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

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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-

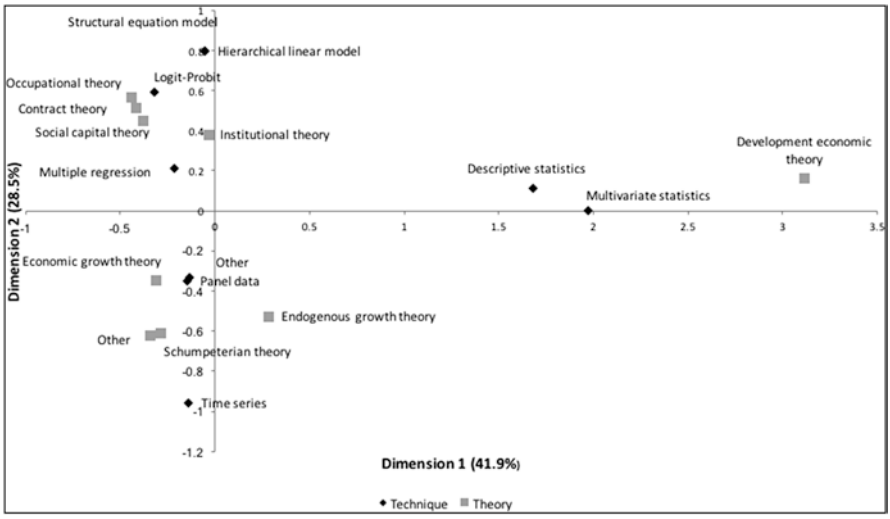

Fig. 2.1 Correspondence analysis about techniques and methods

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

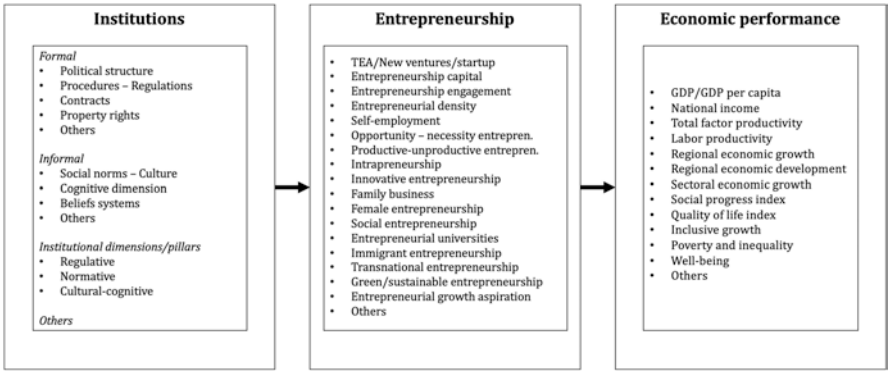

Fig. 2.2 Summary and future research lines on institutions, entrepreneurship, and economic performance

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.

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