1991; Scott, 1995).

Along with the theoretical limitations, this research is not devoid of problems derived from the data. According to Estrin, Korosteleva, and Mickiewicz (2013) and Stenholm, Acs, and Wuebker (2013), among others, different databases (e.g. GEM, Doing Business, WGI, etc.) are limited by the availability of each country to provide comparable data. All these databases at a country level do not report information for all countries in the same period of time. It causes the analysis to take support from an unbalanced panel data structure (see Chap. 3), which conditions the results to the manner in which the final sample is restructured. Nonetheless, alternative models were performed by excluding those countries with few information. By doing this, it was avoided the assumption that the constant term could absorb the effect of entrepreneurship on economic growth in those countries having one or two observations. Surprisingly, the results were pretty much similar. In addition, although Audretsch, Kuratko, and Link (2015) suggest that future research should consider the dynamics in entrepreneurship, given the young stage of the research field, as well as the lack of data, this gap is still open and difficult to cover. Nonetheless, new avenues could consider the difference between short- and long-term analysis (van Praag & van Stel, 2013), which could be supported by longitudinal data such as the panel study of entrepreneurial dynamics (PSED) (Reynolds & Curtin, 2008).

Based on this book, it could be possible to further discuss research in line with the structure information that GEM and PSED offer. Although the present book has conducted empirical analysis by aggregating the data at a country level, individual level exercises may also lead to new directions in terms of the microfoundations of the macro analysis of entrepreneurship and economic performance. In this sense, there is a stream that suggests that entrepreneurial activity could influence the well-being (Shir, 2015; Uy, Foo, & Song, 2013). However, this research relies mostly on a psychological perspective, leaving some space to understand such relationship from an economic point of view, where institutions may condition the way these two variables interact with each other. In this sense, Warnecke (2013) suggests that such analyses enable the understanding, for instance, of the role of institutions in relation to female entrepreneurs and their well-being. Similarly, Acs et al. (2013) discuss the possibility of the social impact on other type of entrepreneurs. In particular, these authors refer to social entrepreneurship as the labor choice that not only creates economic value, but also social value. Thus, future research from an individual perspective could shed light on the relationship between entrepreneurship and economic development.

Although the previous research line considers institutions, the argumentation still follows the causal chain logic. Another avenue in entrepreneurship research that could be derived from this book is the idea that institutions are not exogenous factors. As Alvarez et al. (2015) suggest, the study of those institutional factors affecting

entrepreneurial activity needs to understand the interplay existing between these variables. It could be relevant for both theoretical discussion and policy debate to analyze how institutions affect entrepreneurship, which in turn affects the institutional change. In this regard, Bruton, Ahlstrom, and Puky (2009) and Bruton et al. (2013) discuss the fact that developing countries are embedded in an environment of the informal economy. It might be relevant to analyze whether institutional factors affect the formation of entrepreneurship; and at the same time, to see whether the quality of these new ventures demands better institutions, and if therefore, an institutional change might be achieved. By enhancing the regulatory environment, it could be possible to influence the decision to carry out a formalized entrepreneurial activity. In this sense, better institutions could be accomplished through entrepreneurship, which is stimulated by stable institutions, and ultimately, generates a higher level of economic performance.

References

Acemoglu, D., Gallego, F., & Robinson, J. A. (2014). Institutions, human capital and development. *The Annual Review of Economics, 6*, 875–912.

Acemoglu, D., & Robinson, J. (2012). *Why nations fail: The origins of power. Prosperity and poverty*. London: Profile Books.

Acs, Z. J., Audretsch, D. B., Braunerhjelm, P., & Carlsson, B. (2012). Growth and entrepreneurship. *Small Business Economics, 39*(2), 289–300.

Acs, Z. J., Boardman, M. C., & McNeely, C. L. (2013). The social value of productive entrepreneurship. *Small Business Economics, 40*(3), 785–796.

Alvarez, S. A., Young, S. L., & Woolley, J. L. (2015). Opportunities and institutions: A co-creation story of the king crab industry. *Journal of Business Venturing, 30*(1), 95–112.

Anokhin, S., & Schulze, W. S. (2009). Entrepreneurship, innovation, and corruption. *Journal of Business Venturing, 24*(5), 465–476.

Antonelli, C., & Gehringer, A. (2017). Technological change, rent and income inequalities: A Schumpeterian approach. *Technological Forecasting and Social Change, 115*, 85–98.

Aparicio, S., Urbano, D., & Audretsch, D. (2016). Institutional factors, opportunity entrepreneurship and economic growth: Panel data evidence. *Technological Forecasting and Social Change, 102*, 45–61.

Aparicio, S., Urbano, D., & Gómez, D. (2016). The role of innovative entrepreneurship within Colombian business cycle scenarios: A system dynamics approach. *Futures, 81*, 130–147.

Arshed, N., Carter, S., & Mason, C. (2014). The ineffectiveness of entrepreneurship policy: Is policy formulation to blame? *Small Business Economics, 43*(3), 639–659.

Audretsch, D. (2012). Entrepreneurship research. *Management Decision, 50*(5), 755–764.

Audretsch, D. B., & Keilbach, M. (2008). Resolving the knowledge paradox: Knowledge-spillover entrepreneurship and economic growth. *Research Policy, 37*(10), 1697–1705.

Audretsch, D. B., Kuratko, D. F., & Link, A. N. (2015). Making sense of the elusive paradigm of entrepreneurship. *Small Business Economics, 45*(4), 703–712.

Bjørnskov, C., & Foss, N. J. (2016). Institutions, entrepreneurship, and economic growth: What do we know and what do we still need to know? *The Academy of Management Perspectives, 30*(3), 292–315.

Blackburn, R., & Kovalainen, A. (2009). Researching small firms and entrepreneurship: Past, present and future. *International Journal of Management Reviews, 11*(2), 127–148.

Blackburn, R., & Ram, M. (2006). Fix or fixation? The contributions and limitations of entrepreneurship and small firms to combating social exclusion. *Entrepreneurship and Regional Development, 18*(1), 73–89.

Bosma, N. (2013). The Global Entrepreneurship Monitor (GEM) and its impact on entrepreneurship research. *Foundations and Trends® in Entrepreneurship, 9*, 143–248.

Bruton, G. D., Ahlstrom, D., & Li, H.-L. (2010). Institutional theory and entrepreneurship: Where are we now and where do we need to move in the future? *Entrepreneurship Theory and Practice, 34*(3), 421–440.

Bruton, G. D., Ahlstrom, D., & Puky, T. (2009). Institutional differences and the development of entrepreneurial ventures: A comparison of the venture capital industries in Latin America and Asia. *Journal of International Business Studies, 40*(5), 762–778.

Bruton, G. D., Ahlstrom, D., & Si, S. (2015). Entrepreneurship, poverty, and Asia: Moving beyond subsistence entrepreneurship. *Asia Pacific Journal of Management, 32*(1), 1–22.

Bruton, G. D., Ketchen, D. J., & Ireland, R. D. (2013). Entrepreneurship as a solution to poverty. *Journal of Business Venturing, 28*(6), 683–689.

Carlsson, B., Braunerhjelm, P., McKelvey, M., Olofsson, C., Persson, L., & Ylinenpää, H. (2013). The evolving domain of entrepreneurship research. *Small Business Economics, 41*(4), 913–930.

Carree, M., van Stel, A., Thurik, R., & Wennekers, S. (2002). Economic development and business ownership: An analysis using data of 23 OECD countries in the period 1976–1996. *Small Business Economics, 19*(3), 271–290.

Carree, M., van Stel, A., Thurik, R., & Wennekers, S. (2007). The relationship between economic development and business ownership revisited. *Entrepreneurship and Regional Development, 19*(3), 281–291.

DiMaggio, P. J., & Powell, W. W. (Eds.). (1991). *The new institutionalism in organizational analysis* (Vol. 17). Chicago: University of Chicago Press.

Djankov, S., La Porta, R., Lopez-De-Salines, F., & Shleifer, A. (2002). The regulation of entry. *The Quarterly Journal of Economics, 117*(1), 1–37.

Estrin, S., Korosteleva, J., & Mickiewicz, T. (2013). Which institutions encourage entrepreneurial growth aspirations? *Journal of Business Venturing, 28*(4), 564–580.

Fritsch, M., & Wyrwich, M. (2017). The effect of entrepreneurship on economic development – an empirical analysis using regional entrepreneurship culture. *Journal of Economic Geography, 17*(1), 157–189.

Glaeser, E. L., La Porta, R., Lopez-de-Silanes, F., & Shleifer, A. (2004). Do institutions cause growth? *Journal of Economic Growth, 9*(3), 271–303.

Jetter, M., Agudelo, A. M., & Ramírez Hassan, A. (2015). The effect of democracy on corruption: Income is key. *World Development, 74*, 286–304.

Landström, H., Harirchi, G., & Åström, F. (2012). Entrepreneurship: Exploring the knowledge base. *Research Policy, 41*(7), 1154–1181.

Leff, N. H. (1979). Entrepreneurship and economic development: The problem revisited. *Journal of Economic Literature, 17*(1), 46–64.

Liñán, F., & Fernandez-Serrano, J. (2014). National culture, entrepreneurship and economic development: Different patterns across the European Union. *Small Business Economics, 42*(4), 685–701.

McMullen, J. S. (2011). Delineating the domain of development entrepreneurship: A market-based approach to facilitating inclusive economic growth. *Entrepreneurship Theory and Practice, 35*(1), 185–193.

Méndez-Picazo, M.-T., Galindo Martín, M. Á., & Ribeiro-Soriano, D. (2012). Governance, entrepreneurship and economic growth. *Entrepreneurship and Regional Development, 24*(9–10), 865–867.

North, D. C. (1990). *Institutions, institutional change and economic performance*. Cambridge, MA: Cambridge University Press.

North, D. C. (2005). *Understanding the process of economic change*. Princeton, NJ: Princeton University Press.

North, D. C., & Thomas, R. P. (1973). *The rise of the western world: A new economic history*. Cambridge, UK: Cambridge University Press.

Reynolds, P., Bosma, N., Autio, E., Hunt, S., De Bono, N., Servais, I., et al. (2005). Global entrepreneurship monitor: Data collection design and implementation 1998–2003. *Small Business Economics, 24*(3), 205–231.

Reynolds, P. D., & Curtin, R. T. (2008). Business creation in the United States: Panel study of entrepreneurial dynamics II initial assessment. *Foundations and Trends® in Entrepreneurship, 4*(3), 155–307.

Rodrik, D. (2003). Introduction: What do we learn from country narratives? In D. Rodrik (Ed.), *In search of prosperity: Analytic narratives on economic growth* (pp. 1–19). Princeton, NJ: Princeton University Press.

Schumpeter, J. A. (1911). *The theory of economic development: An inquiry into profits, capital, credit, interest, and the business cycle*. London: Transaction Books.

Scott, W. R. (1995). *Institutions and organizations*. Los Angeles: Sage.

Shane, S. (2009). Why encouraging more people to become entrepreneurs is bad public policy. *Small Business Economics, 33*(2), 141–149.

Shane, S., & Venkataraman, S. (2000). The promise of entrepreneurship as a field of research. *Academy of Management Review, 25*(1), 217–226.

Shir, N. (2015). *Entrepreneurial wellbeing: The payoff structure of business creation*. Stockholm, Sweden: Stockholm School of Economics.

Stenholm, P., Acs, Z. J., & Wuebker, R. (2013). Exploring country-level institutional arrangements on the rate and type of entrepreneurial activity. *Journal of Business Venturing, 28*(1), 176–193.

Stephan, U., & Uhlaner, L. M. (2010). Performance-based vs socially supportive culture: A cross-national study of descriptive norms and entrepreneurship. *Journal of International Business Studies, 41*(8), 1347–1364.

Terjesen, S., Hessels, J., & Li, D. (2016). Comparative international entrepreneurship: A review and research agenda. *Journal of Management, 42*(1), 299–344.

Thornton, P. H., Ribeiro-Soriano, D., & Urbano, D. (2011). Socio-cultural factors and entrepreneurial activity: An overview. *International Small Business Journal, 29*(2), 105–118.

Uhlaner, L., & Thurik, R. (2007). Postmaterialism influencing total entrepreneurial activity across nations. *Journal of Evolutionary Economics, 17*(2), 161–185.

Urbano, D., & Alvarez, C. (2014). Institutional dimensions and entrepreneurial activity: An international study. *Small Business Economics, 42*(4), 703–716.

Urbano, D., Aparicio, S., & Audretsch, D. (2018). Twenty-five years of research on institutions, entrepreneurship, and economic growth: What has been learned? *Small Business Economics, 7*, 84–91. https://doi.org/10.1007/s11187-018-0038-0

Uy, M. A., Foo, M. D., & Song, Z. (2013). Joint effects of prior start-up experience and coping strategies on entrepreneurs' psychological well-being. *Journal of Business Venturing, 28*(5), 583–597.

van Praag, M., & van Stel, A. (2013). The more business owners, the merrier? The role of tertiary education. *Small Business Economics, 41*(2), 335–357.

van Stel, A., Storey, D. J., & Thurik, A. R. (2007). The effect of business regulations on nascent and young business entrepreneurship. *Small Business Economics, 28*(2–3), 171–186.

Warnecke, T. (2013). Entrepreneurship and gender: An institutional perspective. *Journal of Economic Issues, 47*(2), 455–464.

Wennekers, S., van Stel, A., Thurik, R., & Reynolds, P. (2005). Nascent entrepreneurship and the level of economic development. *Small Business Economics, 24*(3), 293–309.

Williamson, O. E. (2000). The new institutional economics: Taking stock, looking ahead. *Journal of Economic Literature, 38*(3), 595–613.

Appendices

D. Urbano et al., *Institutions, Entrepreneurship, and Economic Performance*,
International Studies in Entrepreneurship 41,
https://doi.org/10.1007/978-3-030-13373-3

Appendix 1. List of Papers Dealing with Entrepreneurship and Economic Growth

Author(s)	Title	Theoretical framework	Methodology	Results	Key term	Dvariable	Ivariable	Type of paper
1. Aidis, R., Estrin, S., Mickiewicz, T. (2008)	Institutions and entrepreneurship development in Russia: a comparative perspective	Institutional approach	Probit	Russia's institutional environment is important in explaining its relatively low levels of entrepreneurship development, where the latter is measured in terms of both a number of start-ups and of existing business owners. In addition, Russia's business environment and its consequences for the role of business networks contribute to the relative advantage of entrepreneurial insiders (those already in business) to entrepreneurial outsiders (newcomers) in terms of new business start-ups	Institutions	TEA	Formal_ institutions	Empirical
2. Aidis, R., Estrin, S., Mickiewicz, T. M. (2012)	Size matters: entrepreneurial entry and government	Institutional approach	Panel data	Entrepreneurial entry is inversely related to the size of the government, and weaker to the extent of corruption. A cluster of institutional indicators representing "market freedom" is only significant in some specifications. Freedom from corruption is significantly related to entrepreneurial entry, especially when the richest countries are removed from the sample, but unlike the size of government, the results on corruption are not confirmed by country-level fixed-effects models	Institutions	Start-up rate	Formal_ institutions	Empirical

3. Aidis, R., Welter, F., Smallbone, D., Isakova, N. (2007)	Female entrepreneurship in transition economies: the case of lithuania and Ukraine	Institutional approach	Descriptive statistics	Though formal institutions such as rules and regulations allow for the possibility of female business development, informal institutions such as gendered norms and values that reflect the patriarchy observed during the Soviet era restrict women's activities and their access to resources	Institutions	Business owners	Formal_ informal	Empirical
4. Aldrich, H. E., Fiol, C. M. (1994)	Fools rush in? The institutional context of industry creation	Institutional approach		New organizations that successfully pursue legitimacy may evolve from innovative ventures to a broader context, collectively reshaping the industry and institutional environments	Institutions	New organizations/ industries	Formal_ informal	Theoretical
5. Álvarez, C., Urbano, D., Amorós, J. E. (2014)	GEM research: achievements and challenges	Institutional approach	Literature review	There is an increasing number of articles nowadays using GEM data to conduct entrepreneurship research. There is also a notorious recognition of institutional economics as a theoretical framework in this field	Institutions			Theoretical
6. Anokhin, S., Schulze, W. S. (2009)	Entrepreneurship, innovation, and corruption	Contract theory	Quantile regression; Panel data	There is a positive curvilinear relationship between the control of corruption and three independent measures of entrepreneurial and innovative activity across nations. We also document that these relationships are moderated by foreign direct investment – which prior research has established as a driver of technological advancement in developing nations	Institutions	TEA	Formal_ institutions	Empirical

(continued)

Appendix 1 (continued)

Author(s)	Title	Theoretical framework	Methodology	Results	Key term	Dvariable	Ivariable	Type of paper
7. Aparicio, S., Urbano, D., Audretsch, D. (2016)	Institutional factors, opportunity entrepreneurship and economic growth: panel data evidence	Institutional approach	Panel data (3SLS)	Informal institutions have a higher impact on opportunity entrepreneurship than formal institutions. Variables such as control of corruption, confidence in one's skills and private coverage to obtain credit promote a positive effect of opportunity entrepreneurship on economic growth in all the countries, and especially in Latin American countries as a homogeneous group	Institutions	Opportunity TEA	Formal_ informal	Empirical
8. Audretsch, D. B., Bönte, W., Tamvada, J. P. (2013)	Religion, social class, and entrepreneurial choice	Institutional approach	Multinomial probit	While some religions are relatively conducive to self-employment, some others have a negative impact on self-employment choices	Institutions	Self-employment	Informal_ institutions	Empirical
9. Autio, E., Fu, K. (2015)	Economic and political institutions and entry into formal and informal entrepreneurship	Institutional approach	Panel data (OLS)	An increase in the quality of economic and political institutions could double the rates of formal entrepreneurship and halve the rates of informal entrepreneurship	Institutions	Formal new firms	Formal_ institutions	Empirical
10. Bauernschuster, S., Falck, O., Heblich, S. (2010)	Social capital access and entrepreneurship	Occupational choice	Linear probability model	The effect of club membership on the propensity to be an entrepreneur is 2.6 percentage points larger in small communities than in large communities	Institutions	Self-employment	Informal_ institutions	Empirical

11. Baughn, C. C., Chua, B.-L., Neupert, K.(2006)	The normative context for women's participation in entrepreneurship: a multicountry study	Institutional approach	Hierarchical linear model	Countries with higher overall levels of entrepreneurial activity also tended to evidence higher relative proportions of female participation. These findings are still seen when controlling for the substantial effect of countries' economic development in shaping patterns of entrepreneurial activity	Institutions	TEA	Formal_ institutions	Empirical
12. Bauke, B., Semrau, T., Han, Z. (2016)	Relational trust and new ventures' performance: the moderating impact of national-level institutional weakness	Relational trust/ institutional approach	Linear regression	Interaction analyses revealed that the performance implications of relational trust are contingent on the institutional context	Institutions	New venture performance	Formal_ institutions	Empirical
13. Belitski, M., Chowdhury, F., Desai, S. (2016)	Taxes, corruption, and entry	Institutional approach	Panel data	Higher tax rates consistently discourage entry. Further, although the direct influence of corruption on entry is also consistently negative, the interaction influence of corruption and tax rate is positive. This indicates that corruption can offset the negative influence of high taxes on entry	Institutions	Entry rate	Formal_ institutions	Empirical
14. Ben Letaifa , S., Goglio-Primard, K. (2016)	How does institutional context shape entrepreneurship conceptualizations?	Institutional approach	Multiple-case studies	The comparison of two information and communication technology clusters illustrates that entrepreneurship relies on either a network or an individual perspective. The former relies on collaborative entrepreneurship, well-defined norms of conduct; uncollaborative entrepreneurship and absence of norms characterize the latter	Institutions			Empirical

(continued)

Appendix 1 (continued)

Author(s)	Title	Theoretical framework	Methodology	Results	Key term	Dvariable	Ivariable	Type of paper
15. Bjørnskov, C., Foss, N. J. (2016)	Institutions, entrepreneurship, and economic growth: what do we know and what do we still need to know?	Institutional approach	Literature review	The literature narrowly identifies entrepreneurship with start-ups and self-employment; does not theorize many potentially relevant inter-level links and mechanisms; and suffers from sample limitations, omitted variable biases, causality issues, and response heterogeneity. Theories in management research, such as the resource-based view, transaction cost economics, and strategic entrepreneurship theory, can fill some of the conceptual and theoretical gaps	Institutions			Theoretical
16. Bradley, S. W., Klein, P. (2016)	Institutions, economic freedom, and entrepreneurship: the contribution of management scholarship	Institutional approach		Introduction to the symposium focused on economic freedom, which summarizes the perspective on how scholars can theorize and study the effects of institutions and institutional change on entrepreneurship, and the effects of entrepreneurship on institutions, at and across different levels of analysis	Institutions			Special issue
17. Braunerhjelm, P., Desai, S., Eklund, J. E. (2015)	Regulation, firm dynamics and entrepreneurship	Institutional approach		The paper identifies some foundational considerations relevant to the relationship between regulatory conditions and entrepreneurship, which can be nuanced given the wide range of regulatory tools and possible areas of impact	Institutions			Special issue

18. Bruno, R. L., Bytchkova, M., Estrin, S. (2013)	Institutional determinants of new firm entry in Russia: a cross-regional analysis	Contract theory	Tobit model	Entry rates in Russia are explained by natural entry rates and the institutional environment. Industries that are characterized by low entry barriers in developed market economies are found to have lower entry rates in regions subject to greater political fluidity, as in the case of gubernatorial change. We also find that higher levels of political fluidity and democracy increase relative entry rates for small-sized firms but reduce them for medium-sized or large ones	Institutions	Business owners	Formal_ informal	Empirical
19. Bruton, G. D., Ahlstrom, D., Li, H.-L. (2010)	Institutional theory and entrepreneurship: where are we now and where do we need to move in the future?	Institutional approach	Literature review	Institutional theory has the potential to provide great insights for entrepreneurship and the broader management discipline. However, since the theory has matured, it is time to employ new and richer insights and uses of the theory	Institutions			Theoretical
20. Bruton, G. D., Ahlstrom, D., Puky, T. (2009)	Institutional differences and the development of entrepreneurial ventures: a comparison of the venture capital industries in Latin America and Asia	Institutional approach	Grounded theory	The venture capital industry exhibits a strong consistency across many dimensions, yet institutions in these two distinct settings result in significant differences in industry practice	Institutions	Business owners	Formal_ informal	Empirical
21. Busenitz, L. W., Gomez, C., Spencer, J. W. (2000)	Country institutional profiles: unlocking entrepreneurial phenomena	Institutional approach	Factor analysis	A country institutional profile can serve as a viable alternative for exploring broad country differences	Institutions	Business owners	Formal_ informal	Empirical

(continued)

Appendix 1 (continued)

Author(s)	Title	Theoretical framework	Methodology	Results	Key term	Dvariable	Ivariable	Type of paper
22. Calcagno, P. T., Sobel, R. S. (2014)	Regulatory costs on entrepreneurship and establishment employment size	Contract theory	Panel data	Regulation decreases the proportion of zero employee and 1–4 employee establishments. The proportion of establishments in the 5–9 employee range generally increases with the level of regulation. Thus, regulation appears to operate as a fixed cost causing establishments to be larger	Institutions	Small enterprises	Formal_ institutions	Empirical
23. Carbonara, E., Santarelli, E., Tran, H. T. (2016)	De jure determinants of new firm formation: how the pillars of constitutions influence entrepreneurship	Institutional approach	Panel data	The provisions about the right to conduct/ establish a business, the right to strike, consumer protection, anti-corruption, and compulsory education promote higher rates of new firm formation	Institutions	New business density	Formal_ institutions	Empirical
24. Chowdhury, F., Desai, S., Audretsch, D. B., Belitski, M. (2015)	Does corruption matter for international entrepreneurship?	Regulatory capture theory; institutional approach	Panel data	The effect of regulations on international nascent entrepreneurship varies depending on types of regulation. Corruption plays a dual role, serving as both grease and sand for nascent international entrepreneurship. Corporate tax is not a significant deterrent factor for IE when corruption is low	Institutions	Export-oriented TEA	Formal_ institutions	Empirical

25. Chowdhury, F., Terjesen, S., Audretsch, D. (2015)	Varieties of entrepreneurship: institutional drivers across entrepreneurial activity and country	Institutional approach	Panel data	Institutional factors influence the disparate varieties of entrepreneurship differently: property rights, freedom from corruption, and fewer start-up procedures are significantly positively related to nascent/ new firm owner- ship. Property rights protection is significantly positively related to new firm start- up; tax and regulatory burden have significant positive impacts on self-employment but significantly negatively related to new firm start-up	Institutions	Varieties of entrepreneurship	Formal_ informal	Empirical
26. Collins, J. D., McMullen, J. S., Reutzel, C. R. (2016)	Distributive justice, corruption, and entrepreneurial behavior	Equity theory	Linear regression	Productive entrepreneurship is positively related to distributive justice perceptions but negatively related to perceptions that corruption is pervasive. In contrast, nonproductive forms of entrepreneurship are negatively related to distributive justice but positively related to corruption. Unexpectedly, the findings also show that corruption mediates the relationship between distributive justice and legal entrepreneurial behavior while distributive justice mediates the relationship between corruption and illegal entrepreneurial behavior	Institutions	Productive/ nonproductive entrepreneurship	Formal_ institutions	Empirical
27. Davis, L. S., Williamson, C. R. (2016)	Culture and the regulation of entry	Institutional approach	Linear regression	Individualism has a greater impact on entry regulation in societies with democratic political institutions or a common law tradition	Institutions	Firm entry	Formal_ informal	Empirical

(continued)

Appendix 1 (continued)

Author(s)	Title	Theoretical framework	Methodology	Results	Key term	Dvariable	Ivariable	Type of paper
28. Da Rin, M., Di Giacomo, M., Sembenelli, A. (2011)	Entrepreneurship, firm entry, and the taxation of corporate income: evidence from Europe	Taxation theory	Panel data	Significant negative effect of corporate income taxation on entry rates. The effect is concave and suggests that tax reductions affect entry rates only below a certain threshold tax level	Institutions	Small enterprises	Formal_ institutions	Empirical
29. Davidsson, P., Hunter, E., Klofsten, M. (2006)	Institutional forces: the invisible hand that shapes venture ideas?	Institutional approach	Linear regression	The results confirmed that the venture idea had undergone more change in ventures that had more external owners, a dominant customer, and an incubator location	Institutions	Business owners	Formal_ informal	Empirical
30. De Clercq , D., Dakhli, M. (2009)	Personal strain and ethical standards of the self-employed	Strain theory	Linear regression	The self-employed's ethical standards relate positively to their household income and trust in institutions but negatively to their educational level and associational membership. A supplementary exploratory analysis provides further insights into how broader cultural and institutional contexts in which the self-employed are embedded might influence the relationship between sources of personal strain and ethical standards	Institutions	Self-employment	Formal_ informal	Empirical
31. De Clercq, D., Danis, W. M., Dakhli, M. (2010)	The moderating effect of institutional context on the relationship between associational activity and new business activity in emerging economies	Institutional approach	Pooled regression	Positive relationship between a country's associational activity and new business activity; this relationship is stronger for higher regulatory and normative institutional burdens and lower cognitive institutional burdens	Institutions	TEA	Formal_ informal	Empirical

32. de Lange, D. E. (2016)	Legitimation strategies for clean technology entrepreneurs facing institutional voids in emerging economies	Institutional approach		The research clarifies how organizational fields, potentially supportive of new industries, form through local entrepreneurs' efforts at legitimating their start-ups. It proposes that organizational fields can substitute for the institutional voids so that the new firms can develop. Legitimation strategies that foster the supportive organizational fields include endorsements from notable local individuals such as an iconic local entrepreneur or a community leader				Theoretical
33. Dutta, N., Sobel, R. (2016)	Does corruption ever help entrepreneurship?	Institutional approach	Panel data	Corruption hurts entrepreneurship. The impact is smaller, but remains negative, when business climates are bad		New business density	Formal_ institutions	Empirical
34. Eesley, C. (2016)	Institutional barriers to growth: entrepreneurship, human capital and institutional change	Institutional approach	Probit	Reducing the institutional barriers to growth differently affects college-educated individuals with different levels of human capital	Institutions	Founder	Formal_ institutions	Empirical
35. Estrin, S., Korosteleva, J., Mickiewicz, T. (2013)	Which institutions encourage entrepreneurial growth aspirations?	Institutional approach	Multilevel estimation	The relationship between growth aspiring entrepreneurs and institutions is complex; they benefit simultaneously from a strong government (in the sense of property rights enforcement), and smaller government, but are constrained by corruption. Social networks mediate some but not all institutional deficiencies	Institutions	TEA	Formal_ informal	Empirical

(continued)

Appendix 1 (continued)

Author(s)	Title	Theoretical framework	Methodology	Results	Key term	Dvariable	Ivariable	Type of paper
36. Estrin, S., Mickiewicz, T. (2011)	Institutions and female entrepreneurship	Institutional approach	Multilevel estimation	Women are less likely to undertake entrepreneurial activity in countries where the state sector is larger, but the rule of law is not generally found to have gender-specific effects. However, more detailed institutional components of discrimination against women, in particular, restrictions on freedom of movement away from home, make it less likely for women to have high entrepreneurial aspirations in terms of employment growth, even if their entry into entrepreneurial activities, including self-employment, is not affected by this	Institutions	TEA	Formal_ institutions	Empirical
37. Estrin, S., Mickiewicz, T. (2012)	Shadow economy and entrepreneurial entry	Institutional approach	Probit	With appropriate controls and instrumenting for potential endogeneity, the impact of the shadow economy on entry in a linear specification is found to be negative. Further, there is evidence of a U-shaped relationship: entrepreneurial entry is least likely when the shadow economy amounts to about a quarter of gross domestic product (GDP). At the individual level, an extensive shadow economy has a more negative impact on respondents who are risk averse. In addition, in the economies where property rights are stronger, the negative impact of the shadow economy is weaker	Institutions	TEA	Formal_ informal	Empirical

38. Estrin, S., Mickiewicz, T., Stephan, U. (2013)	Entrepreneurship, social capital, and institutions: social and commercial eeEntrepreneurship across nations	Institutional approach	Multilevel estimation	Social and commercial entrepreneurial entry is facilitated by certain formal institutions, namely strong property rights and (low) government activism, albeit the latter impacts each of these types of entrepreneurship differently	Institutions	TEA	Formal_ informal	Empirical
39. Field, E., Jayachandran, S., Pande, R. (2010)	Do traditional institutions constrain female entrepreneurship? A field experiment on business training in India	Institutional approach	Instrumental variables	Among Hindu women, training increased borrowing and business income for those facing more restrictions, i.e., UC women. However, Muslim women failed to benefit from the training program	Institutions	Self-employment	Informal_ institutions	Empirical
40. Fligstein, N. (1997)	Social skills and institutional theory	Institutional approach	Single-case study	It is argued that skill is applied differently across organizational fields that are forming, become stable, and are being transformed	Institutions	Institutional entrepreneurs	Informal_ institutions	Theoretical
41. Freire-Gibb, L. C., Nielsen, K. (2014)	Entrepreneurship within urban and rural areas: creative people and social networks	Geographical economics	Logit	Creativity is found to lead to start-ups in urban areas, where the environment is not only more supportive but also more competitive, but not in rural areas. However, creativity does not increase the chance of success. The particular importance of social networks in rural areas is likely due to stronger ties and fewer supporting institutions	Institutions	Self-employment	Informal_ institutions	Empirical
42. García-Posada, M., Mora-Sanguinetti, J. S. (2015)	Entrepreneurship and enforcement institutions: disaggregated evidence for Spain	Institutional approach	Panel data	Higher judicial efficacy increases the entry rate of firms, while it has no effect on the exit rate	Institutions	Entry rate	Formal_ institutions	Empirical

(continued)

Appendix 1 (continued)

Author(s)	Title	Theoretical framework	Methodology	Results	Key term	Dvariable	Ivariable	Type of paper
43. Gnyawali, D. R., Fogel, D. S. (1994)	Environments for entrepreneurship development: key dimensions and research implications	Institutional approach		Five dimensions are proposed as a framework to link entrepreneurial environment to the core elements of the new venture creation process	Institutions			Theoretical
44. Goltz, S., Buche, M. W., Pathak, S. (2015)	Political empowerment, rule of law, and women's entry into entrepreneurship	Institutional approach	Hierarchical linear model	Women's political power and a country's rule of law are positively associated with women's entry into entrepreneurship. Entry into entrepreneurship is moderated by rule of law, with higher levels of women's political power having greater effects in countries with higher levels of rule of law	Institutions	TEA	Formal_ institutions	Empirical
45. Gohmann, S. F. (2012)	Institutions, latent entrepreneurship, and self-employment: an international comparison	Occupational choice	Logit	As institutions such as economic freedom improve, preferences for self-employment increase for both groups, but the effect is greater for those who are currently self-employed	Institutions	Self-employment	Informal_ institutions	Empirical
46. Guerrero, M., Urbano, D. (2012)	The development of an entrepreneurial university	Institutional approach; resource-based view	Structural equation model	Formal and informal institutions affect universities outcomes, from which entrepreneurial activities take place	Institutions	Entrepreneurial universities	Formal_ informal	Empirical
47. Guerrero, M., Urbano, D., Cunningham, J., Organ, D. (2014)	Entrepreneurial universities in two European regions: a case study comparison	Institutional approach; resource-based view	Multiple case studies	Differences at the internal and environmental level are outlined for Spain and Ireland. Both countries share and differentiate from certain characteristics that define entrepreneurial universities	Institutions	Entrepreneurial universities	Formal_ informal	Empirical

48. Hafer, W., Jones, G. (2015)	Are entrepreneurship and cognitive skills related? Some international evidence	Global entrepreneurship and development index (GEDI) model	Linear regression	Cognitive skills predict a measure of both entrepreneurial attitudes and the institutional and economic prerequisites for creating high-value, high-growth firms	Institutions	GEDI	Cognitive skills	Empirical
49. Hayton, J. C., George, G., Zahra, S. A. (2002)	National culture and entrepreneurship: a review of behavioral research	Institutional approach	Literature review	Fruitful avenues for future research could address Hofstede dimensions in order to understand the entrepreneurial activity	Institutions			Theoretical
50. Hechavarría, D. M. (2016)	The impact of culture on national prevalence rates of social and commercial entrepreneurship	Institutional approach	Linear regression	Traditional societal values positively impact commercial entrepreneurship prevalence rates, but negatively impact social entrepreneurship rates. Self-expression societal values positively impact social entrepreneurship prevalence rates	Institutions	Social/ commercial entrepreneurship	Informal_ institutions	Empirical
51. Hechavarria, D. M., Reynolds, P. D. (2009)	Cultural norms and business start-ups: the impact of national values on opportunity and necessity entrepreneurs	Institutional approach	Hierarchical linear model	The different dimensions of culture impact on the type of entrepreneurial activity	Institutions	Opportunity/ necessity TEA	Informal_ institutions	Empirical
52. Hoogendoorn, B., Rietveld, C. A., van Stel, A. (2016)	Belonging, believing, bonding, and behaving: the relationship between religion and business ownership at the country level	Institutional approach	Linear regression	There is a positive relationship between religion and business ownership based on those dimensions that reflect the internal aspects of religiosity (i.e., believing and behaving). No relationship was found regarding belonging and bonding, affecting business ownership	Institutions	Business ownership rate	Informal_ institutions	Empirical

(continued)

Appendix 1 (continued)

Author(s)	Title	Theoretical framework	Methodology	Results	Key term	Dvariable	Ivariable	Type of paper
53. Hopp, C. Stephan, U. (2012)	The influence of socio-cultural environments on the performance of nascent entrepreneurs: community culture, motivation, self-efficacy and start-up success	Institutional approach	Probit; instrumental variables probit	The culture, particularly perceptions of community cultural norms, influences venture emergence	Institutions	New firm performance	Informal_ institutions	Empirical
54. Huggins, R., Thompson, P. (2016)	Socio-spatial culture and entrepreneurship: some theoretical and empirical observations	Institutional approach	Linear regression	A range of dimensions of sociospatial community culture relating to social cohesion, collective action, and social rules are significantly associated with the local entrepreneurial activity	Institutions	New firm formation	Formal_ institutions	Empirical
55. Kanniainen, V., Vesala, T. (2005)	Entrepreneurship and labor market institutions	Occupational choice	Linear regression	Enterprise formation is affected by economic risks, unemployment compensation, union power, and labor protection variables	Institutions	Self-employment	Informal_ institutions	Empirical
56. Kibler, E., Kautonen, T. (2016)	The moral legitimacy of entrepreneurs: an analysis of early-stage entrepreneurship across 26 countries	Institutional approach	Multilevel estimation	Moral norms in society are an important influence upon early-stage entrepreneurship	Institutions	TEA	Informal_ institutions	Empirical

57. Kim, B.-Y., Kang, Y. (2014)	Social capital and entrepreneurial activity: a pseudo-panel approach	Institutional approach	Pseudo-panel	Trust measured by trust either in strangers or in public institutions facilitates entrepreneurship. Also, parents' emphasis on individual achievement relative to interpersonal relations in raising their child is positively associated with entrepreneurship. Evidence suggests that both social norms and networks influence entrepreneurship. These results do not change when we use social capital measured at the national level	Institutions	Self-employment	Informal_ institutions	Empirical
58. Klapper, L., Laeven, L., Rajan, R. (2006)	Entry regulation as a barrier to entrepreneurship	Contract theory	Linear regression	Costly regulations hamper the creation of new firms, especially in industries that should naturally have high entry. These regulations also force new entrants to be larger and cause incumbent firms in naturally high-entry industries to grow more slowly. Our results hold even when we correct for the availability of financing, the degree of protection of intellectual property, and labor regulations	Institutions	Small enterprises	Formal_ institutions	Empirical
59. Kirby, D. A., Guerrero, M., Urbano, D. (2011)	Making universities more entrepreneurial: development of a model	Institutional approach	Structural equation model	There is a series of formal and informal institutions at the university level that enhances different outcomes associated with entrepreneurial activity within the Autonomous University of Barcelona	Institutions	Entrepreneurial universities	Formal_ informal	Empirical

(continued)

Appendix 1 (continued)

Author(s)	Title	Theoretical framework	Methodology	Results	Key term	Dvariable	Ivariable	Type of paper
60. Krasniqi, B. A., Desai, S. (2016)	Institutional drivers of high-growth firms: country-level evidence from 26 transition economies	Institutional approach	Panel data	Interaction effects, rather than direct effects, are useful in explaining systematic variations in HGFs prevalence in transition economies. We find that the interaction between formal and informal institutions positively influences HGFs. Further, we find that in fast-reforming transition economies, more burden- some formal institutions discourage HGFs but in slow-reforming transition economies, informal institutions encourage HGFs	Institutions	High-growth firms	Formal_ informal	Empirical
61. Krasniqi, B. A., Mustafa, M. (2016)	Small firm growth in a post-conflict environment: the role of human capital, institutional quality, and managerial capacities	Gibrat's law; Jovanovic's learning theory; resource-based view; institutional approach	Probit; tobit	Growth aspirations, managerial capacities and training are among the most significant variables associated with growth. Among the institutional quality variables, only corruption appears to be significant and negatively associated with growth	Institutions	Small firm growth	Formal_ institutions	Empirical
62. Kuckertz, A., Berger, E. S., Mpeqa, A. (2016)	The more the merrier? Economic freedom and entrepreneurial activity	Institutional approach	Fuzzy-set qualitative comparative analysis	The effects of economic freedom (EF) vary according to the developmental stage of an economy and the type of entrepreneurial activity (EA) in question. Overall, high levels of EF trigger high levels of EA regardless of a country's developmental stage are inadequate	Institutions	Opportunity/ necessity TEA	Formal_ institutions	Empirical

63. Lechner, M., Pfeiffer, F. (1993)	Planning for self-employment at the beginning of a market economy: evidence from individual data of East German workers	Occupational choice	Ordinal logit	Barriers to entry in entrepreneurship may come from capital market constraints and institutional restrictions	Institutions	Self-employment	Formal_ institutions	Empirical
64. Lerner, M., Brush, C., Hisrich, R. (1997)	Israeli women entrepreneurs: an examination of factors affecting performance	Institutional approach	Linear regression	Women entrepreneurs' performance is related to previous industry experience, business skills, and achievement motivation. Specifically, network affiliations were significantly more important for women entrepreneurs in Israel	Institutions	Female business owners	Formal_ informal	Empirical
65. Levie, J., Autio, E. (2008)	A theoretical grounding and test of the GEM model	Institutional approach	Panel data	In high-income countries, opportunity perception mediates fully the relationship between the level of post-secondary entrepreneurship education and training in a country and its rate of new business activity, including high-growth expectation new business activity. The mediating effect of skills perception is weaker. This result accords with the Kirznerian concept of alertness to opportunity stimulating action	Institutions	TEA	Formal_ informal	Empirical
66. Lim, D. S., Oh, C. H., De Clercq, D. (2016)	Engagement in entrepreneurship in emerging economies: interactive effects of individual-level factors and institutional conditions	Institutional approach (regulatory, cognitive and normative)	Multilevel estimation	The direct effect of individuals' household income on their engagement in entrepreneurship is persistent, regardless of institutional conditions; but the influence of education level varies contingent upon various institutional conditions	Institutions	Engagement in entrepreneurship	Formal_ informal	Empirical

(continued)

Appendix 1 (continued)

Author(s)	Title	Theoretical framework	Methodology	Results	Key term	Dvariable	Ivariable	Type of paper
67. Liñán, F., Urbano, D., Guerrero, M. (2011)	Regional variations in entrepreneurial cognitions: start-up intentions of university students in Spain	Planned behaviour approach; institutional approach; social capital theory	Structural equation model	The social valuation of the entrepreneur was higher in the more developed region (Catalonia), positively affecting perceived subjective norms and behavioral control. In Andalusia, the influence of perceived valuation of the entrepreneur in the closer environment was more important, affecting attitude towards the behavior and subjective norms	Institutions	Entrepreneurial intention	Informal_ institutions	Empirical
68. Malchow-Møller, N., Markusen, J. R., Skaksen, J. R. (2010)	Labour market institutions, learning and self-employment	Occupational choice	Dynamic partial-equilibrium model	Certain ability groups of workers become self-employed for both "carrot" and "stick" reasons: some prefer self-employment to the low institutionalized wage, while others are not productive enough to qualify for a job at the institutionalized wage. Furthermore, wage compression and learning may give rise to a class of switchers who start in wage employment and later switch to self-employment	Institutions	Self-employment	Formal_ institutions	Empirical
69. Maimone Ansaldo Patti, D., Mudambi, R., Navarra, P., Baglieri, D. (2016)	A tale of soil and seeds: the external environment and entrepreneurial entry	Occupational choice	Logit	There are differences in the extent of entrepreneurship in different national contexts. While in developed economies business ventures are more likely to be launched when the turnover rate of incumbent firms is high, the opposite is true in developing economies	Institutions	Self-employment	Formal_ institutions	Empirical

70. Mair, J., Marti, I. (2009)	Entrepreneurship in and around institutional voids: a case study from Bangladesh	Institutional approach	Multiple-case study	Institutional voids originate from the interplay between the existing power structure, legacy institutions, and recently introduced institutional practices. These processes are characterized by extreme resource constraints and an institutional fabric that is rich but often at odds with market development	Institutions	Bricolage entrepreneurship	Formal_ informal	Empirical
71. Manolova, T. S., Eunni, R. V., Gyoshev, B. S. (2008)	Institutional environments for entrepreneurship: evidence from emerging economies in Eastern Europe	Institutional approach	Structural equation model	There are important differences in the three dimensions (regulatory, cognitive, and normative) of the institutional profiles across the three emerging economies, reflecting their idiosyncratic cultural norms and values, traditions, and institutional heritage in promoting entrepreneurship	Institutions	Business owners	Formal_ informal	Empirical
72. McGrath, R. G., MacMillan, I. C., Scheinberg, S. (1992)	Elitists, risk-takers, and rugged individualists? An exploratory analysis of cultural differences between entrepreneurs and non-entrepreneurs	Hofstede's cultural dimensions	Discriminant analysis	In a number of quite different societies, entrepreneurship is associated with high individualism, high power distance, low uncertainty avoidance, and high masculinity scores	Institutions	Self-employment	Informal_ institutions	Empirical
73. Meek, W. R., Pacheco, D. F., York, J. G. (2010)	The impact of social norms on entrepreneurial action: evidence from the environmental entrepreneurship context	Institutional approach	Panel data	In a sample of the U.S. solar energy sector, state-sponsored incentives, environmental consumption norms, and norms of family interdependence are related to new firm entry in this sector	Institutions	Solar firm founding rate	Formal_ informal	Empirical

(continued)

Appendix 1 (continued)

Author(s)	Title	Theoretical framework	Methodology	Results	Key term	Dvariable	Ivariable	Type of paper
74. Nyström, K. (2008)	The institutions of economic freedom and entrepreneurship: evidence from panel data	Institutional approach	Panel data	Smaller government sector, better legal structure and security of property rights, as well as less regulation of credit, labor and business tend to increase entrepreneurship	Institutions	Self-employment	Formal_ institutions	Empirical
75. Pathak, S., Muralidharan, E. (2016)	Informal institutions and their comparative influences on social and commercial entrepreneurship: the role of in-group collectivism and interpersonal trust	Institutional approach	Multilevel estimation	Chile societal collectivism decreases the likelihood of commercial entrepreneurship (CE), it increases that of social entrepreneurship (SE). Further, while societal trust influences both SE and CE positively, the strength of this positive influence is felt more strongly on SE than CE	Institutions	Social/ commercial entrepreneurship	Informal_ institutions	Empirical
76. Pathak, S., Xavier-Oliveira, E., Laplume, A. O. (2013)	Influence of intellectual property, foreign investment; and technological adoption on technology entrepreneurship	Institutional approach	Hierarchical linear model	Regimes with strong intellectual property rights protection combined with high levels of FDI per capita decrease the likelihood of individuals' entry into technology entrepreneurship, whereas low barriers to technological adoption increase this likelihood	Institutions	TEA	Formal_ informal	Empirical
77. Peng, M. W., Yamakawa, Y., Lee, S.-H. (2010)	Bankruptcy laws and entrepreneur-friendliness	Institutional approach	Descriptive statistics	We advocate more entrepreneur-friendly bankruptcy laws designed to make the "pain" less painful for failed entrepreneurs and their firms, and to "gain" from more vibrant entrepreneurship development around the world	Institutions	Business owners	Formal_ institutions	Empirical

78. Román, C., Congregado, E., Millan, J. M. (2011)	Dependent self-employment as a way to evade employment protection legislation	Contract theory	Logit	A positive impact of the strictness of employment protection legislation and the potential severance payment on transitions to dependent self-employment is found. The opposite effects, however, are detected for individuals becoming independent self-employed	Institutions	Self-employment	Formal_ institutions	Empirical
79. Shane, S., Foo, M. D. (1999)	New firm survival: institutional explanations for new franchisor mortality	Institutional approach	Cox regression	Institutional legitimacy adds to economic explanations for the survival of new franchisors and suggests the importance of a properly socialized explanation	Institutions	New franchise system	Formal_ institutions	Empirical
80. Sobel, R. S. (2008)	Testing Baumol: institutional quality and the productivity of entrepreneurship	Baumol's theory of productive and unproductive entrepreneurship	Linear regression	Entrepreneurial individuals channel their effort in different directions depending on the quality of prevailing economic, political, and legal institutions. This institutional structure determines the relative reward to investing entrepreneurial energies into productive market activities versus unproductive political and legal activities (e.g., lobbying and lawsuits)	Institutions	Self-employment	Formal_ institutions	Empirical
81. Spencer, J. W., Gomez, C. (2004)	The relationship among national institutional structures, economic factors, and domestic entrepreneurial activity: a multicountry study	Institutional approach	Structural equation model	Normative institutions were marginally associated with the most basic form of entrepreneurship, self-employment, but not with more advanced forms of entrepreneurship. Cognitive institutions explained the prevalence of small firms in a country, as well as the number of new companies listed on the country's stock exchange. Regulatory institutions associated with new listings on the country's stock exchange	Institutions	Self-employment	Formal_ informal	Empirical

(continued)

Appendix 1 (continued)

Author(s)	Title	Theoretical framework	Methodology	Results	Key term	Dvariable	Ivariable	Type of paper
82. Stenholm, P., Acs, Z. J., Wuebker, R. (2013)	Exploring country-level institutional arrangements on the rate and type of entrepreneurial activity	Institutional approach	Structural equation model	Differences in institutional arrangements are associated with variance in both the rate and type of entrepreneurial activity across countries. For the formation of innovative, high-growth new ventures, the regulative environment matters very little. For high-impact entrepreneurship an institutional environment filled with new opportunities created by knowledge spillovers and the capital necessary for high impact entrepreneurship matter most	Institutions	TEA	Formal_ informal	Empirical
83. Stephan, U., Pathak, S. (2016)	Beyond cultural values? Cultural leadership ideals and entrepreneurship	Institutional approach	Multilevel estimation	Cultural values (of uncertainty avoidance and collectivism) influence entrepreneurship mainly indirectly, via charismatic and self-protective CLTs	Institutions	TEA	Informal_ institutions	Empirical
84. Stephan, U., Uhlaner, L. M. (2010)	Performance-based vs socially supportive culture: a cross-national study of descriptive norms and entrepreneurship	Institutional approach	Linear regression	Findings provide strong support for a social capital/SSC and supply-side variable explanation of entrepreneurship rate. PBC predicts demand-side variables, such as opportunity existence and the quality of formal institutions to support entrepreneurship	Institutions	TEA	Informal_ institutions	Empirical
85. Stephan, U., Uhlaner, L. M., Stride, C. (2015)	Institutions and social entrepreneurship: the role of institutional voids, institutional support, and institutional configurations	Institutional approach	Multilevel estimation	It is found joint effects of formal regulatory (government activism), informal cognitive (postmaterialist cultural values), and informal normative (socially supportive cultural norms, or weak-tie social capital) institutions on social entrepreneurship	Institutions	Social entrepreneurship	Formal_ informal	Empirical

86. Stephen, F., Urbano, D., van Hemmen, S. (2009)	The responsiveness of entrepreneurs to working time regulations	Contract theory	Linear regression	Higher enforcement formalism mitigates the negative impact exerted by rigid working time regulations on the number of entrepreneurs. While it is agreed that regulatory rigidities may increase labor transaction costs, we show that entrepreneurs are less sensitive to labor regulations the higher the level of enforcement formalism in which they operate. Higher formalism is associated with lower enforcing efficiency and lower probability of being punished for transgressing laws	Institutions	TEA	Formal_ institutions	Empirical
87. Storey, D., Tether, B. S. (1998)	Public policies measures to support new technology-based firms in the European Union	Definition of new technology-based firms' policy	Descriptive statistics	Policies such as science Parks, the Supply of PhDs in Science and Technology, the relationships between NTBFs and UniversitiesrResearch Institutions, Direct Financial Support to NTBFs from National Governments, and the Impact of Technological Advisory Services on NTBFs are clearly part of an interdependent 'system' of policies encouraging new technology-based firms	Institutions	New technology-based firms	Formal_ institutions	Theoretical
88. Toledano, N., Urbano, D. (2008)	Promoting entrepreneurial mindsets at universities: a case study in the South of Spain	Institutional approach	Case study	In areas with low levels of entrepreneurial activity such as some rural areas of the south of Spain, additional actions to promote entrepreneurship would be necessary	Institutions	Entrepreneurial attitudes	Formal_ informal	Empirical

(continued)

Appendix 1 (continued)

Author(s)	Title	Theoretical framework	Methodology	Results	Key term	Dvariable	Ivariable	Type of paper
89. Thornton, P. H., Ribeiro-Soriano, D., Urbano, D. (2011)	Socio-cultural factors and entrepreneurial activity: an overview	Institutional approach		The paper integrates theoretically the socio-cultural factors into the entrepreneurial activity analysis. Thus, it is suggested that future research could take into consideration these factors to enhance the perspective of those elements influencing entrepreneurship	Institutions			Special issue
90. Uhlaner, L., Thurik, R. (2007)	Postmaterialism influencing total entrepreneurial activity across nations	Social legitimation perspective; institutional approach; dissatisfaction perspective	Linear regression	Findings confirm the significance of postmaterialism in predicting total entrepreneurial activity and more particularly, new business formation rates	Institutions	TEA	Informal_ institutions	Empirical
91. Urbano, D., Alvarez, C. (2014)	Institutional dimensions and entrepreneurial activity: an international study	Institutional approach	Logit	A favorable regulative dimension (fewer procedures to start a business), normative dimension (higher media attention for new business) and cultural-cognitive dimension (better entrepreneurial skills, less fear of business failure and better knowing of entrepreneurs) increase the probability of being an entrepreneur	Institutions	TEA	Formal_ informal	Empirical

92. Urbano, D., Aparicio, S., Querol, V. (2016)	Social progress orientation and innovative entrepreneurship: an international analysis	Institutional approach	Linear regression	Social progress orientation dimensions such as voluntary spirit, survival vs. self-expression values and power distance were related to entrepreneurial activity. Particularly, high voluntary spirit had a positive and statistically significant impact on innovative TEA. Necessity-driven TEA is highly discouraged in those societies with high voluntary spirit and self-expression values, whereas larger power distance increased the entrepreneurial activity driven by necessity	Institutions	Innovative TEA	Informal_ institutions	Empirical
93. Urbano, D., Aparicio, S., Guerrero, M., Noguera, M., & Torrent-Sellens, J. (2016)	Institutional determinants of student employer entrepreneurs at Catalan universities	Institutional approach	Probit	Formal factors (university's lack of incentives to create a new business, entrepreneurial knowledge, training and skills, and entrepreneurship education) are higher correlated with the student employer entrepreneurs than informal institutions (role models, and fear of failure)	Institutions	Student employer entrepreneurs	Formal_ informal	Empirical
94. Urbano, D., Toledano, N., Ribeiro-Soriano, D. (2010)	Support policy for the tourism business: a comparative case study in Spain	Institutional approach	Case study	Despite the relevance of the legal system, the most important factors for the promotion of the tourism business are the socio-cultural ones	Institutions	Tourism business	Formal_ institutions	Empirical

(continued)

Appendix 1 (continued)

Author(s)	Title	Theoretical framework	Methodology	Results	Key term	Dvariable	Ivariable	Type of paper
95. Urbano, D., Toledano, N., Ribeiro-Soriano, D. (2011)	Socio-cultural factors and transnational entrepreneurship: a multiple case study in Spain	Institutional approach	Multiple-case study	Important differences between socio-cultural factors that affect the emergence of transnational entrepreneurship (role models, immigrants' entrepreneurial attitudes) and those that facilitate the development of transnational entrepreneurial activities (transnational networks and immigrants' perceptions of the culture and opportunities of the host society) are found	Institutions	Business owners	Informal_ institutions	Empirical
96. Valdez, M. E., Richardson, J. (2013)	Institutional determinants of macro-level entrepreneurship	Institutional theory	Linear regression	Findings suggest that a society's normative, cultural-cognitive, and regulative institutions are related to entrepreneurial activity. Normative and cultural-cognitive institutions' descriptive power in explaining entrepreneurial activity is higher than regulative institutions' or per capita gross domestic product. This suggests that differences in values, beliefs, and abilities may play a greater role than purely economic considerations of opportunity and transaction costs. Specific attention is given to opportunity- and necessity motivated entrepreneurship due to their relationship to economic development	Institutions	TEA	Formal_ informal	Empirical
97. Van de Ven, H. (1993)	The development of an infrastructure for entrepreneurship	Ecological approach		The study systematically examines how various actors and functions interact to facilitate and constrain entrepreneurship	Institutions	Entrepreneurship	Formal_ institutions	Theoretical

98. van Hemmen, S., Alvarez, C., Peris-Ortiz, M., Urbano, D. (2015)	Leadership styles and innovative entrepreneurship: an international study	Institutional approach	Linear regression	The participative leadership and higher education represent the strongest explanatory factor in the variance of the current rates of innovative entrepreneurship	Institutions	Innovative TEA	Informal_ institutions	Empirical
99. van Stel, A., Storey, D. J., Thurik, A. R. (2007)	The effect of business regulations on nascent and young business entrepreneurship	Contract theory	Two-equation model	There is a need for a serious review of this policy area, with better data being a key requirement	Institutions	TEA	Formal_ institutions	Empirical
100. Veciana, J. M., Urbano, D. (2008)	The institutional approach to entrepreneurship research. Introduction	Institutional approach	Literature review	An attempt is made to justify why entrepreneurship research using the institutional approach is promising	Institutions			Special issue
101. Watson, J., Everett, J. (1996)	Do small businesses have high failure rates: evidence from Australian retailers	Definition of small business and business failure	Descriptive statistics	Reported failure rates vary from a high of more than 9% per annum to a low of less than 1 per cent per annum depending on the choice of failure definition	Institutions	Small business	Formal_ institutions	Empirical
102. Welter, F., Smallbone, D. (2008)	Women's entrepreneurship from an institutional perspective: the case of Uzbekistan	Institutional approach	Descriptive statistics/ multiple-case study	Informal institutions dominating Uzbek society contribute to the prevailing forms of female entrepreneurship	Institutions	Female/male entrepreneurs	Informal_ institutions	Empirical

(continued)

Appendix 1 (continued)

Author(s)	Title	Theoretical framework	Methodology	Results	Key term	Dvariable	Ivariable	Type of paper
103. Yeganegi, S., Laplume, A. O., Dass, P., Huynh, C. L. (2016)	Where do spinouts come from? The role of technology relatedness and institutional context	Spinout concept; institutional approach	Hierarchical logit	Employees experiencing activities unrelated to the core technology of their organizations are more likely to spin out entrepreneurial ventures, whereas those with experiences related to the core technology are less likely to do so. Additionally, the strength of intellectual property rights and the availability of venture capital have negative and positive effects, respectively, on the likelihood that employees become entrepreneurs. These institutional factors also moderate the effect of technology relatedness such that spinouts by employees with experiences related to core technology are curbed more severely by stronger intellectual property rights protection regimes and lacking of venture capital	Institutions	Spinout	Formal_ institutions	Empirical
104. Zhang, Y. (2015)	The contingent value of social resources: entrepreneurs' use of debt-financing sources in Western China	Network approach	Probit	The entrepreneurs' use of debt-financing sources is conditioned by the resources embedded in their social networks. More business or political contacts increase entrepreneurs' probability of using formal financial sources, and more urban ties increase their probability of using informal sources	Institutions	Self-employees that have borrowed money	Informal_ institutions	Empirical

Dvariable, Dependent variable; Ivariable, Independent variable

Appendix 2. Entrepreneurship and Economic Growth Articles Included in the Systematic Literature Analysis

Author(s) and year	Title	Theoretical framework	Methodology	Results	Key term	Dvariable	Ivariable	Type of paper
1. Acs, Z., Audretsch, D., Braunerhjelm, P., Carlsson, B. (2012)	Growth and entrepreneurship	Endogenous growth theory	Panel data (FGLS and 2SLS)	Entrepreneurship is a conduit of knowledge and Positive effect of entrepreneurial activity (TEA) on economic growth	Knowledge spillover	Growth	Self-employment	Empirical
2. Acs, Z., Desai, S., Hessels, J. (2008)	Entrepreneurship, economic development and institutions	Development economic theory	Cross section (descriptive statistics)	The effect of entrepreneurship depends on development stage	Economic development			Special issue
3. Acs, Z., Desai, S., Klapper, L. F. (2008)	What does "entrepreneurship" data really show?	Development economic theory	Cross section (descriptive statistics)	The effect of entrepreneurship depends on development stage	Knowledge spillover	GDPpc	TEA	Empirical
4. Acs, Z., Szerb, L. (2007)	Entrepreneurship, economic growth and public policy	Endogenous growth theory	Summarize	The effect of entrepreneurship depends on development stage	Economic growth			Special issue
5. Acs, Z., Storey, D. (2004)	Introduction: entrepreneurship and economic development	Context on small firms and regional development		Entrepreneurship has a positive influence on regional development, which is a relevant fact to design public policies	Regional economic growth			Special issue
6. Agarwal, R., Audretsch, D., Sarkar, M. B. (2007)	The process of creative construction: knowledge spillovers, entrepreneurship, and economic growth	Schumpeter theory	Develop Knowledge Spillover View of Strategic Entrepreneurship	Entrepreneurship is a conduit of knowledge	Knowledge spillover			Theoretical

(continued)

Appendix 2 (continued)

Author(s) and year	Title	Theoretical framework	Methodology	Results	Key term	Dvariable	Ivariable	Type of paper
7. Aghion, P., Howitt, P. (1992)	A model of growth through creative destruction	Schumpeter theory		The fact that private research firms do not internalize the destruction of rents generated by their innovations introduces a business-stealing effect similar to that found in the partial-equilibrium patent race literature	Economic growth			Theoretical
8. Alvarez, S. A., Barney, J. B. (2014)	Entrepreneurial opportunities and poverty alleviation	Development economic theory	Develop a theoretical framework	Self-employment opportunities do not lead to sustainable growth solutions. Discovery and creation opportunities while difficult to exploit in poverty contexts hold the greatest potential for significant economic impact	Economic development			Theoretical
9. Aparicio, S. Urbano, D., Audretsch, D. (2016)	Institutional factors, opportunity entrepreneurship and economic growth: panel data evidence	Institutional economic theory/ endogenous growth	Panel data (3SLS)	Informal institutions encourage more entrepreneurial activity than formal ones; and at the same time, entrepreneurship affects positively economic growth	Economic growth	Growth	Opportunity TEA	Empirical
10. Aparicio, S., Urbano, D., Gómez, D. (2016)	The role of innovative entrepreneurship within Colombian business cycle scenarios: a system dynamics approach	Circular flow model/Schumpeter theory	System dynamics	Innovative entrepreneurship contributes to sustainable economic growth during the simulation period (2003–2032)	Economic growth	Growth	Opportunity TEA	Empirical

11. Aubry, M., Bonnet, J., Renou-Maissant, P. (2015)	Entrepreneurship and the business cycle: the "Schumpeter" effect versus the "refugee" effect—a French appraisal based on regional data	Schumpeter theory	Panel data (fixed effects)	Entrepreneurship is motivated by unemployment in short run ("refugee" effect). The "Schumpeter" effect prevails in the long run in the Île-de France region	Regional economic growth	GDPpc	Start-up rate	Empirical
12. Audretsch, D. (1997)	Technological regimes, industrial demography and the evolution of industrial structures	Schumpeter theory	Develop a theoretical framework	Industry evolution depends is shaped particularly by the role that innovation plays. The dynamic aspects involve the startup and new firms, survival, growth, the development of a strategy of compensating factor differentials and the extent to which new firms displace incumbent enterprises	Economic development			Theoretical
13. Audretsch, D. (2007a)	Entrepreneurship capital and economic growth	Neoclassical economic growth theory	Develop a theoretical framework	Positive effects of entrepreneurship capital on economic growth and Entrepreneurship is a conduit of knowledge	Economic growth			Theoretical
14. Audretsch, D., Bönte., W., Keilbach, M. (2008)	Entrepreneurship capital and its impact on knowledge diffusion and economic performance	Endogenous growth theory	Structural equation model	Innovation efforts have an indirect effect on economic performance via entrepreneurship	Regional economic growth	Regional growth	Entrepreneurship capital	Empirical
15. Audretsch, D., Belitski, M., Desai, S. (2015)	Entrepreneurship and economic development in cities	Schumpeter theory	Panel data (random effects)	The economic development impact of new firm start-ups is positive for both small-/ medium-size cities and large cities	Regional economic growth	Regional growth	New business	Empirical

(continued)

Appendix 2 (continued)

Author(s) and year	Title	Theoretical framework	Methodology	Results	Key term	Dvariable	Ivariable	Type of paper
16. Audretsch, D., Fritsch, M. (2002)	Growth regimes over time and space	Schumpeter theory	Cross section (OLS)	The effect of entrepreneurship on regional development depends on space regimen	Regional economic growth	Regional growth	Start-up rate	Empirical
17. Audretsch, D., Keilbach, M. (2004a)	Does entrepreneurship capital matter?	Social capital theory	Cross section (OLS)	There is a positive effect of entrepreneurship capital on regional economic growth	Regional economic growth	Regional growth	Entrepreneurship capital	Empirical
18. Audretsch, D., Keilbach, M. (2004b)	Entrepreneurship capital and economic performance	Neoclassical economic growth theory	Cross section (OLS)	There is a positive effect of entrepreneurship capital on regional economic growth	Regional economic growth	Regional growth	Entrepreneurship capital	Empirical
19. Audretsch, D., Keilbach, M. (2004c)	Entrepreneurship and regional growth: an evolutionary interpretation	Endogenous growth theory	Cross section (3SLS)	Entrepreneurship is a conduit of knowledge and Positive effect of entrepreneurial activity (TEA) on economic growth	Regional economic growth	Regional growth	Entrepreneurship capital	Empirical
20. Audretsch, D., Keilbach, M. (2005)	Entrepreneurship capital and regional growth	Neoclassical economic growth theory	Cross section (OLS)	There is a positive effect of entrepreneurship capital on regional economic growth	Regional economic growth	Regional growth	Entrepreneurship capital	Empirical
21. Audretsch, D., Keilbach, M. (2008)	Resolving the knowledge paradox: knowledge-spillover entrepreneurship and economic growth	Endogenous growth theory	Cross section (3SLS)	Entrepreneurship is a conduit of knowledge and Positive effect of entrepreneurial activity (TEA) on economic growth	Knowledge spillover	Regional growth	Entrepreneurship capital	Empirical
22. Audretsch, D., Keilhach, M. (2007)	The localization of entrepreneurship capital: evidence from Germany	Neoclassical economic growth theory	Spatial econometrics (GLS)	Entrepreneurship capital is driven by local culture	Institutions	Regional growth	Entrepreneurship capital	Empirical

23. Baumol, W., Strom, R. J. (2007)	Entrepreneurship and economic growth	Institutional economic theory	Comment institutions as a determining of link between entrepreneurship and economic growth	The effect of entrepreneurship on economic growth depends on institutions	Institutions			Theoretical
24. Belitski, M., Desai, S. (2016)	Creativity, entrepreneurship and economic development: city-level evidence on creativity spillover of entrepreneurship	Creativity/ knowledge spillover theory of entrepreneurship	Pooling data	Creativity and entrepreneurship, and creativity and a melting pot environment, interact to influence urban economic development.	Regional economic growth	Regional growth	Start-up rate	Empirical
25. Berkowitz, D., DeJong, D. N. (2005)	Entrepreneurship and post-socialist growth	Endogenous growth theory	Time series (LAD and 2SLS)	There is a positive effect of entrepreneurial activity on economic growth	Regional economic growth	Regional growth	Small enterprises	Empirical
26. Biondi, Y. (2008)	Schumpeter's economic theory and the dynamic accounting view of the firm: neglected pages from the Theory of Economic Development	Schumpeterian theory	Translation	There are positive effects of entrepreneurship on economic development	Economic development			Theoretical
27. Bjørnskov, C., Foss, N. (2013)	How strategic entrepreneurship and the institutional context drive economic growth	Neoclassical economic growth theory	Time series (OLS and 2SLS)	There is a positive effect of self-employment and institutions on total-factor productivity	Institutions	Total-factor productivity (TFP)	Self-employment_ Institutions	Empirical

(continued)

Appendix 2 (continued)

Author(s) and year	Title	Theoretical framework	Methodology	Results	Key term	Dvariable	Ivariable	Type of paper
28. Bjørnskov, C., Foss, N. (2016)	Institutions, entrepreneurship, and economic growth: what do we know and what do we still need to know?	Institutional economic theory		Other theoretical approaches might serve to explain the causality running from institutions, entrepreneurship, and economic growth	Economic growth			Theoretical
29. Blanchflower, D. (2000)	Self-employment in OECD countries	Microeconomic theory (discrete choice)	Time series (OLS)	There are negative effects of self-employment on economic growth	Economic growth	Growth	Self-employment	Empirical
30. Bosma, N., Stam, E., Schutjens, V. (2011)	Creative destruction and regional productivity growth: evidence from the Dutch manufacturing and services industries	Schumpeterian theory	Panel data (OLS)	Firm entry is related to productivity growth in services, but not in manufacturing. Also, the impact of firm dynamics on regional productivity in services is higher in regions exhibiting diverse but related economic activities	Regional economic growth	TFP	Firm entry	Empirical
31. Braunerhjelm, P., Acs, Z., Audretsch, D., Carlsson, B. (2010)	The missing link: knowledge diffusion and entrepreneurship in endogenous growth	Endogenous growth theory	Pooling data (OLS, AR and GLS)	There are positive effects of entrepreneurship (No. of entrepreneurs) on economic growth	Economic growth	Growth	Self-employment	Empirical
32. Braunerhjelm, P., Borgman, B. (2004)	Geographical concentration, entrepreneurship and regional growth: evidence from regional data in Sweden, 1975–1999	Agglomeration and firm location	Panel data (fixed effects)	Regional entrepreneurship and regional absorption capacity are important explanations of regional growth	Regional economic growth	TFP	Firms per industry	Empirical

33. Braunerhjelm, P., Henrekson, M. (2013)	Entrepreneurship, institutions, and economic dynamism: lessons from a comparison of the United States and Sweden	Endogenous growth theory	Cross section (descriptive statistics)	There is positive effect of institutions on entrepreneurship and economic performance	Institutions	Growth	TEA	Empirical
34. Capello, R., Lenzi, C. (2016)	Innovation modes and entrepreneurial behavioral characteristics in regional growth	Neoclassical economic growth theory/endogenous growth theory	Spatial econometrics	There is an interplay between regional innovation modes, entrepreneurial behavioral characteristics and economic growth for 252 NUTS2 regions of the European Union	Regional economic growth	Regional growth	Entrepreneurial characteristics (potential of opportunities perception, risk orientation, strategic vision)	Empirical
35. Carlsson, B., Acs, Z., Audretsch, D., Braunerhjelm, P. (2009)	Knowledge creation, entrepreneurship, and economic growth: a historical review	Endogenous growth theory	Historical review	There are positive effects of entrepreneurship (locus and content of knowledge) on economic growth	Economic growth			Theoretical
36. Carree, M. A., Thurik, A. R. (2008)	The lag structure of the impact of business ownership on economic performance in OECD countries	Endogenous growth theory	Time series (AR models)	There are positive effects of entrepreneurship (business owners) on economic growth	Economic growth	Growth	Business owners	Empirical
37. Carree, M., van Stel, A., Thurik, R., Wennekers, S. (2002)	Economic development and business ownership: an analysis using data of 23 OECD countries in the period 1976–1996	Schumpeterian theory	Panel data (OLS)	There is a U-shape relationship between self-employment/ business ownership and economic development	Economic growth	GDPpc	Business owners	Empirical

(continued)

Appendix 2 (continued)

Author(s) and year	Title	Theoretical framework	Methodology	Results	Key term	Dvariable	Ivariable	Type of paper
38. Carree, M., Van Stel, A., Thurik, R., Wennekers, S. (2007)	The relationship between economic development and business ownership revisited	Schumpeterian theory	Panel data (fixed effects)	There is a U-shape relationship between self-employment/ business ownership and economic development	Economic growth	GDPpc	Business owners	Empirical
39. Carmona, M., Congregado, E., Golpe, A. A., Iglesias, J. (2016)	Self-employment and business cycles: searching for asymmetries in a panel of 23 OECD countries	Self-employment and GDP	Panel threshold regression	There exist different responses –both in terms of sign and magnitude– of cyclical self-employment to output growth and of output growth to cyclical self-employment, depending on the value of the threshold variable	Economic growth	Growth	Self-employment	Empirical
40. Castaño-Martínez, M.-S., Méndez-Picazo, M.-T., Galindo Martín, M. Á. (2015)	Policies to promote entrepreneurial activity and economic performance	Schumpeterian theory	Partial least squares	Countries with complex legal systems which regulate the start-up of an economic activity and where access to credit is complicated, present lower levels of entrepreneurship. Societies with a greater number of innovative entrepreneurs present higher levels of entrepreneurial activity and economic performance	Economic growth	GDPpc	Innovative enterprises	Empirical
41. Castaño, M. S., Méndez, M. T., Galindo, M. Á. (2016)	The effect of public policies on entrepreneurial activity and economic growth	Institutional economic theory	Partial least squares/ fsQCA	Early-stage entrepreneurial activity, affected by some public policies, is positively correlated to economic growth	Economic growth	GDPpc	TEA	Empirical

42. Chang, H. J., Kozul-Wright, R. (1994)	Organising development: comparing the national systems of entrepreneurship in Sweden and South Korea	Evolutionary perspective	Descriptive statistics	A national system of entrepreneurship provides an appropriate framework for combining the creative and destructive processes inherent in entrepreneurship with the institutional diversity characteristic of successful economic development	Economic development	Growth	National system of entrepreneurship	Empirical
43. Davidsson, P., Lindmark, L., Olofsson, C. (1994)	New firm formation and regional development in Sweden	Discussion based on the importance of entrepreneurship for regional development	Linear regression	Small firms are a major contributor of new jobs. It further turns out that new firm formation has an important influence on the development of regional economic well-being	Regional economic growth	Regional growth	Start-up rate	Empirical
44. Danson, M. W. (1995)	New firm formation and regional economic development: an introduction and review of the Scottish experience	Discussion based on the importance of entrepreneurship for regional development		Research and experiences from across the UK, European Union and the US are called upon to improve the understanding of the processes involved	Regional economic growth			Special issue
45. Dejardin, M. (2011)	Linking net entry to regional economic growth	Endogenous growth theory	Panel data (dynamic)	Although there are differences between manufacturing and services industries, a positive impact of net entry on regional economic growth in the Belgian services industry is found	Regional economic growth	Regional growth	Net entry	Empirical

(continued)

Appendix 2 (continued)

Author(s) and year	Title	Theoretical framework	Methodology	Results	Key term	Dvariable	Ivariable	Type of paper
46. Dejardin, M. Fritsch, M. (2011)	Entrepreneurial dynamics and regional growth	Discussion based on the importance of entrepreneurship for regional development		Future research should try to shed light on the information about the characteristics of start- ups such as their knowledge intensity, their innovativeness and characteristics of their product program, as well as the interplay with previous or expected growth, required also to understand the effect on regional growth	Regional economic growth			Special issue
47. Diaz Casero , J. C., Almodovar Gonzalez, M., Sanchez Escobedo, M., Coduras Martinez, A., Hernandez Mogollon, R. (2013)	Institutional variables, entrepreneurial activity and economic development	Institutional economic theory	Cross section (OLS)	The effect of institutions depends on development stage	Institutions	GDPpc	TEA_instiutions	Empirical
48. Etzkowitz, H., Klofsten, M. (2005)	The innovating region: toward a theory of knowledge-based regional development	Endogenous growth theory	Qualitative (case study method)	Entrepreneurial university is a driven factor for regional economic development	Other	Regional growth	Business owners	Empirical

49. Fritsch, M. (2008)	How does new business formation affect regional development? Introduction to the special issue	Endogenous growth theory	Cross section (Descriptive statistics) and summarize	There is a U-shape relationship between start-up rates and regional economic development	Economic development			Special issue
50. Giordani, P. (2015)	Entrepreneurial finance and economic growth	Endogenous growth theory	Mathematical economics	It is found the amount of resources devoted to innovation along the balance growth path	Economic growth	TFP	Entrepreneurs that need finance	Theoretical
51. González-Pernía, J., Peña-Legazkue, I. (2015)	Export-oriented entrepreneurship and regional economic growth	Neoclassical Economic growth theory	Panel data (2SLS)	Opportunity TEA, as well as export oriented entrepreneurship, is positively associated with Spanish regional growth	Economic growth	TFP	Opportunity and export-oriented TEA	Empirical
52. Gries, T., Naudé, W. (2010)	Entrepreneurship and structural economic transformation	Endogenous growth theory	Mathematical economics	There are positive effects of entrepreneurship on economic growth	Economic growth	Growth	Self-employment	Empirical
53. Guerrero, M., Cunningham, J.A., Urbano, D. (2015)	Economic impact of entrepreneurial universities' activities: an exploratory study of the United Kingdom	Endogenous growth theory	Structural equation model	The outcomes of university activities (research, teaching and entrepreneur) have a positive effect on economic growth	Economic growth	GDPpc	Entrepreneurial universities outcome	Empirical
54. Guerrero, M., Urbano, D., Fayolle, A. (2016)	Entrepreneurial activity and regional competitiveness: evidence from European entrepreneurial universities	Institutional economic theory/ endogenous growth theory	Structural equation model	Informal factors have a higher influence on university entrepreneurial activity than formal factors. There is also a higher contribution of universities on regional competitiveness	Regional economic growth	GDPpc	Entrepreneurial universities	Empirical

(continued)

Appendix 2 (continued)

Author(s) and year	Title	Theoretical framework	Methodology	Results	Key term	Dvariable	Ivariable	Type of paper
55. Hessels, J., van Stel, A. (2011)	Entrepreneurship, export orientation, and economic growth	Endogenous growth theory	Time series (OLS)	Positive effects of entrepreneurship (TEA) on economic growth and export orientation	Economic growth	Growth	TEA	Empirical
56. Huggins, R., Thompson, P. (2015)	Entrepreneurship, innovation and regional growth: a network theory	Endogenous growth theory	Mathematical economics	Network capital is found a mediator between entrepreneurship and innovation-based regional growth	Regional economic growth	TFP	Entrepreneurship	Theoretical
57. Iyigun, M. F., Owen, A. L. (1999)	Entrepreneurs, professionals, and growth	Neoclassical Economic growth theory	Time series (Difference equations)	There are positive effects of self-employment on economic growth	Economic growth	GDPpc	Self-employment	Empirical
58. Johnson, P., Parker, S. (1996)	Spatial variations in the determinants and effects of firm births and deaths	Definition of births and deaths	Time series (AR models)	The birth rates are positively associated with industrial outcomes in UK counties	Regional economic growth	Regional growth	Birth rate	Empirical
59. King, R. G., Levine, R. (1993)	Finance, entrepreneurship and growth. Theory and evidence	Endogenous growth theory	Pooling data (3SLS)	Financial systems affect the entrepreneurial activities that lead to productivity improvements	Economic growth	Growth	Prospective entrepreneurs	Empirical
60. Liñán, F., Fernandez-Serrano, J. (2014)	National culture, entrepreneurship and economic development: different patterns across the European Union	Institutional economic theory	Cross section (OLS)	National culture and entrepreneurship can jointlyhelp characterize the level of economic development	Economic development	GDPpc	TEA	Empirical

61. Low, S., Isserman, A. (2015)	Where are the innovative entrepreneurs? Identifying innovative industries and measuring innovative entrepreneurship	Schumpeter theory	Spatial econometrics	Start-ups and self-employment in innovative industries yield two indicators that capture the effect on regional economic growth	Regional economic growth	Regional growth	Innovative entrepreneurship	Empirical
62. Méndez-Picazo, M.-T., Galindo Martín, M. Á., Ribeiro-Soriano, D. (2012)	Governance, entrepreneurship and economic growth	Institutional economic theory	Panel data (EGLS)	Governance would have a significant indirect effect on economic growth. There is a positive relationship between governance and entrepreneurship that it is an economic growth-enhancing factor	Economic growth	Growth	TEA	Empirical
63. Minniti, M., Lévesque, M. (2010)	Entrepreneurial types and economic growth	Neoclassical economic growth theory	Mathematical economics	There are positive effects of entrepreneurship on economic growth	Economic growth	Growth	Self-employment	Empirical
64. Mueller, P. (2007)	Exploiting entrepreneurial opportunities: The impact of entrepreneurship on growth	Endogenous growth theory	Panel data (OLS)	There are positive effects of entrepreneurship (new firms creation) on economic growth, and Entrepreneurship is a conduit of knowledge	Regional economic growth	Growth	Start-up rate	Empirical

(continued)

Appendix 2 (continued)

Author(s) and year	Title	Theoretical framework	Methodology	Results	Key term	Dvariable	Ivariable	Type of paper
65. Müller, S. (2016)	A progress review of entrepreneurship and regional development: what are the remaining gaps?	Discussion based on the importance of entrepreneurship for regional development	Literature review	While regional economists tend to overlook the role of contextualized agency, and thus neglect processes that may influence entrepreneurs' acting in distinctive localities, entrepreneurship scholars tend to overlook the role of the spatial and proximate contextual conditions in the entrepreneurial process	Regional economic growth			Theoretical
66. Naudé, W. (2010)	Entrepreneurship, developing countries, and development economics: new approaches and insights	Institutional economic theory	Summarize	There are positive effects of entrepreneurship on economic development	Economic development			Special issue
67. Noseleit, F. (2013)	Entrepreneurship, structural change, and economic growth	Endogenous growth theory	Cross section (OLS) and Panel data (OLS)	Entrepreneurship is a conduit of knowledge and Positive effect of entrepreneurial activity (TEA) on economic growth	Regional economic growth	Regional growth	Start-up rate	Empirical

68. Prieger, J. E., Bampoky, C., Blanco, L. R., Liu, A. (2016)	Economic growth and the optimal level of entrepreneurship	Neoclassical economic growth theory/Kirznerian theory	Panel data (OLS)	A marginal increase in the entrepreneurship rate in developing countries has a positive effect on growth. In developed countries, there is no evident growth penalty. This could be because, in developed countries as a whole, entrepreneurship is now close to its optimal level, whereas in developing countries the optimal rates of entrepreneurship are much higher	Economic growth	GDPpc	TEA	Empirical
69. Rocha, H. O. (2004)	Entrepreneurship and development: the role of clusters	Schumpeter theory	Literature review	There are positive effects of entrepreneurship on economic development	Other			Theoretical
70. Stephens, H. M., Partridge, M. D. (2011)	Do entrepreneurs enhance economic growth in lagging regions?	Endogenous growth theory	Cross section (OLS and IV)	There are positive effect of entrepreneurship (self-employment) capital on regional economic growth	Regional economic growth	GDPpc	Business owners	Empirical
71. Sternberg, R., Wennekers, S. (2005)	Determinants and effects of new business creation using Global Entrepreneurship Monitor data	Schumpeterian theory	Literature review	There are positive effects of entrepreneurship on economic growth	Economic growth			Special issue

(continued)

Appendix 2 (continued)

Author(s) and year	Title	Theoretical framework	Methodology	Results	Key term	Dvariable	Ivariable	Type of paper
72. Urbano, D., Aparicio, S. (2016)	Entrepreneurship capital types and economic growth: international evidence	Endogenous growth theory	Panel data (IV)	Entrepreneurial activity positively affects economic growth. Opportunity TEA has a higher effect than necessity TEA; and the influence on growth is higher in developing countries, as well as in post-crisis period	Economic growth	Growth	TEA/opportunity TEA/necessity TEA	Empirical
73. Urbano, D., Guerrero, M. (2013)	Entrepreneurial universities: socioeconomic impacts of academic entrepreneurship in a European region	Institutional economic theory; resource-based view; endogenous growth theory	Case study	In the Catalonian University System there is a strategy focused on improving the determinants of the production function (human, knowledge, social, and entrepreneurship capital)	Regional economic growth	Labor productivity	Entrepreneurial universities	Empirical
74. Valliere, D., Peterson, R. (2009)	Entrepreneurship and economic growth: evidence from emerging and developed countries	Endogenous growth theory	Cross section (descriptive statistics-principal component analysis)	There are positive effects of entrepreneurship (TEA) on economic growth	Economic growth	Growth	TEA	Empirical
75. van Oort , F. G., Bosma, N. S. (2013)	Agglomeration economies, inventors and entrepreneurs as engines of European regional economic development	Schumpeter theory	Pooling data (2SLS)	Human capital, patenting activity and entrepreneurship are all linked to regional performance, more so in regions containing large as well as medium-sized cities	Regional economic growth	Labor productivity	Low growth TEA/ high growth TEA/ innovative TEA	Empirical

76. van Praag , C. M., Versloot, P. H. (2007)	What is the value of entrepreneurship? A review of recent research	Endogenous growth theory	Literature review	There are positive effects of entrepreneurship on economic growth	Economic growth			Theoretical
77. van Stel, A., Carree, M. (2004)	Business ownership and sectoral growth – an empirical analysis of 21 OECD countries	Schumpeter theory	Panel data (OLS)	There is a U-shape relationship between self-employment/ business ownership and economic development	Economic growth	Growth	Business owners	Empirical
78. van Stel, A., Carree, M., Thurik, R. (2005)	The effect of entrepreneurial activity on national economic growth	Schumpeterian theory	Time series (AR models)	There is a U-shape relationship between self-employment/ business ownership and economic development	Economic growth	Growth	TEA	Empirical
79. Wennekers, S., Thurik, R. (1999)	Linking entrepreneurship and economic growth	Schumpeterian theory	Literature review	There are positive effects of entrepreneurship on economic growth	Economic growth			Theoretical
80. Wong, P. X., Ho, Y. P., Autio, E. (2005)	Entrepreneurship, innovation and economic growth: evidence from GEM data	Schumpeterian theory	Cross section (OLS)	There is positive effect of potential entrepreneurial activity (TEA) on economic growth	Economic growth	Growth	TEA	Empirical
81. Yu, T. F. L. (1998)	Adaptive entrepreneurship and the economic development of Hong Kong	Kirznerian theory	Historical review	Hong Kong's entrepreneurs through imitation have brought structural transformation in the economy and have enabled Hong Kong to catch up with economically more advanced economies	Economic growth			Theoretical

Dvariable, Dependent variable; Ivariable, Independent variable

Appendix 3. Sample of Countries Used in Chapter 3

Countries			
1	Algeria	35	Luxembourg
2	Angola	36	Macedonia, FYR
3	Antigua and Barbuda	37	Malawi
4	Argentina	38	Malaysia
5	Belgium	39	Mexico
6	Botswana	40	Netherlands
7	Brazil	41	Nigeria
8	Canada	42	Norway
9	Chile	43	Panama
10	China	44	Peru
11	Colombia	45	Philippines
12	Croatia	46	Poland
13	Czech Republic	47	Portugal
14	Ecuador	48	Puerto Rico
15	Estonia	49	Romania
16	Finland	50	Russian Federation
17	France	51	Singapore
18	Germany	52	Slovak Republic
19	Ghana	53	Slovenia
20	Greece	54	South Africa
21	Guatemala	55	Spain
22	Hungary	56	Suriname
23	India	57	Sweden
24	Indonesia	58	Switzerland
25	Iran, Islamic Rep.	59	Taiwan, China
26	Ireland	60	Thailand
27	Israel	61	Trinidad and Tobago
28	Italy	62	Uganda
29	Jamaica	63	United Kingdom
30	Japan	64	United States
31	Korea, Rep.	65	Uruguay
32	Latvia	66	Vietnam
33	Libya	67	Zambia
34	Lithuania		

Appendix 4. Social Progress Orientation Predicting an Alternative Measure of Innovative TEA (New Product)

	(1)	(2)	(3)
	Ln TEA innovative (new product)	Ln TEA innovative (new product)	Ln TEA innovative (new product)
Ln voluntary spirit	0.350		
	(0.258)		
Ln survival vs. self-expression values		0.081	
		(0.135)	
Ln power distance			−0.198
			(0.149)
Ln human development Index	−0.160	3.616*	−0.474
	(0.935)	(1.930)	(1.581)
Ln percentage female population	0.464	−9.852***	−3.018
	(2.502)	(2.899)	(2.616)
Ln GDP ppp	−0.038	−1.050**	−0.095
	(0.205)	(0.434)	(0.348)
Ln health expenditure	0.082	0.711***	0.230
	(0.155)	(0.143)	(0.228)
Ln age structure of population	−0.496	−1.953***	−0.093
	(0.470)	(0.630)	(0.857)
Ln unemployment rate	−0.113	0.048	0.030
	(0.083)	(0.095)	(0.092)
Constant	1.849	51.094***	16.755
	(9.617)	(10.706)	(11.646)
N	44	26	42
R^2	0.115	0.552	0.119
Root MSE	0,308	0,292	0,345
VIF	4,24	7,67	4,74
White's test (p-value)	0,630	0,721	0,454
AIC	28,290	16,260	36,954
BIC	42,564	26,325	50,856

TEA innovative (new product): Percentage of early-stage Entrepreneurial Activity (TEA) reporting that the product or service is new to at least some customers

***Significant at $p < 0.01$; **$p < 0.05$; *$p < 0.1$. Robust standard errors in parentheses

Appendix 5. Sample of Countries Used in Chapter 4

	Country	No. of years	OECD countries	Non-OECD countries
1	Australia	7	X	
2	Belgium	11	X	
3	Bosnia and Herzegovina	5		X
4	Brazil	11		X
5	Chile	8	X	
6	China	4		X
7	Colombia	7		X
8	Croatia	11		X
9	Denmark	11	X	
10	Finland	11	X	
11	France	11	X	
12	Germany	5	X	
13	Greece	10	X	
14	Guatemala	3		X
15	Hungary	7	X	
16	Iceland	9	X	
17	Ireland	3	X	
18	Italy	9	X	
19	Japan	9	X	
20	Korea	5	X	
21	Latvia	6		X
22	Malaysia	4		X
23	Mexico	3	X	
24	Netherlands	11	X	
25	Nigeria	2		X
26	Norway	11	X	
27	Pakistan	3		X
28	Panama	2		X
29	Peru	7		X
30	Poland	2	X	
31	Portugal	3	X	
32	Romania	6		X
33	Russian Federation	7		X
34	Singapore	2		X
35	Slovenia	9	X	
36	South Africa	5		X
37	Spain	11	X	
38	Sweden	3	X	
39	Switzerland	4	X	
40	Thailand	2		X
41	United Kingdom	11	X	
42	United States	11	X	
43	Uruguay	7		X
	Total	289	25	18

Appendix 6. Sample of Countries Used in Chapter 5

Country	No. of years	Country	No. of years
Algeria	1	Latvia	2
Argentina	3	Lithuania	1
Australia	3	Malaysia	2
Bangladesh	1	Mexico	3
Barbados	1	Netherlands	3
Belgium	3	New Zealand	1
Bosnia and Herzegovina	1	Nigeria	1
Brazil	3	Norway	3
Canada	2	Pakistan	1
Chile	3	Panama	1
China	3	Peru	2
Colombia	2	Philippines	1
Croatia	3	Poland	2
Czech Republic	2	Portugal	1
Denmark	3	Romania	1
Finland	3	Russian Federation	3
France	3	Singapore	3
Germany	3	Slovak Republic	1
Greece	2	Slovenia	3
Guatemala	1	South Africa	3
Hong Kong SAR, China	1	Spain	3
Hungary	3	Sweden	3
Iceland	2	Switzerland	2
India	2	Thailand	3
Indonesia	1	Trinidad and Tobago	1
Iran	1	Turkey	2
Ireland	3	United Arab Emirates	2
Israel	1	United Kingdom	3
Italy	2	United States	3
Jamaica	2	Uruguay	2
Japan	3	Venezuela	1
Korea	2	Total	132

Appendix 7. Sample of Countries Used in Chapter 6

Countries		
Algeria	Guatemala	Panama
Angola	Hungary	Peru
Argentina	India	Philippines
Belgium	Indonesia	Poland
Botswana	Iran, Islamic Rep.	Portugal
Brazil	Ireland	Romania
Canada	Israel	Russian Federation
Chile	Italy	Slovenia
China	Jamaica	South Africa
Colombia	Japan	Spain
Costa Rica	Korea, Rep.	Sweden
Croatia	Latvia	Switzerland
Czech Republic	Lithuania	Thailand
Ecuador	Malawi	Trinidad and Tobago
Estonia	Malaysia	Turkey
Ethiopia	Mexico	Uganda
Finland	Namibia	United Kingdom
France	Netherlands	United States
Germany	Nigeria	Uruguay
Ghana	Norway	Zambia
Greece		

Bibliography

Acemoglu, D. (2006). Modeling inefficient institutions. In R. Blundell, W. Newey, & T. Persson (Eds.), *Advances in economic theory* (Proceedings of 2005 World Congress) (pp. 341–380). New York: Cambridge University Press.

Acemoglu, D. (2008). Oligarchic versus democratic societies. *Journal of the European Economic Association, 6*(1), 1–44.

Acemoglu, D., Gallego, F., & Robinson, J. A. (2014). Institutions, human capital and development. *The Annual Review of Economics, 6*, 875–912.

Acemoglu, D., & Robinson, J. (2012). *Why nations fail: The origins of power. Prosperity and poverty*. London: Profile Books.

Acemoglu, D., & Robinson, J. A. (2008). Persistence of power, elites, and institutions. *The American Economic Review, 98*(1), 267–293.

Acs, Z., Åstebro, T., Audretsch, D., & Robinson, D. T. (2016). Public policy to promote entrepreneurship: A call to arms. *Small Business Economics, 47*(1), 35–51.

Acs, Z., Desai, S., & Hessels, J. (2008). Entrepreneurship, economic development and institutions. *Small Business Economics, 31*(3), 219–234.

Acs, Z., Desai, S., & Klapper, L. F. (2008). What does "entrepreneurship" data really show? *Small Business Economics, 31*(3), 265–281.

Acs, Z., & Storey, D. (2004). Introduction: Entrepreneurship and economic development. *Regional Studies, 38*(8), 871–877.

Acs, Z. J., & Amorós, J. E. (2008). Entrepreneurship and competitiveness dynamics in Latin America. *Small Business Economics, 31*(3), 305–322.

Acs, Z. J., Arenius, P., Hay, M., & Minniti, M. (2004). *Global entrepreneuship monitor* (Executive Report). Babson, MA: London Business School.

Acs, Z. J., & Armington, C. (2006). *Entrepreneurship, geography and American economic growth*. New York: Cambridge University Press.

Acs, Z. J., Audretsch, D. B., Braunerhjelm, P., & Carlsson, B. (2012). Growth and entrepreneurship. *Small Business Economics, 39*(2), 289–300.

Ács, Z. J., Autio, E., & Szerb, L. (2014). National systems of entrepreneurship: Measurement issues and policy implications. *Research Policy, 43*(3), 476–494.

Acs, Z. J., Boardman, M. C., & McNeely, C. L. (2013). The social value of productive entrepreneurship. *Small Business Economics, 40*(3), 785–796.

Acs, Z. J., Braunerhjelm, P., Audretsch, D. B., & Carlsson, B. (2009). The knowledge spillover theory of entrepreneurship. *Small Business Economics, 32*(1), 15–30.

Acs, Z. J., & Szerb, L. (2007). Entrepreneurship, economic growth and public policy. *Small Business Economics, 28*(2–3), 109–122.

D. Urbano et al., *Institutions, Entrepreneurship, and Economic Performance*,
International Studies in Entrepreneurship 41,
https://doi.org/10.1007/978-3-030-13373-3

Agarwal, R., Audretsch, D., & Sarkar, M. B. (2007). The process of creative construction: Knowledge spillovers, entrepreneurship, and economic growth. *Strategic Entrepreneurship Journal, 1*(3–4), 263–286.

Aghion, P., & Festré, A. (2017). Schumpeterian growth theory, Schumpeter, and growth policy design. *Journal of Evolutionary Economics, 27*(1), 25–42.

Aghion, P., & Howitt, P. (1992). A model of growth through creative destruction. *Econometrica, 60*(2), 323–351.

Aidis, R., Estrin, S., & Mickiewicz, T. (2008). Institutions and entrepreneurship development in Russia: A comparative perspective. *Journal of Business Venturing, 23*(6), 656–672.

Aidis, R., Estrin, S., & Mickiewicz, T. M. (2012). Size matters: Entrepreneurial entry and government. *Small Business Economics, 39*(1), 119–139.

Aidis, R., Welter, F., Smallbone, D., & Isakova, N. (2007). Female entrepreneurship in transition economies: The case of Lithuania and Ukraine. *Feminist Economics, 13*(2), 157–183.

Aldrich, H. E., & Fiol, C. M. (1994). Fools rush in? The institutional context of industry creation. *Academy of Management Review, 19*(4), 645–670.

Aldrich, H. E., & Kim, P. H. (2007). Small worlds, infinite possibilities? How social networks affect entrepreneurial team formation and search. *Strategic Entrepreneurship Journal, 1*(1–2), 147–165.

Aldrich, H. E., & Martinez, M. A. (2001). Many are called, but few are chosen: An evolutionary perspective for the study of entrepreneurship. *Entrepreneurship Theory and Practice, 25*(4), 41–56.

Aldrich, H. E., & Martinez, M. A. (2003). Entrepreneurship as social construction. In Z. J. Acs & D. B. Audretsch (Eds.), *Handbook of entrepreneurship research* (pp. 387–427). Dordrecht, The Netherlands: Kluwer Academic Publishers.

Aldrich, H. E., & Waldinger, R. (1990). Ethnicity and entrepreneurship. *Annual Review of Sociology, 16*(1), 111–135.

Aldrich, H. E., & Zimmer, C. (1986). Entrepreneurship through social networks. In D. L. Sexton & R. W. Smilor (Eds.), *The art and science of entrepreneurship* (pp. 3–23). New York: Ballinger.

Alkire, S., & Santos, M. E. (2010). *Acute multidimensional poverty: A new index for developing countries*. Working paper No. 38. Oxford Poverty & Human Development Initiative (OPHI). http://www.ophi.org.uk/wp-content/uploads/ophi-wp38.pdf. Accessed 1 Apr 2014.

Alvarez, C., & Urbano, D. (2011). Environmental factors and entrepreneurial activity in Latin America. *Academia Revista Latinoamericana de Administración, 48*, 31–45.

Alvarez, C., & Urbano, D. (2012). Cultural-cognitive dimension and entrepreneurial activity: A cross-country study. *Revista de Estudios Sociales, 44*, 146–157.

Alvarez, C., & Urbano, D. (2013). Diversidad cultural y emprendimiento. *Revista de Ciencias Sociales, 19*(1), 154–169.

Álvarez, C., Urbano, D., & Amorós, J. E. (2014). GEM research: Achievements and challenges. *Small Business Economics, 42*(3), 445–465.

Alvarez, S. A., & Barney, J. B. (2014). Entrepreneurial opportunities and poverty alleviation. *Entrepreneurship Theory and Practice, 38*(1), 159–184.

Alvarez, S. A., Barney, J. B., & Anderson, P. (2013). Forming and exploiting opportunities: The implications of discovery and creation processes for entrepreneurial and organizational research. *Organization Science, 24*(1), 301–317.

Alvarez, S. A., & Busenitz, L. W. (2001). The entrepreneurship of resource-based theory. *Journal of Management, 27*(6), 755–775.

Alvarez, S. A., Young, S. L., & Woolley, J. L. (2015). Opportunities and institutions: A co-creation story of the king crab industry. *Journal of Business Venturing, 30*(1), 95–112.

Amin, A. (2000). Industrial districts. In E. Sheppard & T. Barnes (Eds.), *Companion to economic geography* (pp. 149–168). Oxford: Blackwell.

Amorós, J. E., & Bosma, N. (2014). Global Entrepreneurship Monitor 2013 global report. *Global Entrepreneurship Monitor*. http://www.gemconsortium.org/docs/download/3106. Accessed 26 Sept 2014.

Amorós, J. E., Fernández, C., & Tapia, J. (2012). Quantifying the relationship between entrepreneurship and competitiveness development stages in Latin America. *International Entrepreneurship and Management Journal, 8*(3), 249–270.

Anderson, A., Park, J., & Jack, S. (2007). Entrepreneurial social capital conceptualizing social capital in new high-tech firms. *International Small Business Journal, 25*(3), 245–272.

Anderson, R. B., Dana, L. P., & Dana, T. E. (2006). Indigenous land rights, entrepreneurship, and economic development in Canada: "Opting-in" to the global economy. *Journal of World Business, 41*(1), 45–55.

Angulo-Guerrero, M. J., Pérez-Moreno, S., & Abad-Guerrero, I. M. (2017). How economic reedom affects opportunity and necessity entrepreneurship in the OECD countries. *Journal of Business Research, 73*, 30–37.

Anokhin, S., & Schulze, W. S. (2009). Entrepreneurship, innovation, and corruption. *Journal of Business Venturing, 24*(5), 465–476.

Antonelli, C., & Gehringer, A. (2017). Technological change, rent and income inequalities: A Schumpeterian approach. *Technological Forecasting and Social Change, 115*, 85–98.

Aparicio, S., Urbano, D., & Audretsch, D. (2016). Institutional factors, opportunity entrepreneurship and economic growth: Panel data evidence. *Technological Forecasting and Social Change, 102*, 45–61.

Aparicio, S., Urbano, D., & Gómez, D. (2016). The role of innovative entrepreneurship within Colombian business cycle scenarios: A system dynamics approach. *Futures, 81*, 130–147.

Arenius, P., & Minniti, M. (2005). Perceptual variables and nascent entrepreneurship. *Small Business Economics, 24*(3), 233–247.

Arshed, N., Carter, S., & Mason, C. (2014). The ineffectiveness of entrepreneurship policy: Is policy formulation to blame? *Small Business Economics, 43*(3), 639–659.

Aubry, M., Bonnet, J., & Renou-Maissant, P. (2015). Entrepreneurship and the business cycle: The "Schumpeter" effect versus the "refugee" effect – a French appraisal based on regional data. *The Annals of Regional Science, 54*(1), 23–55.

Audia, P. G., Freeman, J. H., & Reynolds, P. D. (2006). Organizational foundings in community context: Instruments manufacturers and their interrelationship with other organizations. *Administrative Science Quarterly, 51*(3), 381–419.

Audretsch, D. (2012). Entrepreneurship research. *Management Decision, 50*(5), 755–764.

Audretsch, D. B. (1997). Technological regimes, industrial demography and the evolution of industrial structures. *Industrial and Corporate Change, 6*(1), 49–82.

Audretsch, D. B. (2007a). Entrepreneurship capital and economic growth. *Oxford Review of Economic Policy, 23*(1), 63–78.

Audretsch, D. B. (2007b). *The entrepreneurial society*. Oxford, UK: Oxford University Press.

Audretsch, D. B., & Belitski, M. (2013). The missing pillar: The creativity theory of knowledge spillover entrepreneurship. *Small Business Economics, 41*(4), 819–836.

Audretsch, D. B., Belitski, M., & Desai, S. (2015). Entrepreneurship and economic development in cities. *The Annals of Regional Science, 55*(1), 33–60.

Audretsch, D. B., Bönte, W., & Keilbach, M. (2008). Entrepreneurship capital and its impact on knowledge diffusion and economic performance. *Journal of Business Venturing, 23*(6), 687–698.

Audretsch, D. B., Bönte, W., & Tamvada, J. P. (2013). Religion, social class, and entrepreneurial choice. *Journal of Business Venturing, 28*(6), 774–789.

Audretsch, D. B., Dohse, D., & Niebuhr, A. (2010). Cultural diversity and entrepreneurship: A regional analysis for Germany. *Annals of Regional Science, 45*(1), 55–85.

Audretsch, D. B., & Fritsch, M. (2002). Growth regimes over time and space. *Regional Studies, 36*(2), 113–124.

Audretsch, D. B., Heger, D., & Veith, T. (2015). Infrastructure and entrepreneurship. *Small Business Economics, 44*(2), 219–230.

Audretsch, D. B., & Keilbach, M. (2004a). Does entrepreneurship capital matter? *Entrepreneurship Theory and Practice, 28*(5), 419–429.

Audretsch, D. B., & Keilbach, M. (2004b). Entrepreneurship capital and economic performance. *Regional Studies, 38*(8), 949–959.

Audretsch, D. B., & Keilbach, M. (2004c). Entrepreneurship and regional growth: An evolutionary interpretation. *Journal of Evolutionary Economics, 14*(5), 605–616.

Audretsch, D. B., & Keilbach, M. (2005). Entrepreneurship capital and regional growth. *The Annals of Regional Science, 39*(3), 457–469.

Audretsch, D. B., & Keilbach, M. (2007). The localisation of entrepreneurship capital: Evidence from Germany. *Papers in Regional Science, 86*(3), 351–365.

Audretsch, D. B., & Keilbach, M. (2008). Resolving the knowledge paradox: Knowledge-spillover entrepreneurship and economic growth. *Research Policy, 37*(10), 1697–1705.

Audretsch, D. B., Kuratko, D. F., & Link, A. N. (2015). Making sense of the elusive paradigm of entrepreneurship. *Small Business Economics, 45*(4), 703–712.

Austin, J., Stevenson, H., & Wei-Skillern, J. (2006). Social and commercial entrepreneurship: Same, different, or both? *Entrepreneurship Theory and Practice, 30*(1), 1–22.

Autio, E. (2008, August 21–23). *High-and low-aspiration entrepreneurship and economic growth in low-income economies*. Paper presented at the UNU-WIDER Workshop on Entrepreneurship in Economic Development, Helsinki, Finland.

Autio, E., & Fu, K. (2015). Economic and political institutions and entry into formal and informal entrepreneurship. *Asia Pacific Journal of Management, 32*(1), 67–94.

Avlonitis, G. J., & Salavou, H. E. (2007). Entrepreneurial orientation of SMEs, product innovativeness, and performance. *Journal of Business Research, 60*(5), 566–575.

Baltagi, B. (2005). *Econometric analysis of panel data* (3rd ed.). London: Wiley.

Barney, J. (1991). Firm resources and sustained competitive advantage. *Journal of Management, 17*(1), 99–120.

Barney, J., Wright, M., & Ketchen, D. J. (2001). The resource-based view of the firm: Ten years after 1991. *Journal of Management, 27*(6), 625–641.

Baron, R. A., Hmieleski, K. M., & Henry, R. A. (2012). Entrepreneurs' dispositional positive affect: The potential benefits–and potential costs–of being "up". *Journal of Business Venturing, 27*(3), 310–324.

Barro, R. J., & Sala-i-Martin, X. (2003). *Economic growth*. Cambridge, MA: MIT Press.

Bauernschuster, S., Falck, O., & Heblich, S. (2010). Social capital access and entrepreneurship. *Journal of Economic Behavior and Organization, 76*(3), 821–833.

Baughn, C. C., Chua, B. L., & Neupert, K. E. (2006). The normative context for women's participation in entrepreneruship: A multicountry study. *Entrepreneurship Theory and Practice, 30*(5), 687–708.

Bauke, B., Semrau, T., & Han, Z. (2016). Relational trust and new ventures' performance: The moderating impact of national-level institutional weakness. *International Entrepreneurship and Management Journal, 12*(4), 1007–1024.

Baum, J. R., Olian, J. D., Erez, M., Schnell, E. R., Smith, K. G., Sims, H. P., et al. (1993). Nationality and work role interactions: A cultural contrast of Israeli and US entrepreneurs' versus managers' needs. *Journal of Business Venturing, 8*(6), 499–512.

Baumol, W. J. (1990). Entrepreneurship: Productive, unproductive, and destructive. *The Journal of Political Economy, 98*(5), 893–921.

Baumol, W. J. (1993). *Entrepreneurship, management and the structure of payoffs*. Cambridge, MA: MIT-Press.

Baumol, W. J., & Strom, R. J. (2007). Entrepreneurship and economic growth. *Strategic Entrepreneurship Journal, 1*(3–4), 233–237.

Belitski, M., Chowdhury, F., & Desai, S. (2016). Taxes, corruption, and entry. *Small Business Economics, 47*(1), 201–216.

Belitski, M., & Desai, S. (2016). Creativity, entrepreneurship and economic development: City-level evidence on creativity spillover of entrepreneurship. *The Journal of Technology Transfer, 41*(6), 1354–1376.

Ben Letaifa, S., & Goglio-Primard, K. (2016). How does institutional context shape entrepreneurship conceptualizations? *Journal of Business Research, 69*(11), 5128–5134.
Berger, B. (1991). *The culture of entrepreneurship*. San Francisco: ICS Press.
Bergmann, H., & Sternberg, R. (2007). The changing face of entrepreneurship in Germany. *Small Business Economics, 28*(2), 205–221.
Berkowitz, D., & DeJong, D. N. (2005). Entrepreneurship and post-socialist growth. *Oxford Bulletin of Economics and Statistics, 67*(1), 25–46.
Beugelsdijk, S. (2007). Entrepreneurial culture, regional innovativeness and economic growth. *Journal of Evolutionary Economics, 17*(2), 187–210.
Binder, M., & Coad, A. (2013). Life satisfaction and self-employment: A matching approach. *Small Business Economics, 40*(4), 1009–1033.
Biondi, Y. (2008). Schumpeter's economic theory and the dynamic accounting view of the firm: Neglected pages from the Theory of Economic Development. *Economy and Society, 37*(4), 525–547.
Bjørnskov, C., & Foss, N. (2013). How strategic entrepreneurship and the institutional context drive economic growth. *Strategic Entrepreneurship Journal, 7*(1), 50–69.
Bjørnskov, C., & Foss, N. J. (2012). How institutions of liberty promote entrepreneurship and growth. In *Economic freedom of the world: 2012 annual report* (pp. 247–270).
Bjørnskov, C., & Foss, N. J. (2016). Institutions, entrepreneurship, and economic growth: What do we know and what do we still need to know? *The Academy of Management Perspectives, 30*(3), 292–315.
Blackburn, R., & Kovalainen, A. (2009). Researching small firms and entrepreneurship: Past, present and future. *International Journal of Management Reviews, 11*(2), 127–148.
Blackburn, R., & Ram, M. (2006). Fix or fixation? The contributions and limitations of entrepreneurship and small firms to combating social exclusion. *Entrepreneurship and Regional Development, 18*(1), 73–89.
Blackburn, R. A., & Smallbone, D. (2008). Researching small firms and entrepreneurship in the UK: Developments and distinctiveness. *Entrepreneurship Theory and Practice, 32*(2), 267–288.
Blanchflower, D. G. (2000). Self-employment in OECD countries. *Labour Economics, 7*(5), 471–505.
Blanchflower, D. G. (2004). *Self-employment: More may not be better. National Bureau of Economic Research*. Working paper w10286. http://www.nber.org/papers/w10286. Accessed 1 Oct 2014.
Bleaney, M., & Nishiyama, A. (2002). Explaining growth: A contest between models. *Journal of Economic Growth, 7*(1), 43–56.
Block, J., & Koellinger, P. (2009). I can't get nosatisfaction – necessity entrepreneurship and procedural utility. *Kyklos, 62*(2), 191–209.
Block, J., Sandner, P., & Spiegel, F. (2015). How do risk attitudes differ within the group of entrepreneurs? The role of motivation and procedural utility. *Journal of Small Business Management, 53*(1), 183–206.
Block, J. H., Fisch, C. O., & van Praag, M. (2017). The Schumpeterian entrepreneur: A review of the empirical evidence on the antecedents, behaviour and consequences of innovative entrepreneurship. *Industry and Innovation, 24*(1), 61–95.
Block, J. H., Hoogerheide, L., & Thurik, R. (2013). Education and entrepreneurial choice: An instrumental variables analysis. *International Small Business Journal, 31*(1), 23–33.
Block, J. H., Kohn, K., Miller, D., & Ullrich, K. (2015). Necessity entrepreneurship and competitive strategy. *Small Business Economics, 44*(1), 37–54.
Bøllingtoft, A., & Ulhøi, J. P. (2005). The networked business incubator – leveraging entrepreneurial agency? *Journal of Business Venturing, 20*(2), 265–290.
Bosma, N. (2009). *The geography of entrepreneurial activity and regional economic development* (Doctoral thesis, Utrecht University).

Bosma, N. (2013). The Global Entrepreneurship Monitor (GEM) and its impact on entrepreneurship research. *Foundations and Trends® in Entrepreneurship, 9*, 143–248.

Bosma, N., Stam, E., & Schutjens, V. (2011). Creative destruction and regional productivity growth: Evidence from the Dutch manufacturing and services industries. *Small Business Economics, 36*(4), 401–418.

Bradley, S. W., & Klein, P. (2016). Institutions, economic freedom, and entrepreneurship: The contribution of management scholarship. *The Academy of Management Perspectives, 30*(3), 211–221.

Braithwaite, V., Makkai, T., & Pittelkow, Y. (1996). Inglehart's materialism-postmaterialism concept: Clarifying the dimensionality debate through Rokeach's model of social values. *Journal of Applied Social Psychology, 26*(17), 1536–1555.

Branstetter, L., Lima, F., Taylor, L. J., & Venâncio, A. (2014). Do entry regulations deter entrepreneurship and job creation? Evidence from recent reforms in Portugal. *The Economic Journal, 124*(577), 805–832.

Braunerhjelm, P., Acs, Z., Audretsch, D. B., & Carlsson, B. (2010). The missing link: Knowledge diffusion and entrepreneurship in endogenous growth. *Small Business Economics, 34*(2), 105–125.

Braunerhjelm, P., & Borgman, B. (2004). Geographical concentration, entrepreneurship and regional growth: Evidence from regional data in Sweden, 1975–99. *Regional Studies, 38*(8), 929–947.

Braunerhjelm, P., Desai, S., & Eklund, J. E. (2015). Regulation, firm dynamics and entrepreneurship. *European Journal of Law and Economics, 40*(1), 1–11.

Braunerhjelm, P., & Henrekson, M. (2013). Entrepreneurship, institutions, and economic dynamism: Lessons from a comparison of the United States and Sweden. *Industrial and Corporate Change, 22*(1), 107–130.

Bruno, R. L., Bytchkova, M., & Estrin, S. (2013). Institutional determinants of new firm entry in Russia: A cross-regional analysis. *Review of Economics and Statistics, 95*(5), 1740–1749.

Bruton, G. D., Ahlstrom, D., & Li, H.-L. (2010). Institutional theory and entrepreneurship: Where are we now and where do we need to move in the future? *Entrepreneurship Theory and Practice, 34*(3), 421–440.

Bruton, G. D., Ahlstrom, D., & Puky, T. (2009). Institutional differences and the development of entrepreneurial ventures: A comparison of the venture capital industries in Latin America and Asia. *Journal of International Business Studies, 40*(5), 762–778.

Bruton, G. D., Ahlstrom, D., & Si, S. (2015). Entrepreneurship, poverty, and Asia: Moving beyond subsistence entrepreneurship. *Asia Pacific Journal of Management, 32*(1), 1–22.

Bruton, G. D., Ireland, R. D., & Ketchen, D. J. (2012). Toward a research agenda on the informal economy. *The Academy of Management Perspectives, 26*(3), 1–11.

Bruton, G. D., Ketchen, D. J., & Ireland, R. D. (2013). Entrepreneurship as a solution to poverty. *Journal of Business Venturing, 28*(6), 683–689.

Busenitz, L. W., Gómez, C., & Spencer, J. W. (2000). Country institutional profiles: Unlocking entrepreneurial phenomena. *Academy of Management Journal, 43*(5), 994–1003.

Busenitz, L. W., & Lau, C. M. (1996). A cross-cultural cognitive model of new venture creation. *Entrepreneurship Theory and Practice, 20*(4), 25–40.

Busenitz, L. W., West III, G. P., Shepherd, D., Nelson, T., Chandler, G. N., & Zacharakis, A. (2003). Entrepreneurship research in emergence: Past trends and future directions. *Journal of Management, 29*(3), 285–308.

Cace, C., Nicolaescu, V., & Cace, S. (2011). The social programs run by the Romanian Orthodox Church during the period of the economic crisis. *Revista de Cercetare şi Intervenţie Socială, 35*, 28–45.

Calcagno, P. T., & Sobel, R. S. (2014). Regulatory costs on entrepreneurship and establishment employment size. *Small Business Economics, 42*(3), 541–559.

Campbell, N. D., Heriot, K. C., & Jauregui, A. (2010). State regulatory spending: Boon or brake for new enterprise creation and income? *Economic Development Quarterly, 24*(3), 243–250.

Capello, R., & Lenzi, C. (2016). Innovation modes and entrepreneurial behavioral characteristics in regional growth. *Small Business Economics, 47*(4), 875–893.

Carbonara, E., Santarelli, E., & Tran, H. T. (2016). De jure determinants of new firm formation: How the pillars of constitutions influence entrepreneurship. *Small Business Economics, 47*(1), 139–162.

Carlsson, B., Acs, Z., Audretsch, D. B., & Braunerhjelm, P. (2009). Knowledge creation, entrepreneurship, and economic growth: A historical review. *Industrial and Corporate Change, 18*(6), 1193–1229.

Carlsson, B., Braunerhjelm, P., McKelvey, M., Olofsson, C., Persson, L., & Ylinenpää, H. (2013). The evolving domain of entrepreneurship research. *Small Business Economics, 41*(4), 913–930.

Carmona, M., Congregado, E., Golpe, A. A., & Iglesias, J. (2016). Self-employment and business cycles: Searching for asymmetries in a panel of 23 OECD countries. *Journal of Business Economics and Management, 17*(6), 1155–1171.

Carree, M., van Stel, A., Thurik, R., & Wennekers, S. (2002). Economic development and business ownership: An analysis using data of 23 OECD countries in the period 1976–1996. *Small Business Economics, 19*(3), 271–290.

Carree, M., van Stel, A., Thurik, R., & Wennekers, S. (2007). The relationship between economic development and business ownership revisited. *Entrepreneurship and Regional Development, 19*(3), 281–291.

Carree, M. A., & Thurik, A. R. (2008). The lag structure of the impact of business ownership on economic performance in OECD countries. *Small Business Economics, 30*(1), 101–110.

Casson, M., & Della Giusta, M. (2007). Entrepreneurship and social capital analyzing the impact of social networks on entrepreneurial activity from a rational action perspective. *International Small Business Journal, 25*(3), 220–244.

Castaño, M. S., Méndez, M. T., & Galindo, M. Á. (2016). The effect of public policies on entrepreneurial activity and economic growth. *Journal of Business Research, 69*(11), 5280–5285.

Castaño-Martínez, M.-S., Méndez-Picazo, M.-T., & Galindo Martín, M. Á. (2015). Policies to promote entrepreneurial activity and economic performance. *Management Decision, 53*(9), 2073–2087.

Chang, H. J., & Kozul-Wright, R. (1994). Organising development: Comparing the national systems of entrepreneurship in Sweden and South Korea. *The Journal of Development Studies, 30*(4), 859–891.

Chesbrough, H. W. (2003). The era of open innovation. *MIT Sloan Management Review, 44*, 35–41.

Chesbrough, H. W. (2006). *Open innovation: The new imperative for creating and profiting from technology*. Boston: Harvard Business School Press.

Chowdhury, F., Desai, S., Audretsch, D. B., & Belitski, M. (2015). Does corruption matter for international entrepreneurship? *International Entrepreneurship and Management Journal, 11*(4), 959–980.

Chowdhury, F., Terjesen, S., & Audretsch, D. (2015). Varieties of entrepreneurship: Institutional drivers across entrepreneurial activity and country. *European Journal of Law and Economics, 40*(1), 121–148.

Clercq, D. D., & Arenius, P. (2006). The role of knowledge in business start-up activity. *International Small Business Journal, 24*(4), 339–358.

Coad, A., Segarra, A., & Teruel, M. (2016). Innovation and firm growth: Does firm age play a role? *Research Policy, 45*(2), 387–400.

Coeurderoy, R., & Murray, G. (2008). Regulatory environments and the location decision: Evidence from the early foreign market entries of new-technology-based firms. *Journal of International Business Studies, 39*(4), 670–687.

Colino, A., Benito-Osorio, D., & Rueda-Armengot, C. (2014). Entrepreneurship culture, total factor productivity growth and technical progress: Patterns of convergence towards the technological frontier. *Technological Forecasting and Social Change, 88*, 349–359.

Collins, J. D., McMullen, J. S., & Reutzel, C. R. (2016). Distributive justice, corruption, and entrepreneurial behavior. *Small Business Economics, 47*(4), 981–1006.

Copeland, P., & James, S. (2014). Policy windows, ambiguity and commission entrepreneurship: Explaining the relaunch of the European Union's economic reform agenda. *Journal of European Public Policy, 21*(1), 1–19.

Croce, M. M., Kung, H., Nguyen, T. T., & Schmid, L. (2012). Fiscal policies and asset prices. *Review of Financial Studies, 25*(9), 2635–2672.

Cumming, D., & Li, D. (2013). Public policy, entrepreneurship, and venture capital in the United States. *Journal of Corporate Finance, 23*, 345–367.

Czarnitzki, D., Doherr, T., Hussinger, K., Schliessler, P., & Toole, A. A. (2016). Knowledge creates markets: The influence of entrepreneurial support and patent rights on academic entrepreneurship. *European Economic Review, 86*, 131–146.

Da Rin, M., Di Giacomo, M., & Sembenelli, A. (2011). Entrepreneurship, firm entry, and the taxation of corporate income: Evidence from Europe. *Journal of Public Economics, 95*(9–10), 1048–1066.

Dana, L. P. (1987). Evaluating policies promoting entrepreneurship: A cross cultural comparison of enterprises case study: Singapore & Malaysia. *Journal of Small Business and Entrepreneurship, 4*(3), 36–41.

Danson, M. W. (1995). New firm formation and regional economic development: An introduction and review of the Scottish experience. *Small Business Economics, 7*(2), 81–87.

Davidsson, P. (1995). Culture, structure and regional levels of entrepreneurship. *Entrepreneurship and Regional Development, 7*(1), 41–62.

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

Davidsson, P., Hunter, E., & Klofsten, M. (2006). Institutional forces: The invisible hand that shapes venture ideas? *International Small Business Journal, 24*(2), 115–131.

Davidsson, P., Lindmark, L., & Olofsson, C. (1994). New firm formation and regional development in Sweden. *Regional Studies, 28*(4), 395–410.

Davidsson, P., & Wiklund, J. (1997). Values, beliefs and regional variations in new firm formation rates. *Journal of Economic Psychology, 18*(2–3), 179–199.

Davis, D. W., & Davenport, C. (1999). Assessing the validity of the postmaterialism index. *American Political Science Review, 93*(3), 649–664.

Davis, L. S., & Williamson, C. R. (2016). Culture and the regulation of entry. *Journal of Comparative Economics, 44*(4), 1055–1083.

De Castro, J. O., Khavul, S., & Bruton, G. D. (2014). Shades of grey: How do informal firms navigate between macro and meso institutional environments? *Strategic Entrepreneurship Journal, 8*(1), 75–94.

De Clercq, D., & Dakhli, M. (2009). Personal strain and ethical standards of the self-employed. *Journal of Business Venturing, 24*(5), 477–490.

De Clercq, D., Danis, W. M., & Dakhli, M. (2010). The moderating effect of institutional context on the relationship between associational activity and new business activity in emerging economies. *International Business Review, 19*(1), 85–101.

de Lange, D. E. (2016). Legitimation strategies for clean technology entrepreneurs facing institutional voids in emerging economies. *Journal of International Management, 22*(4), 403–415.

Dean, T. J., & McMullen, J. S. (2007). Toward a theory of sustainable entrepreneurship: Reducing environmental degradation through entrepreneurial action. *Journal of Business Venturing, 22*(1), 50–76.

Dees, J. G. (1998). The meaning of social entrepreneurship. Comments and suggestions contributed from the Social Entrepreneurship Funders Working Group. pp. 6.

Dejardin, M. (2000). *Entrepreneurship and economic growth: An obvious conjunction?* Namur, Belgium: University of Namur.

Dejardin, M. (2011). Linking net entry to regional economic growth. *Small Business Economics, 36*(4), 443–460.

Dejardin, M., & Fritsch, M. (2011). Entrepreneurial dynamics and regional growth. *Small Business Economics, 36*(4), 377–382.

Desai, M. (1991). Human development: Concepts and measurement. *European Economic Review, 35*(2), 350–357.
Desai, S. (2016). Measuring entrepreneurship: Type, motivation, and growth. *IZA World of Labor, 327*, 1–10.
Devece, C., Peris-Ortiz, M., & Rueda-Armengot, C. (2016). Entrepreneurship during economic crisis: Success factors and paths to failure. *Journal of Business Research, 69*(11), 5366–5370.
Díaz Casero, J. C., Almodóvar González, M., de la Cruz Sánchez Escobedo, M., Coduras Martinez, A., & Hernández Mogollón, R. (2013). Institutional variables, entrepreneurial activity and economic development. *Management Decision, 51*(2), 281–305.
DiMaggio, P. J. (1988). Interest and agency in institutional theory. Institutional patterns and organizations. *Culture and Environment, 1*, 3–22.
DiMaggio, P. J., & Powell, W. W. (Eds.). (1991). *The new institutionalism in organizational analysis* (Vol. 17). Chicago: University of Chicago Press.
Djankov, S., Ganser, T., McLiesh, C., Ramalho, R., & Shleifer, A. (2010). The effect of corporate taxes on investment and entrepreneurship. *American Economic Journal, 2*(3), 31–64.
Djankov, S., La Porta, R., Lopez-De-Salines, F., & Shleifer, A. (2002). The regulation of entry. *The Quarterly Journal of Economics, 117*(1), 1–37.
Duch, R. M., & Taylor, M. A. (1993). Postmaterialism and the economic condition. *American Journal of Political Science, 37*(3), 747–779.
Dutta, N., & Sobel, R. (2016). Does corruption ever help entrepreneurship? *Small Business Economics, 47*(1), 179–199.
Easterly, W., & Easterly, W. R. (2001). *The elusive quest for growth: Economists' adventures and misadventures in the tropics*. Cambridge, MA: MIT Press.
Eesley, C. (2016). Institutional barriers to growth: Entrepreneurship, human capital and institutional change. *Organization Science, 27*(5), 1290–1306.
Engelbrecht, H.-J. (2014). A general model of the innovation-subjective well-being nexus. *Journal of Evolutionary Economics, 24*(2), 377–397.
Estrin, S., Korosteleva, J., & Mickiewicz, T. (2013). Which institutions encourage entrepreneurial growth aspirations? *Journal of Business Venturing, 28*(4), 564–580.
Estrin, S., & Mickiewicz, T. (2011). Institutions and female entrepreneurship. *Small Business Economics, 37*(4), 397–415.
Estrin, S., & Mickiewicz, T. (2012). Shadow economy and entrepreneurial entry. *Review of Development Economics, 16*(4), 559–578.
Estrin, S., Mickiewicz, T., & Stephan, U. (2013). Entrepreneurship, social capital, and institutions: Social and commercial entrepreneurship across nations. *Entrepreneurship Theory and Practice, 37*(3), 479–504.
Etzkowitz, H., & Klofsten, M. (2005). The innovating region: Toward a theory of knowledge-based regional development. *R&D Management, 35*(3), 243–255.
Feldman, M. P. (2014). The character of innovative places: Entrepreneurial strategy, economic development, and prosperity. *Small Business Economics, 43*(1), 9–20.
Field, E., Jayachandran, S., & Pande, R. (2010). Do traditional institutions constrain female entrepreneurship? A field experiment on business training in India. *The American Economic Review, 100*(2), 125–129.
Fisman, R., & Svensson, J. (2007). Are corruption and taxation really harmful to growth? Firm level evidence. *Journal of Development Economics, 83*(1), 63–75.
Fligstein, N. (1997). Social skill and institutional theory. *American Behavioral Scientist, 40*(4), 397–405.
Florida, R. (2002). The rise of the creative class. *The Washington Monthly, 34*(5), 15–25.
Foa, R. (2011). *Indices of social development: Research applications*. International Institute for Social Studies Working Paper Series. http://www.indsocdev.org. Accessed 2 Oct 2014.
Foa, R., & Tanner, J. C. (2012). *Methodology of the indices of social development*. Institute for Social Studies Working Paper Series, Working paper 2012–4. http://www.indsocdev. Org. Accessed 1 Oct 2014.

Freire-Gibb, L. C., & Nielsen, K. (2014). Entrepreneurship within urban and rural areas: Creative people and social networks. *Regional Studies, 48*(1), 139–153.

Freytag, A., & Thurik, R. (2007). Entrepreneurship and its determinants in a cross-country setting. *Journal of Evolutionary Economics, 17*(2), 117–131.

Freytag, A., & Thurik, R. (2010). Introducing entrepreneurship and culture. In A. Freytag & R. Thurik (Eds.), *Entrepreneurship and culture* (pp. 1–8). Berlin, Germany: Springer.

Fried, V. H. (2003). Defining a forum for entrepreneurship scholars. *Journal of Business Venturing, 18*(1), 1–11.

Fritsch, M. (2008). How does new business formation affect regional development? Introduction to the special issue. *Small Business Economics, 30*(1), 1–14.

Fritsch, M. (2011). *Elgar handbook of research on entrepreneurship and regional development* (National and Regional Perspectives). Cheltenham, UK: Edward Elgar.

Fritsch, M., & Wyrwich, M. (2017). The effect of entrepreneurship on economic development – an empirical analysis using regional entrepreneurship culture. *Journal of Economic Geography, 17*(1), 157–189.

Fuentelsaz, L., González, C., Maícas, J. P., & Montero, J. (2015). How different formal institutions affect opportunity and necessity entrepreneurship. *BRQ Business Research Quarterly, 18*(4), 246–258.

Galindo, M. Á., & Méndez, M. T. (2014). Entrepreneurship, economic growth, and innovation: Are feedback effects at work? *Journal of Business Research, 67*(5), 825–829.

García-Posada, M., & Mora-Sanguinetti, J. S. (2015). Entrepreneurship and enforcement institutions: Disaggregated evidence for Spain. *European Journal of Law and Economics, 40*(1), 49–74.

Giordani, P. E. (2015). Entrepreneurial finance and economic growth. *Journal of Economics, 115*(2), 153–174.

Glaeser, E. L., La Porta, R., Lopez-de-Silanes, F., & Shleifer, A. (2004). Do institutions cause growth? *Journal of Economic Growth, 9*(3), 271–303.

Glaeser, E. L., Rosenthal, S. S., & Strange, W. C. (2010). Urban economics and entrepreneurship. *Journal of Urban Economics, 67*(1), 1–14.

Gnyawali, D. R., & Fogel, D. S. (1994). Environments for entrepreneurship development: Key dimensions and research implications. *Entrepreneurship Theory and Practice, 18*(4), 43–62.

Gohmann, S. F. (2012). Institutions, latent entrepreneurship, and self-employment: An international comparison. *Entrepreneurship Theory and Practice, 36*(2), 295–321.

Goltz, S., Buche, M. W., & Pathak, S. (2015). Political empowerment, rule of law, and women's entry into entrepreneurship. *Journal of Small Business Management, 53*(3), 605–626.

Gómez-Haro, S., Aragón-Correa, J. A., & Cordón-Pozo, E. (2011). Differentiating the effects of the institutional environment on corporate entrepreneurship. *Management Decision, 49*(10), 1677–1693.

González-Pernía, J. L., & Peña-Legazkue, I. (2015). Export-oriented entrepreneurship and regional economic growth. *Small Business Economics, 45*(3), 505–522.

Gries, T., & Naudé, W. (2010). Entrepreneurship and structural economic transformation. *Small Business Economics, 34*(1), 13–29.

Guerrero, M., Cunningham, J. A., & Urbano, D. (2015). Economic impact of entrepreneurial universities' activities: An exploratory study of the United Kingdom. *Research Policy, 44*(3), 748–764.

Guerrero, M., & Urbano, D. (2012). The development of an entrepreneurial university. *The Journal of Technology Transfer, 37*(1), 43–74.

Guerrero, M., Urbano, D., Cunningham, J., & Organ, D. (2014). Entrepreneurial universities in two European regions: A case study comparison. *The Journal of Technology Transfer, 39*(3), 415–434.

Guerrero, M., Urbano, D., & Fayolle, A. (2016). Entrepreneurial activity and regional competitiveness: Evidence from European entrepreneurial universities. *The Journal of Technology Transfer, 41*(1), 105–131.

Hafer, R. W., & Jones, G. (2015). Are entrepreneurship and cognitive skills related? Some international evidence. *Small Business Economics, 44*(2), 283–298.
Hall, J., Matos, S., Sheehan, L., & Silvestre, B. (2012). Entrepreneurship and innovation at the base of the pyramid: A recipe for inclusive growth or social exclusion? *Journal of Management Studies, 49*(4), 785–812.
Hartog, C., Parker, S., van Stel, A., & Thurik, R. (2010). *The two-way relationship between entrepreneurship and economic performance*. Scales report H200822. http://core.ac.uk/download/pdf/6332576.pdf. Accessed 15 Sept 2014.
Hausmann, R., & Rodrik, D. (2003). Economic development as self-discovery. *Journal of Development Economics, 72*(2), 603–633.
Hayton, J. C., George, G., & Zahra, S. A. (2002). National culture and entrepreneurship: A review of behavioral research. *Entrepreneurship Theory and Practice, 26*(4), 33–52.
Hechavarría, D. M. (2016). The impact of culture on national prevalence rates of social and commercial entrepreneurship. *International Entrepreneurship and Management Journal, 12*(4), 1025–1052.
Hechavarria, D. M., & Reynolds, P. D. (2009). Cultural norms & business start-ups: The impact of national values on opportunity and necessity entrepreneurs. *International Entrepreneurship and Management Journal, 5*(4), 417.
Helpman, E. (2004). *The mystery of economic growth*. Cambridge, MA: MIT Press.
Henderson, J. V., Storeygard, A., & Weil, D. N. (2012). Measuring economic growth from outer space. *American Economic Review, 102*(2), 994–1028.
Henrekson, M. (2005). Entrepreneurship: A weak link in the welfare state? *Industrial and Corporate Change, 14*(3), 437–467.
Hessels, J., Van Gelderen, M., & Thurik, R. (2008). Entrepreneurial aspirations, motivations, and their drivers. *Small Business Economics, 31*(3), 323–339.
Hessels, J., & van Stel, A. (2011). Entrepreneurship, export orientation, and economic growth. *Small Business Economics, 37*(2), 255–268.
Hessels, J., van Stel, A., Brouwer, P., & Wennekers, S. (2007). Social security arrangements and early stage entrepreneurial activity. *Comparative Labor Law and Policy Journal, 28*, 743–774.
Hodgson, G. M. (2006). What are institutions? *Journal of Economic Issues, 40*(1), 1–25.
Hoffman, D. L., & Franke, G. R. (1986). Correspondence analysis: Graphical representation of categorical data in marketing research. *Journal of Marketing Research, 23*(3), 213–227.
Hofstede, G. (1980). *Culture's consequences: International differences in work-related values*. Beverly Hills, CA: Sage.
Hofstede, G. (2005). *Culture and organizations: Software of the mind*. Revised and expanded (2nd ed.). New York: McGraw-Hill.
Hofstede, G., Hofstede, G. J., & Minkov, M. (1997). *Cultures and organizations*. New York: McGraw-Hill.
Hofstede, G., Noorderhaven, N. G., Thurik, A. R., Uhlaner, L. M., Wennekers, A. R., & Wildeman, R. E. (2004). Culture's role in entrepreneurial activity: Self-employment out of dissatisfaction. In T. E. Brown & J. Ulijn (Eds.), *Innovation, entrepreneurship and culture: The interaction between technology, progress and economic growth* (pp. 162–203). Cheltenham, UK: Edgar Elgar Publishing Ltd, London.
Hofstede, G. J. (2009). Research on cultures: How to use it in training? *European Journal of Cross-Cultural Competence and Management, 1*(1), 14–21.
Holland, D. V., & Shepherd, D. A. (2013). Deciding to persist: Adversity, values, and entrepreneurs' decision policies. *Entrepreneurship Theory and Practice, 37*(2), 331–358.
Hoogendoorn, B., Rietveld, C. A., & van Stel, A. (2016). Belonging, believing, bonding, and behaving: The relationship between religion and business ownership at the country level. *Journal of Evolutionary Economics, 26*(3), 519–550.
Hopp, C., & Stephan, U. (2012). The influence of socio-cultural environments on the performance of nascent entrepreneurs: Community culture, motivation, self-efficacy and start-up success. *Entrepreneurship and Regional Development, 24*(9–10), 917–945.

House, R. J., Hanges, P. J., Javidan, M., Dorfman, P. W., & Gupta, V. (2004). *Culture, leadership and organizations: The GLOBE study of 62 societies*. Thousand Oaks, CA: Sage. http://www.aeaweb.org/annual_mtg_papers/2006/0108_1015_0204.pdf. Accessed 15 Aug 2014.

Huggins, R., & Thompson, P. (2015). Entrepreneurship, innovation and regional growth: A network theory. *Small Business Economics, 45*(1), 103–128.

Huggins, R., & Thompson, P. (2016). Socio-spatial culture and entrepreneurship: Some theoretical and empirical observations. *Economic Geography, 92*(3), 269–300.

Hunt, S., & Levie, J. (2002). Culture as a predictor of entrepreneurial activity. In *Babson College, Babson Kauffman Entrepreneurial activity Research Conference (BKERC) (2002–2006)*. http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1748691. Accessed 30 Sept 2014.

Inglehart, R. (1977). *The silent revolution: Changing values and political styles in advanced industrial society*. Princeton, NJ: Princeton University Press.

Inglehart, R. (1990). *Culture shift in advanced industrial society*. Princeton, NJ: Princeton University Press.

Inglehart, R. (1997). *Modernization and postmodernization: Cultural, economic, and political change in 43 societies*. Princeton, NJ: Princeton University Press.

Inglehart, R., & Baker, W. E. (2000). Modernization, cultural change, and the persistence of traditional values. *American Sociological Review, 65*(1), 19–51.

Inglehart, R., & Welzel, C. (2005). *Modernization, cultural change, and democracy: The human development sequence*. New York: Cambridge University Press.

Intriligator, M., Bodkin, R., & Hsiao, C. (1996). *Econometric models, techniques and applications* (2nd ed.). Upper Saddle River, NJ: Prentice Hall.

Ireland, R. D., Tihanyi, L., & Webb, J. W. (2008). A tale of two politico-economic systems: Implications for entrepreneurship in Central and Eastern Europe. *Entrepreneurship Theory and Practice, 32*(1), 107–130.

Isenberg, D. J. (2010). How to start an entrepreneurial revolution. *Harvard Business Review, 88*(6), 40–50.

Iyigun, M. F., & Owen, A. L. (1999). Entrepreneurs, professionals, and growth. *Journal of Economic Growth, 4*(2), 213–232.

Jennings, P. D., Greenwood, R., Lounsbury, M. D., & Suddaby, R. (2013). Institutions, entrepreneurs, and communities: A special issue on entrepreneurship. *Journal of Business Venturing, 28*(1), 1–9.

Jetter, M., Agudelo, A. M., & Ramírez Hassan, A. (2015). The effect of democracy on corruption: Income is key. *World Development, 74*, 286–304.

Johnson, P., & Parker, S. (1996). Spatial variations in the determinants and effects of firm births and deaths. *Regional Studies, 30*(7), 679–688.

Kanniainen, V., & Vesala, T. (2005). Entrepreneurship and labor market institutions. *Economic Modelling, 22*(5), 828–847.

Kantor, P. (2005). Determinants of women's microenterprise success in Ahmedabad, India: Empowerment and economics. *Feminist Economics, 11*(3), 63–83.

Khavul, S., & Bruton, G. D. (2013). Harnessing innovation for change: Sustainability and poverty in developing countries. *Journal of Management Studies, 50*(2), 285–306.

Kibler, E., & Kautonen, T. (2016). The moral legitimacy of entrepreneurs: An analysis of early-stage entrepreneurship across 26 countries. *International Small Business Journal, 34*(1), 34–50.

Kim, B. Y., & Kang, Y. (2014). Social capital and entrepreneurial activity: A pseudo-panel approach. *Journal of Economic Behavior & Organization, 97*, 47–60.

King, R. G., & Levine, R. (1993). Finance, entrepreneurship and growth. Theory and evidence. *Journal of Monetary Economics, 32*(3), 513–542.

Kirby, D. A., Guerrero, M., & Urbano, D. (2011). Making universities more entrepreneurial: Development of a model. *Canadian Journal of Administrative Sciences, 28*(3), 302–316.

Klapper, L., Laeven, L., & Rajan, R. (2006). Entry regulation as a barrier to entrepreneurship. *Journal of Financial Economics, 82*(3), 591–629.

Knörr, H., Alvarez, C., & Urbano, D. (2013). Entrepreneurs or employees: A cross-cultural cognitive analysis. *International Entrepreneurship and Management Journal, 9*(2), 273–294.
Koellinger, P. (2008). Why are some entrepreneurs more innovative than others? *Small Business Economics, 31*(1), 21–37.
Koellinger, P., Minniti, M., & Schade, C. (2007). "I think I can, I think I can": Overconfidence and entrepreneurial behavior. *Journal of Economic Psychology, 28*(4), 502–527.
Krasniqi, B. A., & Desai, S. (2016). Institutional drivers of high-growth firms: Country-level evidence from 26 transition economies. *Small Business Economics, 47*(4), 1075–1094.
Krasniqi, B. A., & Mustafa, M. (2016). Small firm growth in a post-conflict environment: The role of human capital, institutional quality, and managerial capacities. *International Entrepreneurship and Management Journal, 12*(4), 1165–1207.
Kraus, S., Rigtering, J. C., Hughes, M., & Hosman, V. (2012). Entrepreneurial orientation and the business performance of SMEs: A quantitative study from the Netherlands. *Review of Managerial Science, 6*(2), 161–182.
Krueger, N. F. (1993). The impact of prior entrepreneurial exposure on perceptions of new venture feasibility and desirability. *Entrepreneurship Theory and Practice, 18*(1), 5–22.
Krueger, N. F., & Brazeal, D. V. (1994). Entrepreneurial potential and potential entrepreneurs. *Entrepreneurship Theory and Practice, 18*(1), 91–104.
Kuckertz, A., Berger, E. S., & Mpeqa, A. (2016). The more the merrier? Economic freedom and entrepreneurial activity. *Journal of Business Research, 69*(4), 1288–1293.
Kwon, H.-J., & Yi, I. (2009). Economic development and poverty reduction in Korea: Governing multifunctional institutions. *Development and Change, 40*(4), 769–792.
Kwon, S.-W., Heflin, C., & Ruef, M. (2013). Community social capital and entrepreneurship. *American Sociological Review, 78*(6), 980–1008.
Landström, H., Harirchi, G., & Åström, F. (2012). Entrepreneurship: Exploring the knowledge base. *Research Policy, 41*(7), 1154–1181.
Langowitz, N., & Minniti, M. (2007). The entrepreneurial propensity of women. *Entrepreneurship Theory and Practice, 31*(3), 341–364.
Lawless, M. (2013). Do complicated tax systems prevent foreign direct investment? *Economica, 80*(317), 1–22.
Lawton Smith, H. (2003). Knowledge organizations and local economic development: The cases of Oxford and Grenoble. *Regional Studies, 37*(9), 899–909.
Lechner, M., & Pfeiffer, F. (1993). Planning for self-employment at the beginning of a market economy: Evidence from individual data of East German workers. *Small Business Economics, 5*(2), 111–128.
Lee, J. H., Sohn, S. Y., & Ju, Y. H. (2011). How effective is government support for Korean women entrepreneurs in small and medium enterprises? *Journal of Small Business Management, 49*(4), 599–616.
Lee, S. M., & Peterson, S. J. (2001). Culture, entrepreneurial orientation, and global competitiveness. *Journal of World Business, 35*(4), 401–416.
Lee, S.-Y., Florida, R., & Acs, Z. (2004). Creativity and entrepreneurship: A regional analysis of new firm formation. *Regional Studies, 38*(8), 879–891.
Lee, T. (2012). *Can women's social capital mitigate the gendered disadvantage in firm growth?* Princeton, NJ: Department of Sociology, Princeton University.
Leff, N. H. (1979). Entrepreneurship and economic development: The problem revisited. *Journal of Economic Literature, 17*(1), 46–64.
Lerner, M., Brush, C., & Hisrich, R. (1997). Israeli women entrepreneurs: An examination of factors affecting performance. *Journal of Business Venturing, 12*(4), 315–339.
Levie, J. (2007). Immigration, in-migration, ethnicity and entrepreneurship in the United Kingdom. *Small Business Economics, 28*(2–3), 143–169.
Levie, J., & Autio, E. (2008). A theoretical grounding and test of the GEM model. *Small Business Economics, 31*(3), 235–263.

Leyden, D. P., & Link, A. N. (2015). Toward a theory of the entrepreneurial process. *Small Business Economics, 44*(3), 475–484.

Liao, J., & Welsch, H. (2005). Roles of social capital in venture creation: Key dimensions and research implications. *Journal of Small Business Management, 43*(4), 345–362.

Lim, D. S., Oh, C. H., & De Clercq, D. (2016). Engagement in entrepreneurship in emerging economies: Interactive effects of individual-level factors and institutional conditions. *International Business Review, 25*(4), 933–945.

Liñán, F., & Fernandez-Serrano, J. (2014). National culture, entrepreneurship and economic development: Different patterns across the European Union. *Small Business Economics, 42*(4), 685–701.

Liñán, F., Romero Luna, I., & Fernández Serrano, J. (2013). Necessity and opportunity entrepreneurship: The mediating effect of culture. *Revista de Economía Mundial, 33*, 21–47.

Liñán, F., Urbano, D., & Guerrero, M. (2011). Regional variations in entrepreneurial cognitions: Start-up intentions of university students in Spain. *Entrepreneurship and Regional Development, 23*(3–4), 187–215.

Low, S. A., & Isserman, A. M. (2015). Where are the innovative entrepreneurs? Identifying innovative industries and measuring innovative entrepreneurship. *International Regional Science Review, 38*(2), 171–201.

Lucas Jr., R. E. (1988). On the mechanics of economic development. *Journal of Monetary Economics, 22*(1), 3–42.

Lucas, R. E. (1978). On the size distribution of business firms. *Bell Journal of Economics, 9*(2), 508–523.

Maimone Ansaldo Patti, D., Mudambi, R., Navarra, P., & Baglieri, D. (2016). A tale of soil and seeds: The external environment and entrepreneurial entry. *Small Business Economics, 47*(4), 955–980.

Mair, J., & Marti, I. (2006). Social entrepreneurship research: A source of explanation, prediction, and delight. *Journal of World Business, 41*(1), 36–44.

Mair, J., & Marti, I. (2009). Entrepreneurship in and around institutional voids: A case study from Bangladesh. *Journal of Business Venturing, 24*(5), 419–435.

Malchow-Møller, N., Markusen, J. R., & Skaksen, J. R. (2010). Labour market institutions, learning and self-employment. *Small Business Economics, 35*(1), 35–52.

Manolova, T. S., Eunni, R. V., & Gyoshev, B. S. (2008). Institutional environments for entrepreneurship: Evidence from emerging economies in Eastern Europe. *Entrepreneurship Theory and Practice, 32*(1), 203–218.

Markman, G. D., Balkin, D. B., & Baron, R. A. (2002). Inventors and new venture formation: The effects of general self-efficacy and regretful thinking. *Entrepreneurship Theory and Practice, 27*(2), 149–165.

Markman, G. D., Baron, R. A., & Balkin, D. B. (2005). Are perseverance and self-efficacy costless? Assessing entrepreneurs' regretful thinking. *Journal of Organizational Behavior, 26*(1), 1–19.

Marlow, S., & Patton, D. (2005). All credit to men? Entrepreneurship, finance, and gender. *Entrepreneurship Theory and Practice, 29*(6), 717–735.

Martin, R. L., & Osberg, S. (2007). Social entrepreneurship: The case for definition. *Stanford Social Innovation Review, 5*(2), 28–39.

Mason, C., & Brown, R. (2014). *Entrepreneurial ecosystems and growth oriented entrepreneurship*. Paper prepared for a workshop of the OECD LEED Programme and the Dutch Ministry of Economic Affairs, The Hague, Netherlands, November 7th, 2013.

Max-Neef, M. A., Elizalde, A., & Hopenhayn, M. (1991). *Human scale development: Conception, application and further reflections* (Vol. 1). New York: Apex Press.

McClelland, D. C. (1961). *The achieving society*. Princeton, NJ: Van Nostrand.

McGrath, R. G., MacMillan, I. C., & Scheinberg, S. (1992). Elitists, risk-takers, and rugged individualists? An exploratory analysis of cultural differences between entrepreneurs and non-entrepreneurs. *Journal of Business Venturing, 7*(2), 115–135.

McGrath, R. G., MacMillan, I. C., Yang, E. A. Y., & Tsai, W. (1992). Does culture endure, or is it malleable? Issues for entrepreneurial economic development. *Journal of Business Venturing, 7*(6), 441–458.

McMullen, J. S. (2011). Delineating the domain of development entrepreneurship: A market-based approach to facilitating inclusive economic growth. *Entrepreneurship Theory and Practice, 35*(1), 185–193.

Meagher, K. (2007). Manufacturing disorder: Liberalization, informal enterprise and economic 'ungovernance' in African small firm clusters. *Development and Change, 38*(3), 473–503.

Meek, W. R., Pacheco, D. F., & York, J. G. (2010). The impact of social norms on entrepreneurial action: Evidence from the environmental entrepreneurship context. *Journal of Business Venturing, 25*(5), 493–509.

Méndez-Picazo, M.-T., Galindo Martín, M. Á., & Ribeiro-Soriano, D. (2012). Governance, entrepreneurship and economic growth. *Entrepreneurship and Regional Development, 24*(9–10), 865–867.

Merigó, J. M., Cancino, C. A., Coronado, F., & Urbano, D. (2016). Academic research in innovation: A country analysis. *Scientometrics, 108*(2), 559–593.

Minkov, M., & Hofstede, G. (2012). Hofstede's fifth dimension: New evidence from the World Values Survey. *Journal of Cross-Cultural Psychology, 43*(1), 3–14.

Minniti, M. (2004). Entrepreneurial alertness and asymmetric information in a spin-glass model. *Journal of Business Venturing, 19*(5), 637–658.

Minniti, M., & Lévesque, M. (2010). Entrepreneurial types and economic growth. *Journal of Business Venturing, 25*(3), 305–314.

Minniti, M., & Nardone, C. (2007). Being in someone else's shoes: The role of gender in nascent entrepreneurship. *Small Business Economics, 28*(2), 223–238.

Mitchell, R. K., Smith, B., Seawright, K. W., & Morse, E. A. (2000). Cross-cultural cognitions and the venture creation decision. *Academy of Management Journal, 43*(5), 974–993.

Monteiro, J., & Assunção, J. J. (2012). Coming out of the shadows? Estimating the impact of bureaucracy simplification and tax cut on formality in Brazilian microenterprises. *Journal of Development Economics, 99*(1), 105–115.

Morales, C. E., & Holtschlag, C. (2013). Post materialist values and entrepreneurship: A multilevel approach. *International Journal of Entrepreneurial Behavior and Research, 19*(3), 266–282.

Morris, M. H., Avila, R. A., & Alien, J. (1993). Individualism and the modern corporation: Implications for innovation and entrepreneurship. *Journal of Management, 19*(3), 595–612.

Mueller, P. (2007). Exploiting entrepreneurial opportunities: The impact of entrepreneurship on growth. *Small Business Economics, 28*(4), 355–362.

Mueller, S. L., & Thomas, A. S. (2001). Culture and entrepreneurial potential: A nine country study of locus of control and innovativeness. *Journal of Business Venturing, 16*(1), 51–75.

Müller, S. (2016). A progress review of entrepreneurship and regional development: What are the remaining gaps? *European Planning Studies, 24*(6), 1133–1158.

Muñoz, P., & Kibler, E. (2016). Institutional complexity and social entrepreneurship: A fuzzy-set approach. *Journal of Business Research, 69*(4), 1314–1318.

Năstase, C., & Kajanus, M. (2009). The impact of the global crisis on SME and entrepreneurship behavior–Romania and Finland cases. *Amfiteatru Economic, 3*, 752–753.

Nathan, M., & Lee, N. (2013). Cultural diversity, innovation, and entrepreneurship: Firm-level evidence from London. *Economic Geography, 89*(4), 367–394.

Naudé, W. (2010). Entrepreneurship, developing countries, and development economics: New approaches and insights. *Small Business Economics, 34*(1), 1–12.

Naudé, W. (2011). Entrepreneurship is not a binding constraint on growth and development in the poorest countries. *World Development, 39*(1), 33–44.

Naudé, W., Amorós, J. E., & Cristi, O. (2014). "Surfeiting, the appetite may sicken": Entrepreneurship and happiness. *Small Business Economics, 42*(3), 523–540.

Naudé, W. A., Amorós, J. E., & Cristi, M. (2013). *"Romanticizing penniless entrepreneurs?" The relationship between start-ups and human wellbeing across countries*. IZA Discussion Paper 7547. http://www.econstor.eu/handle/10419/80527. Accessed 15 Apr 2014.

Nicolini, R. (2011). Labour productivity in Spain: 1977–2002. *Applied Economics, 43*(4), 465–485.

Nijkamp, P., Sahin, M., & Baycan-Levent, T. (2010). Migrant entrepreneurship and new urban economic opportunities: Identification of critical success factors by means of qualitative pattern recognition analysis. *Tijdschrift Vooreconomische en Sociale Geografie, 101*(4), 371–391.

Nissan, E., Martín, M. Á. G., & Picazo, M. T. M. (2011). Relationship between organizations, institutions, entrepreneurship and economic growth process. *International Entrepreneurship and Management Journal, 7*(3), 311–324.

North, D. C. (1990). *Institutions, institutional change and economic performance*. Cambridge, MA: Cambridge University Press.

North, D. C. (2005). *Understanding the process of economic change*. Princeton, NJ: Princeton University Press.

North, D. C., & Thomas, R. P. (1973). *The rise of the western world: A new economic history*. Cambridge, UK: Cambridge University Press.

Noseleit, F. (2013). Entrepreneurship, structural change, and economic growth. *Journal of Evolutionary Economics, 23*(4), 735–766.

Nyström, K. (2008). The institutions of economic freedom and entrepreneurship: Evidence from panel data. *Public Choice, 136*(3–4), 269–282.

Onofrei, M., & Lupu, D. (2012). The management of economic decline and the dimension of organizational change. *Amfiteatru Economic, 32*, 470–484.

Parker, S. C., & Robson, M. T. (2004). Explaining international variations in self-employment: Evidence from a panel of OECD countries. *Southern Economic Journal, 71*(2), 287–301.

Pathak, S., & Muralidharan, E. (2016). Informal institutions and their comparative influences on social and commercial entrepreneurship: The role of in-Group collectivism and interpersonal trust. *Journal of Small Business Management, 54*(S1), 168–188.

Pathak, S., Xavier-Oliveira, E., & Laplume, A. O. (2013). Influence of intellectual property, foreign investment, and technological adoption on technology entrepreneurship. *Journal of Business Research, 66*(10), 2090–2101.

Peng, M. W., Yamakawa, Y., & Lee, S.-H. (2010). Bankruptcy laws and entrepreneur- friendliness. *Entrepreneurship Theory and Practice, 34*(3), 517–530.

Phelps, E. S. (2010). Post-crisis economic policies. *Journal of Policy Modeling, 32*(5), 596–603.

Pinillos, M. J., & Reyes, L. (2011). Relationship between individualist–collectivist culture and entrepreneurial activity: Evidence from Global Entrepreneurship Monitor data. *Small Business Economics, 37*(1), 23–37.

Pinotti, P. (2012). Trust, regulation and market failures. *Review of Economics and Statistics, 94*(3), 650–658.

Porter, M. E. (2013). Social Progress Index 2013. *Social Progress Imperative*. http://www.prueba04.info/wpcontent/uploads/2009/01/SocialProgressIndex2013.pdf. Accessed 30 June 2014.

Porter, M. E., Stern, S., & Green, M. (2014). *Social progress index 2014*. Washington, D.C.: Social Progress Imperative.

Portes, A., & Zhou, M. (1992). Gaining the upper hand: Economic mobility among immigrant and domestic minorities. *Ethnic and Racial Studies, 15*(4), 491–522.

Prantl, S., & Spitz-Oener, A. (2009). How does entry regulation influence entry into self-employment and occupational mobility? *The Economics of Transition, 17*(4), 769–802.

Prieger, J. E., Bampoky, C., Blanco, L. R., & Liu, A. (2016). Economic growth and the optimal level of entrepreneurship. *World Development, 82*, 95–109.

Putnam, R. D. (1993). *Making democracy work. Civic traditions in modern Italy*. Princeton, NJ: Princeton University Press.

Ram, M., & Jones, T. (2008). Ethnic-minority businesses in the UK: A review of research and policy developments. *Environment and Planning. C, Government & Policy, 26*(2), 352–374.

Rao, H., Morrill, C., & Zald, M. N. (2000). Power plays: How social movements and collective action create new organizational forms. *Research in Organizational Behavior, 22*, 239–282.

Reynolds, P., Bosma, N., Autio, E., Hunt, S., De Bono, N., Servais, I., et al. (2005). Global entrepreneurship monitor: Data collection design and implementation 1998–2003. *Small Business Economics, 24*(3), 205–231.

Reynolds, P., Camp, S., Bygrave, W., Autio, E., & Hay, M. (2001). *Global Entrepreneurship Monitor*. 2001 executive report. Babson College, London Business School, Kauffman Center for Entrepreneurial Leadership.

Reynolds, P. D., Camp, S. M., Bygrave, W. D., Autio, E., & Hay, M. (2002). *Global entrepreneurship monitor global 2002 executive report*. Kansas City, MO: Kaufman Center.

Reynolds, P. D., Hay, M., Bygrave, W. D., Camp, S. M., & Autio, E. (2000). *Global entrepreneurship monitor: 2000 executive report*. Kansas City, MO: Kauffman Center for Entrepreneurial Leadership.

Reynolds, P. D., Hay, M., & Camp, S. (1999). *Global entrepreneurship monitor: 1999 executive report*. Kansas City, MO: Kauffman Foundation.

Ribeiro-Soriano, D., & Peris-Ortiz, M. (2011). Subsidizing technology: How to succeed. *Journal of Business Research, 64*(11), 1224–1228.

Robinson, P. B., & Sexton, E. A. (1994). The effect of education and experience on self-employment success. *Journal of Business Venturing, 9*(2), 141–156.

Rocha, H. O. (2004). Entrepreneurship and development: The role of clusters. *Small Business Economics, 23*(5), 363–400.

Rodrik, D. (2003). Introduction: What do we learn from country narratives? In D. Rodrik (Ed.), *In search of prosperity: Analytic narratives on economic growth* (pp. 1–19). Princeton, NJ: Princeton University Press.

Rojas, M. (2011). The 'Measurement of economic performance and social progress' report and quality of life: Moving forward. *Social Indicators Research, 102*(1), 169–180.

Román, C., Congregado, E., & Millán, J. M. (2011). Dependent self-employment as a way to evade employment protection legislation. *Small Business Economics, 37*(3), 363–392.

Román, C., Congregado, E., & Millán, J. M. (2013). Start-up incentives: Entrepreneurship policy or active labour market programme? *Journal of Business Venturing, 28*(1), 151–175.

Romer, P. M. (1986). Increasing returns and long-run growth. *Journal of Political Economy, 94*(5), 1002–1037.

Rooks, G., Klyver, K., & Sserwanga, A. (2014). The context of social capital: A comparison of rural and urban entrepreneurs in Uganda. *Entrepreneurship Theory and Practice, 40*, 111–130.

Salimath, M. S., & Cullen, J. B. (2010). Formal and informal institutional effects on entrepreneurship: A synthesis of nation-level research. *International Journal of Organizational Analysis, 18*(3), 358–385.

Sanyang, S. E., & Huang, W. C. (2010). Entrepreneurship and economic development: The EMPRETEC showcase. *International Entrepreneurship and Management Journal, 6*(3), 317–329.

Schramm, C. J. (2006). *The entrepreneurial imperative*. Livingston, NJ: Collins.

Schulz, T., & Baumgartner, D. (2013). Volunteer organizations: Odds or obstacle for small business formation in rural areas? Evidence from Swiss municipalities. *Regional Studies, 47*(4), 597–612.

Schumpeter, J. A. (1911). *The theory of economic development: An inquiry into profits, capital, credit, interest, and the business cycle*. London: Transaction Books.

Scott, W. R. (1995). *Institutions and organizations*. Los Angeles: Sage.

Scott, W. R. (2008). *Institutions and organizations: Ideas and interests* (Foundations for Organizational Science Series) (3rd ed.). London: Sage Publications.

Segarra, A., & Teruel, M. (2014). High-growth firms and innovation: An empirical analysis for Spanish firms. *Small Business Economics, 43*(4), 805–821.

Sen, A. (1988). *The standard of living*. Cambridge, UK: Cambridge University Press.

Sen, A. (1999). *Development as freedom*. Oxford, UK: Oxford University Press.

Shane, S. (1993). Cultural influences on national rates of innovation. *Journal of Business Venturing, 8*(1), 59–73.
Shane, S. (1995). Uncertainty avoidance and the preference for innovation championing roles. *Journal of International Business Studies, 26*(1), 47–68.
Shane, S. (2000). Prior knowledge and the discovery of entrepreneurial opportunities. *Organization Science, 11*(4), 448–469.
Shane, S. (2009). Why encouraging more people to become entrepreneurs is bad public policy. *Small Business Economics, 33*(2), 141–149.
Shane, S., & Foo, M. D. (1999). New firm survival: Institutional explanations for new franchisor mortality. *Management Science, 45*(2), 142–159.
Shane, S., & Venkataraman, S. (2000). The promise of entrepreneurship as a field of research. *Academy of Management Review, 25*(1), 217–226.
Shane, S. A. (1992). Why do some societies invent more than others? *Journal of Business Venturing, 7*(1), 29–46.
Shapero, A., & Sokol, L. (1982). The social dimensions of entrepreneurship. In C. A. Kent, D. L. Sexton, & K. H. Vesper (Eds.), *Encyclopedia of entrepreneurship* (pp. 72–90). Englewood Cliffs, NJ: Prentice-Hall. Inc..
Shepherd, D. A. (2015). Party On! A call for entrepreneurship research that is more interactive, activity based, cognitively hot, compassionate, and prosocial. *Journal of Business Venturing, 30*(4), 489–507.
Shir, N. (2015). *Entrepreneurial wellbeing: The payoff structure of business creation*. Stockholm, Sweden: Stockholm School of Economics.
Simmie, J. (2003). Innovation and urban regions as national and international nodes for the transfer and sharing of knowledge. *Regional Studies, 37*(6–7), 607–620.
Sobel, R. S. (2008). Testing Baumol: Institutional quality and the productivity of entrepreneurship. *Journal of Business Venturing, 23*(6), 641–655.
Solow, R. M. (1956). A contribution to the theory of economic growth. *The Quarterly Journal of Economics, 70*(1), 65–94.
Solow, R. M. (2007). The last 50 years in growth theory and the next 10. *Oxford Review of Economic Policy, 23*(1), 3–14.
Sorenson, O. (2003). Social networks and industrial geography. *Journal of Evolutionary Economics, 13*(5), 513–527.
Spencer, J. W., & Gómez, C. (2004). The relationship among national institutional structures, economic factors, and domestic entrepreneurial activity: A multicountry study. *Journal of Business Research, 57*(10), 1098–1107.
Stenholm, P., Acs, Z. J., & Wuebker, R. (2013). Exploring country-level institutional arrangements on the rate and type of entrepreneurial activity. *Journal of Business Venturing, 28*(1), 176–193.
Stephan, U., & Pathak, S. (2016). Beyond cultural values? Cultural leadership ideals and entrepreneurship. *Journal of Business Venturing, 31*(5), 505–523.
Stephan, U., Patterson, M., Kelly, C., & Mair, J. (2016). How organizations drive positive social change: A review and an integrative framework. *Journal of Management, 42*(5), 1250–1281.
Stephan, U., & Uhlaner, L. M. (2010). Performance-based vs socially supportive culture: A cross-national study of descriptive norms and entrepreneurship. *Journal of International Business Studies, 41*(8), 1347–1364.
Stephan, U., Uhlaner, L. M., & Stride, C. (2015). Institutions and social entrepreneurship: The role of institutional voids, institutional support, and institutional configurations. *Journal of International Business Studies, 46*(3), 308–331.
Stephen, F., Urbano, D., & Hemmen, S. (2009). The responsiveness of entrepreneurs to working time regulations. *Small Business Economics, 32*(3), 259–276.
Stephens, H. M., & Partridge, M. D. (2011). Do entrepreneurs enhance economic growth in lagging regions? *Growth and Change, 42*(4), 431–465.
Stern, S., Wares, A., Orzell, S., & O'Sullivan, P. (2014). *Social progress index 2014* (Methodological Report). Cambridge, MA: Social Progress Imperative.

Sternberg, R., & Müller, C. (2010). 'New Argonauts' in China–return migrants, transnational entrepreneurship and economic growth in a regional innovation system. *Die Erde, 141*(1–2), 103–125.
Sternberg, R., & Wennekers, S. (2005). Determinants and effects of new business creation using global entrepreneurship monitor data. *Small Business Economics, 24*(3), 193–203.
Steyaert, C., & Hjorth, D. (2006). *Entrepreneurship as socialchange. A third movements in entrepreneurship book*. Cheltenham, UK: Edward Elgar.
Stiglitz, J., Sen, A., & Fitoussi, J. P. (2009a). *The measurement of economic performance and social progress revisited* (Reflections and overview). Paris: Commission on the Measurement of Economic Performance and Social Progress. http://www.ofce.sciences-po.fr/pdf/dtravail/WP2009-33.pdf. Accessed 15 May 2014.
Stiglitz, J., Sen, A., & Fitoussi, J. P. (2009b). *The measurement of economic performance and social progress revisited*. Reflections and overview. Commission on the Measurement of Economic Performance and Social Progress. http://www.ofce.sciences-po.fr/pdf/dtravail/WP2009-33.pdf. Accessed 30 Apr 2014.
Stiglitz, J. E., & Weiss, A. (1981). Credit rationing in markets with imperfect information. *The American Economic Review, 71*(3), 393–410.
Storey, D. (2003). Entrepreneurship, small and medium sized enterprises and public policies. In Z. J. Acs & D. B. Audretsch (Eds.), *Handbook of entrepreneurship research* (pp. 473–511). Boston: Kluwer.
Storey, D. J., & Tether, B. S. (1998). Public policy measures to support new technology-based firms in the European Union. *Research Policy, 26*(9), 1037–1057.
Swan, T. W. (1956). Economic growth and capital accumulation. *The Economic Record, 32*(2), 334–361.
Tan, J. (2002). Culture, nation, and entrepreneurial strategic orientations: Implications for an emerging economy. *Entrepreneurship Theory and Practice, 26*(4), 96–111.
Taylor, M. Z., & Wilson, S. (2012). Does culture still matter?: The effects of individualism on national innovation rates. *Journal of Business Venturing, 27*(2), 234–247.
Teckchandani, A. (2014). Do membership associations affect entrepreneurship? The effect of type, composition, and engagement. *Nonprofit and Voluntary Sector Quarterly, 43*(2 suppl), 84S–104S.
Teece, D. J. (1986). Profiting from technological innovation: Implications for integration, collaboration, licensing and public policy. *Research Policy, 15*(6), 285–305.
Teece, D. J. (2007). Explicating dynamic capabilities: The nature and microfoundations of (sustainable) enterprise performance. *Strategic Management Journal, 28*(13), 1319–1350.
Teece, D. J., Pisano, G., & Shuen, A. (1997). Dynamic capabilities and strategic management. *Strategic Management Journal, 18*(7), 509–533.
Teixeira, A. A. (2011). Mapping the (in)visible college(s) in the field of entrepreneurship. *Scientometrics, 89*(1), 1–36.
Terjesen, S., & Amorós, J. E. (2010). Female entrepreneurship in Latin America and the Caribbean: Characteristics, drivers and relationship to economic development. *European Journal of Development Research, 22*(3), 313–330.
Terjesen, S., Bosma, N., & Stam, E. (2016). Advancing public policy for high-growth, female, and social entrepreneurs. *Public Administration Review, 76*(2), 230–239.
Terjesen, S., Hessels, J., & Li, D. (2016). Comparative international entrepreneurship: A review and research agenda. *Journal of Management, 42*(1), 299–344.
Thomas, A. S., & Mueller, S. L. (2000). A case for comparative entrepreneurship: Assessing the relevance of culture. *Journal of International Business Studies, 31*(2), 287–301.
Thornton, P. H., & Flynne, K. H. (2003). Entrepreneurship, networks and geographies. In Z. Acs & D. Audretsch (Eds.), *Handbook of entrepreneurship research* (pp. 401–433). Dordrecht, The Netherlands: Kluwer Academic Publishers.
Thornton, P. H., Ribeiro-Soriano, D., & Urbano, D. (2011). Socio-cultural factors and entrepreneurial activity: An overview. *International Small Business Journal, 29*(2), 105–118.

Thurik, A. R., Carree, M. A., Van Stel, A., & Audretsch, D. B. (2008). Does self-employment reduce unemployment? *Journal of Business Venturing, 23*(6), 673–686.
Tiessen, J. H. (1997). Individualism, collectivism, and entrepreneurship: A framework for international comparative research. *Journal of Business Venturing, 12*(5), 367–384.
Toledano, N., & Urbano, D. (2008). Promoting entrepreneurial mindsets at universities: A case study in the South of Spain. *European Journal of International Management, 2*(4), 382–399.
Toledano, N., Urbano, D., & Bernadich, M. (2010). Networks and corporate entrepreneurship: A comparative case study on family business in Catalonia. *Journal of Organizational Change Management, 23*(4), 396–412.
Turok, I. (2004). Cities, regions and competitiveness. *Regional Studies, 38*(9), 1069–1083.
Turro, A., Alvarez, C., & Urbano, D. (2016). Intrapreneurship in the Spanish context: A regional analysis. *Entrepreneurship and Regional Development, 28*(5–6), 380–402.
Turró, A., Urbano, D., & Peris-Ortiz, M. (2014). Culture and innovation: The moderating effect of cultural values on corporate entrepreneurship. *Technological Forecasting and Social Change, 88*, 360–369.
Uhlaner, L., & Thurik, R. (2007). Postmaterialism influencing total entrepreneurial activity across nations. *Journal of Evolutionary Economics, 17*(2), 161–185.
UN – Commission on Wolrd Financial and Economic Crisis. (2009, June). Conference on the world financial and economic crisis and its impact on development, (Outcome Document, Draft).
Urban, B. (2010). A focus on networking practices for entrepreneurs in a transition economy. *Transformations in Business and Economics, 9*(3), 952–966.
Urban, B. (2011). Social capital configurations for necessity-driven versus opportunity-driven entrepreneurs. *South African Journal of Economic and Management Sciences, 14*(4), 407–421.
Urbano, D., & Alvarez, C. (2014). Institutional dimensions and entrepreneurial activity: An international study. *Small Business Economics, 42*(4), 703–716.
Urbano, D., & Aparicio, S. (2016). Entrepreneurship capital types and economic growth: International evidence. *Technological Forecasting and Social Change, 102*, 34–44.
Urbano, D., Aparicio, S., & Audretsch, D. (2018). Twenty-five years of research on institutions, entrepreneurship, and economic growth: What has been learned? *Small Business Economics, 7*, 84–91. https://doi.org/10.1007/s11187-018-0038-0
Urbano, D., Aparicio, S., Guerrero, M., Noguera, M., & Torrent-Sellens, J. (2016). Institutional determinants of student employer entrepreneurs at Catalan universities. *Technological Forecasting and Social Change, 123*, 271–282. https://doi.org/10.1016/j.techfore.2016.06.021
Urbano, D., Aparicio, S., & Querol, V. (2016). Social progress orientation and innovative entrepreneurship: An international analysis. *Journal of Evolutionary Economics, 26*(5), 1033–1066.
Urbano, D., Ferri, E., Peris-Ortiz, M., & Aparicio, S. (2017). Social entrepreneurship and institutional factors: A literature review. In M. Peris-Ortiz, F. Teulon, & D. Bonet-Fernandez (Eds.), *Social entrepreneurship in non-profit and profit sectors: Theoretical and empirical perspectives* (International Studies in Entrepreneurship) (Vol. 36, pp. 9–29). Cham, Switzerland: Springer.
Urbano, D., & Guerrero, M. (2013). Entrepreneurial universities: Socioeconomic impacts of academic entrepreneurship in a European region. *Economic Development Quarterly, 27*(1), 40–55.
Urbano, D., Toledano, N., & Ribeiro, D. (2010). Support policy for the tourism business: A comparative case study in Spain. *The Service Industries Journal, 30*(1), 119–131.
Urbano, D., Toledano, N., & Ribeiro-Soriano, D. (2011). Socio-cultural factors and transnational entrepreneurship: A multiple case study in Spain. *International Small Business Journal, 29*(2), 119–134.
Uy, M. A., Foo, M. D., & Song, Z. (2013). Joint effects of prior start-up experience and coping strategies on entrepreneurs' psychological well-being. *Journal of Business Venturing, 28*(5), 583–597.
Valdez, M. E., & Richardson, J. (2013). Institutional determinants of macro-level entrepreneurship. *Entrepreneurship Theory and Practice, 37*(5), 1149–1175.

Valliere, D., & Peterson, R. (2009). Entrepreneurship and economic growth: Evidence from emerging and developed countries. *Entrepreneurship and Regional Development, 21*(5), 459–480.
Van Auken, H. E. (1999). Obstacles to business launch. *Journal of Developmental Entrepreneurship, 4*(2), 175–187.
Van de Ven, H. (1993). The development of an infrastructure for entrepreneurship. *Journal of Business Venturing, 8*(3), 211–230.
van Delft, H., Gorter, C., & Nijkamp, P. (1999). In search of ethnic entrepreneurship opportunities in the city-a comparative policy study 99-059/3. Tinbergen Institute Discussion Paper.
van Gelderen, M., Thurik, R., & Bosma, N. (2005). Success and risk factors in the pre-startup phase. *Small Business Economics, 24*(4), 365–380.
van Hemmen, S., Alvarez, C., Peris-Ortiz, M., & Urbano, D. (2015). Leadership styles and innovative entrepreneurship: An international study. *Cybernetics and Systems, 46*(3–4), 271–286.
van Hemmen, S., Urbano, D., & Alvarez, C. (2013). Charismatic leadership and entrepreneurial activity: An empirical analysis. *Innovar-Revista de Ciencias Administrativas, 23*(50), 53–65.
van Oort, F. G., & Bosma, N. S. (2013). Agglomeration economies, inventors and entrepreneurs as engines of European regional economic development. *The Annals of Regional Science, 51*(1), 213–244.
van Praag, C. M., & Versloot, P. H. (2007). What is the value of entrepreneurship? A review of recent research. *Small Business Economics, 29*(4), 351–382.
van Praag, M., & van Stel, A. (2013). The more business owners, the merrier? The role of tertiary education. *Small Business Economics, 41*(2), 335–357.
van Staveren, I., Webbink, E., de Haan, A., & Foa, R. (2014). The last mile in analyzing wellbeing and poverty: Indices of social development. *Forum for Social Economics, 43*(1), 8–26.
van Stel, A., & Carree, M. (2004). Business ownership and sectoral growth: An empirical analysis of 21 OECD countries. *International Small Business Journal, 22*(4), 389–419.
van Stel, A., Carree, M., & Thurik, R. (2005). The effect of entrepreneurial activity on national economic growth. *Small Business Economics, 24*(3), 311–321.
van Stel, A., & Storey, D. (2004). The link between firm births and job creation: Is there a Upas tree effect? *Regional Studies, 38*(8), 893–909.
van Stel, A., Storey, D. J., & Thurik, A. R. (2007). The effect of business regulations on nascent and young business entrepreneurship. *Small Business Economics, 28*(2–3), 171–186.
Veciana, J. M., & Urbano, D. (2008). The institutional approach to entrepreneurship research. Introduction. *International Entrepreneurship and Management Journal, 4*(4), 365–379.
Verheul, I., Stel, A. V., & Thurik, R. (2006). Explaining female and male entrepreneurship at the country level. *Entrepreneurship and Regional Development, 18*(2), 151–183.
Verheul, I., Uhlaner, L., & Thurik, R. (2005). Business accomplishments, gender and entrepreneurial self-image. *Journal of Business Venturing, 20*(4), 483–518.
Verheul, I., Wennekers, S., Audretsch, D., & Thurik, R. (2002). An eclectic theory of entrepreneurship: Policies, institutions and culture. In D. Audretsch, R. Thurik, I. Verheul, & S. Wennekers (Eds.), *Entrepreneurship: Determinants and policy in a European-US comparison* (pp. 11–81). New York: Springer US.
Vinogradov, E., & Kolvereid, L. (2007). Cultural background, human capital and self-employment rates among immigrants in Norway. *Entrepreneurship and Regional Development, 19*(4), 359–376.
Warnecke, T. (2013). Entrepreneurship and gender: An institutional perspective. *Journal of Economic Issues, 47*(2), 455–464.
Watson, J., & Everett, J. (1996). Do small businesses have high failure rates? Evidence from Australian retailers. *Journal of Small Business Management, 34*(4), 45–62.
Webbink, E. (2012). Inclusion of Minorities. *The Indices of Social Development*. http://www.indsocdev.org/resources/ISD%20Inclusion%20of%20Minorities.pdf. Accessed 5 June 2014.
Welter, F. (2005). Entrepreneurial behavior in differing environments. In D. Audretsch, H. Grimm, & C. W. Wessner (Eds.), *Local heroes in the global village* (pp. 93–112). New York: Springer US.

Welter, F., Baker, T., Audretsch, D. B., & Gartner, W. B. (2017). Everyday entrepreneurship – a call for entrepreneurship research to embrace entrepreneurial diversity. *Entrepreneurship Theory and Practice, 41*(3), 311–321.

Welter, F., & Smallbone, D. (2008). Women's entrepreneurship from an institutional perspective: The case of Uzbekistan. *International Entrepreneurship and Management Journal, 4*(4), 505–520.

Welter, F., & Smallbone, D. (2011). Institutional perspectives on entrepreneurial behaviour in challenging environments. *Journal of Small Business Management, 49*(1), 107–125.

Wennekers, S., & Thurik, R. (1999). Linking entrepreneurship and economic growth. *Small Business Economics, 13*(1), 27–56.

Wennekers, S., Thurik, R., van Stel, A., & Noorderhaven, N. (2007). Uncertainty avoidance and the rate of business ownership across 21 OECD countries, 1976–2004. *Journal of Evolutionary Economics, 17*(2), 133–160.

Wennekers, S., van Stel, A., Thurik, R., & Reynolds, P. (2005). Nascent entrepreneurship and the level of economic development. *Small Business Economics, 24*(3), 293–309.

White, H. (1980). A heteroskedasticity-consistent covariance matrix estimator and a direct test for heteroskedasticity. *Econometrica, 48*, 817–830.

Williamson, O. E. (2000). The new institutional economics: Taking stock, looking ahead. *Journal of Economic Literature, 38*(3), 595–613.

Wong, P. K., Ho, Y. P., & Autio, E. (2005). Entrepreneurship, innovation and economic growth: Evidence from GEM data. *Small Business Economics, 24*(3), 335–350.

Wooldridge, J. M. (2010). *Econometric analysis of cross-section and panel data* (2nd ed.). Cambridge, MA: MIT Press.

Yeganegi, S., Laplume, A. O., Dass, P., & Huynh, C. L. (2016). Where do spinouts come from? The role of technology relatedness and institutional context. *Research Policy, 45*(5), 1103–1112.

Young, A. (2012). The African growth miracle. *Journal of Political Economy, 120*(4), 696–739.

Yu, T. F. L. (1998). Adaptive entrepreneurship and the economic development of Hong Kong. *World Development, 26*(5), 897–911.

Zahra, S. A., Gedajlovic, E., Neubaum, D. O., & Shulman, J. M. (2009). A typology of social entrepreneurs: Motives, search processes and ethical challenges. *Journal of Business Venturing, 24*(5), 519–532.

Zahra, S. A., Hayton, J. C., Neubaum, D. O., Dibrell, C., & Craig, J. (2008). Culture of family commitment and strategic flexibility: The moderating effect of stewardship. *Entrepreneurship Theory and Practice, 32*(6), 1035–1054.

Zellner, A., & Theil, H. (1962). Three-stage least squares: Simultaneous estimation of simultaneous equations. *Econometrica, 30*(1), 54–78.

Zhang, Y. (2015). The contingent value of social resources: Entrepreneurs' use of debt-financing sources in Western China. *Journal of Business Venturing, 30*(3), 390–406.

Zhou, M. (2004). Revisiting ethnic entrepreneurship: Convergencies, controversies, and conceptual advancements. *International Migration Review, 38*(3), 1040–1074.

Index

D. Urbano et al., *Institutions, Entrepreneurship, and Economic Performance*,
International Studies in Entrepreneurship 41,
https://doi.org/10.1007/978-3-030-13373-3