

**THE EVOLUTION OF THE LITERATURE
ON ENTREPRENEURSHIP.
UNCOVERING SOME UNDER
RESEARCHED THEMES**

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The evolution of the literature on entrepreneurship. Uncovering some under researched themes

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Abstract

Recently bibliometrics techniques are being widely used to complement traditional qualitative reviews of the literature in given scientific areas. The majority of these reviews are based in large databases of articles published in ISI indexed journals, overlooking the richness of studies that are being published in key handbooks and books. This is particularly true in the case of entrepreneurship field. In the present paper we provide a survey of the literature based on an in-depth analysis of major handbooks, books and scientific journals in the field, identifying its major topics, their evolution across time and the current trends. From this exercise, we found that entrepreneurship education emerges as a recent theme with most of the papers in the area focusing on entrepreneurial universities, productivity of technology transfer offices, new firm creation and the environmental context. The largest part of these studies analyse US universities or universities from highly developed European countries, such as Germany, Sweden and United Kingdom. The review of the literature performed highlights that the theme of (higher education) students' entrepreneurial intents is under researched. Furthermore, it uncovers that the (potential) link between university entrepreneurial models and the propensity of students for new venture creation is likely to constitute an interesting and challenging path for future research.

Keywords: entrepreneurship, bibliometrics; universities

1. Introduction

Entrepreneurship is a multifaceted phenomenon that attracts increasing attention from researchers in various disciplines, namely economics, business administration, sociology and economic geography (Tamásy, 2006; Casson et al., 2006). Although the boundaries of the entrepreneurship field continue to be highly permeable, there is evidence of a growing body of entrepreneurship articles in management journals that could lend support to the view that entrepreneurship is emerging as a distinct domain (Busenitz et al., 2003). In order to be able to identify the main topics of research related to entrepreneurship and identify gaps, less explored subjects and also new emergent trends on the literature, we needed to devise a framework of subjects and then group literature according to its scope and aim. To build this framework, we needed to identify which topics had been covered by entrepreneurship literature. We did so, by analyzing the three most important types of publications according to Kuratko's (2005) methodology. Based on an in-depth analysis of the handbooks, books and academic journals, we were able to identify several common themes: entrepreneurship theory building (Cantillon, 1759; Say, 1803; Schumpeter, 1934; Ripsas, 1998); psychology and demographic traits (Bates, 1995; Welter and Rosenblatt, 1998); entrepreneurial context (Bergman and Sternberg, 2006); corporate entrepreneurship (Kuratko et al., 2005; Wood et al., 2007); venture capital (Smith, 1999; Casson et al., 2006); entrepreneurship education (Etzkowitz et al, 2000; Rothaermel et al, 2007); policy (Kreft and Sobel, 2005); innovation (Young and Ho, 2006), growth (Sobel et al, 2007; Reynolds et al, 1999), and regional development (Campbell and Rogers, 2007). We further analyzed the amount of research done on each subject and their relative importance across time. From this survey of the literature, we were able to identify entrepreneurship major topics, their evolution across time and the current trends.

Our goals in this paper are to provide an overview of the research themes on entrepreneurship and identify possible gaps to which we might contribute to fulfill, setting the grounds for future research. Our analysis shows that entrepreneurship education is still a poorly explored dimension of entrepreneurship literature despite being a new hot topic. Literature on this particular subject has focused utmost on entrepreneurial universities, productivity of technology transfer offices, new firm creation and on the environmental context. Studies focusing on students' entrepreneurial attitudes and intents are rare.

We structured our paper as follows: Section 2 is devoted to the description of the methodology used to identify the main themes within entrepreneurship studies, presenting a synthesis of results and a brief detail on the subjects covered in each theme; Section 3 provides a bibliometric cross-theme and cross-time analysis to uncover less explored and new emergent topics: in Section 4 we present the state-of-art on entrepreneurship in higher education institutions, namely the issue of students' attitudes towards entrepreneurship and the model of higher education institutions. Finally, in the "Conclusions", we summarize the main outcomes of the present paper and highlight some interesting and challenging paths for future research.

2. Identifying the main themes of entrepreneurship studies. Some methodological considerations

Entrepreneurship has been gaining increasing attention observable by the notable dynamics of publications on the subject. The reasoning or the rebirth of entrepreneurship in economic theory lays on the pre-assumption that stimulating entrepreneurship increases markets' dynamics, accelerates innovation and hence, promotes growth (Strom, 2007; Van Praag and Versloot, 2007). Strom (2007) argues that the entrepreneurial dynamic of the United States is responsible for their unprecedented economic growth performance. Thus, entrepreneurship is associated with innovative and economic dynamics and this is why it has recently re-attracted attention. Entrepreneurship is associated in popular terms with the creation of enterprises. However, the study of entrepreneurship goes far beyond the creation of firms (Kuratko, 2005). Hence, identifying the different themes on entrepreneurship literature implies performing a comprehensive survey of the most important types of publications – handbooks, books and academic journals (Kutako, 2005). In terms of methodology, we applied a methodological framework, put forward by previous authors such as Kuratko (2005), Cornelli (2006) and Van Praag and Versloot (2007).

In terms of sample building, as far as handbooks and books are concerned, we conducted a search on GoogleScholar and EconLit for titles, abstracts and keywords containing the term "entrepre*". We obtained 45900 hits from GoogleScholar and 50 from EconLit. Following Kuratko (2005) and Van Praag and Versloot (2007), we further refined our search results considering only the hits that had the term "entrepre*" in more than one place, aiming to include the publications that were effectively focused on entrepreneurship issues. Like the previously mentioned authors, we chose to remove biographies and autobiographies from our

sample which do not necessarily reflect the study of any entrepreneurship subjects. In the end of this process, our sample comprised a total of 13 handbooks and 84 books (in Appendixes 2 and 3, we provide a list of the books and handbooks included).

We also analyzed the relevance and topics of research on entrepreneurship present in academic journals. However, for this type of publication we followed a different procedure. Economic literature approaching entrepreneurship is widespread and analyzing articles on both general and specialized scope journals would go beyond our paper's goal. Unlike books and handbooks, entrepreneurship is dealt across a wide variety of academic journals. Following Kuratko (2005) and Van Praag and Versloot (2007), we chose to consider only the top ranking journals on entrepreneurship. Using the rankings from Katz and Boal (2002), John Carroll University (in Katz and Boal, 2005), Financial Times (in Katz and Boal, 2005; Gamboa, 2008) and the editorial of Technovation (2006), we selected the journals that were common to at least two of those rankings.¹ Table 1 provides the lists of journals included in each of the 4 rankings and we have highlighted the ones we selected for our 12 journal sample.

¹ This resulted in the selection of the following journals: Journal of Business Venture (JBV), Journal of Small Business Management (JSBM), Small Business Economics (SBE), Entrepreneurship and Regional Development (ERD), Journal Development Entrepreneurship (JDE), Journal of Small Business and Entrepreneurship (JSBE), and Economic Analysis: Journal of Enterprise and Participation (EA). Because we aim to identify emergent trends in entrepreneurship literature, we also added to our sample recently created journals indexed at EconLit and ranked in at least one of the used rankings. In particular, we identified and added the journals Enterprise and Innovation Management Studies (EIMS), International Entrepreneurship and Innovation Management (IEIM), Creativity and Innovation Management (CIM), Journal of International Entrepreneurship (JIE), and Journal Entrepreneurship Education (JEE).

Table 1: Ranking of Journals that publish articles on Entrepreneurship

Rank	Finantial Times	Rank	John Carroll University Classification	Rank	Katz and Boal (2002)	Rank	Technovation
1	JAE	Level 1	1	JBV	Level 1	1	JBU
2	AR		2	SBE		2	SBE
3	JAR		3	ET&P		3	ERD
4	AER		4	JSBM		4	RP
5	JPE					5	T
6	E	Level 2	1	EIC	Level 2	6	JBE
7	JBV		2	FBR		7	ETP
8	ET&P		3	IJEDET		8	JSBM
9	JSBM		4	IJE		9	VC
10	JF		5	IJTIE		10	JSBED
11	JFE		6	JDE		11	RS
12	RFS		7	JEC		12	SMJ
13	SMJ		8	JEE		13	NB
14	AMJ		9	JPE		14	JM
15	AMR		10	NEJE		15	EDQ
16	ASQ		11	SBED		16	AME
17	HRM	Level 3			17	IJTM	
18	IJHRM		1	EA	17	BJEQ	
19	OBHDP		2	EIMS	18	EINT	
20	JAP		3	ERD	19	EE	
21	JIBS		4	JE	20	EDR	
22	MIR		5	JIBE	21	E	
23	JMR		6	JTT	22	IC	
24	JCR		7	SER	23	FBR	
25	JM		8	SCOS	24	IJEBR	
26	MS					IJE	
27	OR				IJEI		
28	JOM				JAABE		
29	ISR				JAME		
30	MISQ				JBE		
31	HBR				JBS		
32	CMR				JCB		
33	SMR				JEC		
34	LRP				JE		
35	AME				JEE		
					JEBFV		
					JEvE		
					JE		
					JIBE		
					JM		
					JPE		
					JSBED		
					JSBE		
					JTT		
					NEJE		
					QJAE		
					ERA		
					SBED		
					SED		
					SER		

Caption: Level 1 journals are the ones included in SSCI; Level 2 are the ones included in other major indexes and Level 3 includes journals identified by the authors but not referred to in economic literature indexes.

Note: In Appendix 1 we present the list of acronyms.

In terms of sample analysis and theme identification, in the case of handbooks and books we read the introduction and analyzed the index, identifying the entrepreneurship dimension studied in each of them. We followed a similar procedure for journals. However, since Journals include a wide variety of articles, we identified their main topic of interest from Journals' description in the Econlit Index and from the information gathered from the respective website in terms of research topics of interest and thematic focus.

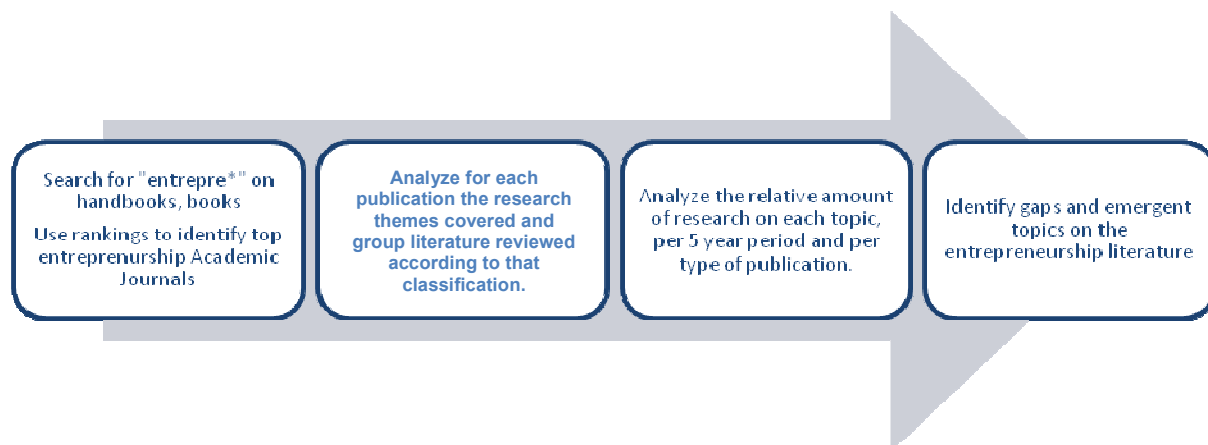


Figure 1: Methodological scheme

Our analysis allowed us to identify a set of dimensions analyzed in the literature and cross that evidence with the themes covered in the handbooks, books and the selected (12) academic journals. We identified ten themes, including entrepreneurship theory building, micro level analysis - such as psychology, demographic traits, entrepreneurial context and corporate entrepreneurship -, micro/macro analysis like venture capital and education and macroeconomic level analysis - such as policy, growth, innovation and regional development.

As far as Entrepreneurship Theory Building is concerned, literature grouped under this classification is related to the conceptualization and definition of entrepreneurs and entrepreneurship's role in the economy. Seminal references to the concept of entrepreneur go back to Cantillon (1759) and Say (1803) (cit. Ripsas 1998), who presented entrepreneurs as the productive agent. Their role was to gather different inputs and combine them in a productive manner in order to obtain goods. Later, Schumpeter (1942) reviewed the concept of entrepreneur as an agent of change who promotes structural change and innovation (McNeil, 2004). After Schumpeter, and for most of the twentieth century, the entrepreneur disappeared from economics literature, but since the 1980s of the twentieth century, a rebirth of the entrepreneur in economic theory was observed (Ripsas, 1998). Recent literature has tried to merge into a common and consensual definition (Boston and Boston, 2007). From this debate, a distinction has been made where entrepreneurs are agents with the ability to capitalize on innovative combinations of resources, make greater use of strategic management practices and take risks (Stewart et al., 1998).

Entrepreneurship literature resurfaced in the mid 1970s focusing on a set of themes we have classified as microeconomic analysis. Among the topics of research, the study of the "individual" characteristics of the entrepreneur - psychological, demographic and how the

context is a determinant of the individual propensity -, became an important part of entrepreneurship literature, as more management focused literature on corporate entrepreneurship. Entrepreneurship psychology literature seeks to identify personality characteristics that are related to higher entrepreneurial propensity. For instance, Berggmann and Sternberg (2006) identified a reverse U-shaped relationship between age and entrepreneurial propensity. According to the authors, entrepreneurial propensity increases with age, reaching its peak between approximately the ages of 35 and 40 and then drops (Bates, 1995; Welter and Rosenblatt, 1998). The possible explaining facts for this profile lay on self-realization, the desire of autonomy and the expectation of increased life satisfaction. Closely related to psychology is the literature that analyses differences in entrepreneurial propensity as a function of certain demographic traits, such as gender, race or religion. The study of Bates et al. (2007) is an example of the type of literature included in this theme. In their work, the authors review both household net worth and borrowing constraints that limit black-owned businesses' access to capital and credit. Nevertheless, Bruschi et al. (2007) found that minority business owners (Black and Hispanic) are more likely to be running their first venture than white entrepreneurs. Bruschi et al (2007) also studied minority businesses, assessing how they manage their enterprises, access money to establish themselves and grow and define and expand their markets, concluding that less favourable access to the previously mentioned financing instruments slowed the growth of their ventures. Taking gender differences into account, Strom (2007) concluded that the rate of entrepreneurial activity for women was much lower than the rate for men. Stephan and El-Ganainy (2007) also studied gender differences in entrepreneurship propensity in the university world obtaining similar conclusions and explaining women's smaller propensity to entrepreneurship from more risk adverse profiles. Literature analysing the context also bears a microeconomic perspective since literature here analyzes individual characteristics such as experience, social integration, background or aspects that are determined by the quality of the "habitat" for entrepreneurship. Even though the influence of aspects that are exogenous to the individual have been analyzed, the latter is the central element in most analyses. The literature here considers mostly labour market characteristics and the availability to support systems, associating entrepreneurship to unemployment, to lower social benefits and to the existence of adequate financial instruments. As an example, we can include the study of Berggmann and Sternberg (2006) in this group. After studying the labour market and social policy in Germany from 2003 to 2005, the authors found that there were factors pushing the unemployed into entrepreneurship, namely, cuts on

the level of welfare and unemployment benefits, and an obligation to accept very low-paid work.

The last theme included in the microeconomic level of analysis conveys a more management focused perspective and refers to what we designated as ‘corporate entrepreneurship’. This topic refers to the study of entrepreneurial behaviours in larger organizations (Wood et al., 2007). The literature identifies a set of factors that promote corporate entrepreneurship such as: appropriate use of rewards, management support, resource availability, a supportive organizational structure and risk-taking and failure tolerance (Kuratko, 2005; Wood et al., 2007). Associated to this management perspective is the ‘venture capital’ topic. Here the literature conveys a microeconomic perspective when it addresses the incentives to the funding of new ventures and the managerial aspects of obtaining funds through this instrument. However, it also bears a macroeconomic level of analysis when literature approaches venture capital as a policy instrument to foster entrepreneurship. Venture capital is recognized as a key issue in the financing of start-ups and in the expansion of high-growth firms (Casson et al., 2006) as traditional financial market players, such as banks, are not adequately equipped to finance entrepreneurial activities. In the words of Casson et al. (2006) bank accountability is at odds with the entrepreneurial returns.

Like venture capital, ‘entrepreneurship education’ is a chameleonic topic which can either be based on a microeconomic or on a macroeconomic perspective. Following a microeconomic perspective, studies focus on the incentives of Universities to foster and promote college entrepreneurship. On a macroeconomic level, the approach is centred on perceiving education and Universities as crucial instruments to stimulate the emergence of new industries and promote technological diffusion. The literature on university entrepreneurship is rapidly increasing, in both United States and Europe (Rothaermel et al., 2007). An entrepreneurial university is “an institution focused on non-traditional students (predominantly adult, part – time) that emphasizes the delivery of instructional services (as opposed to research or community outreach activities) in alternative formats (time, place, or technology) at multiple locations (including across state lines and national borders). The leadership style within this type of institution would emphasize aggressive yet planned growth and expansion, openness to a wide range of partnerships and collaborative agreements, and the leasing of key resources (including faculty and facilities) to minimize administrative overhead and maximize future flexibility. The essence of entrepreneurship, then, seems to be a willingness to move out of

traditional delivery structures – campuses and classrooms – and to seek new audiences and serve new constituencies through collaborations” (Neal, 1998).

As argued by Etzkowitz et al. (2000), universities around the world are increasingly shifting from their traditional primary role as educational providers and scientific knowledge creators to a more complex “entrepreneurial” university model that incorporates the additional role of the commercialization of knowledge and active contribution to the development of private enterprises in the local and regional economy. Rothaermel et al. (2007) shared the same opinion. For them, the reasons why this is happening in the United States include the rise in venture capital, the passage of the Bayh-Dole Act (providing incentives for universities to patent scientific discoveries), the rise of the number of scientists and engineers and their mobility, and important breakthroughs in computing, biotechnology and nanotechnology (Rothaermel et al., 2007). European technology policies are largely directed towards subsidizing research cooperation between business and universities, with only Germany and Cambridge University having adopted the Bayh-Dole Act (Brouwer, 2005).

A set of research topics based upon a macroeconomic perspective included innovation, policy, regional development and growth. In general, this literature refers to the need to foster entrepreneurship and to continuously promote the dynamics of structural change, enhance the economies’ innovative performance and job creation capability (e.g., Strom, 2007). The literature seeks to analyze the role of entrepreneurship but also to discuss policy instruments and interventions to foster it. Economic development policies over the last two decades have noticeably shifted away from trying to attract large manufacturing firms, toward encouraging internal entrepreneurship (Kreft and Sobel, 2005). The relevant policy question becomes how to best promote entrepreneurship (Campbell and Rogers, 2007). We have to be careful because entrepreneurship can be directed in productive, unproductive and destructive directions because of different rules (Baumol, 1993). There are two distinct channels through which government policy impacts the rate of entrepreneurship. The first is through its impact on the quantity and quality of inputs going into the entrepreneurial process (education, venture capital, etc.). Targeted tax relief and/or direct government subsidies or regulations generally have their primary impact through this first channel. The second is through the impact of policy on the institutional structure that determines the ‘rules of the game’ under which the entrepreneurial process unfolds (Sobel et al., 2007). State governments should focus on creating an environment that safeguards property rights and allows entrepreneurs to prosper (Campbell and Rogers, 2007). Examples of this would be policies altering the

security of private property rights, the general constraints on government action, the legal system, and the reliance on unregulated market price signals and freedom of exchange (Sobel et al., 2007).

Pursuing public policies consistent with an increasing economic freedom will have a direct and powerful impact on new business formation (Campbell and Rogers, 2007). Innovation is also a central question in entrepreneurship literature. For Schumpeter, the entrepreneur is considered an agent of change, increasing the innovative dynamics. Entrepreneurship level has a positive impact on the creation of new knowledge (Young and Ho, 2006). Thus, under this theme, literature has analyzed the contribution of entrepreneurship to innovation, associating entrepreneurship fostering to policy instrument for innovation promotion.

Macroeconomic entrepreneurship literature also studies the role of entrepreneurship in stimulating economic growth both on global, national and regional levels. The most widely accepted theory of economic growth was the neoclassical model, introduced by Solow (1956). In this theory, the sources of economic growth were physical capital and labour. However, the endogenous growth theory, triggered by Romer (1986), introduced a new factor - knowledge - into growth models. This constituted the opportunity to reintroduce the role of the entrepreneur. The literature in entrepreneurship claims that a substantial portion of the variation in economic growth rates can be explained by differing rates of entrepreneurship (Sobel et al., 2007). Reynolds et al. (1999) and Zacharakis et al. (2000) concluded that differing rates of entrepreneurship account for between one-third and one-half of the difference in national economic growth rates. Even government economic development agencies have begun to recognize that a dynamic, entrepreneurial environment is essential for economic growth (Sobel et al., 2007). Nevertheless, despite the fact that entrepreneurship is generally viewed as an important explanation for economic growth and technological advancement, most economic literature has downplayed its role (Young and Ho, 2006). Finally, entrepreneurship literature has also embraced a regional focus where entrepreneurship is part of cluster analysis, regional systems of innovations and as an important policy tool for regional growth (Campbell and Rogers, 2007).

The Table 2 provides a synthesis of the themes we have identified in entrepreneurship literature.² In order to add some coherence and order, we present them according to their macroeconomic or microeconomic level of analysis. The microeconomic level includes

² In Appendix 2, we identify for each publication the respective thematic incidence that was the basis for the theme identification process.

themes where literature is more focused on the incentives of the individual to endeavor on entrepreneurial activities and environment determinants of such individual propensity. On a middle ground, we have venture capital and entrepreneurship education. Literature can convey both approaches, whether on a more policy or value-oriented approach (macro perspective) or on a more individual focused approach regarding determinants of entrepreneurial intents (micro perspective). The macroeconomic level entrepreneurship literature focuses on the value of entrepreneurship in terms of enhancing growth potential, innovation accelerating structural changes, hence conveying a more macro level perspective. In the following paragraphs we provide a briefly detailed overview of the issues covered on each of the themes identified in Table 2.

Table 2: Entrepreneurship themes identified on the literature and grouped according to the level of analysis

	Theme	Sub-theme
	Entrepreneurship theory building	History of the concept
Microeconomic approach	Entrepreneurial psychological issues	Social skills, locus of control, life satisfaction
	Demographic traits	Minority, race, sex, ethnicity
	Entrepreneurial context	Family context, professional experience, international experience
	Corporate entrepreneurship	Start-ups, management, size-firm, corporate governance, multinational, market, SME, marketing, monopolistic
Micro-Macro	Venture capital	Brokerage, financial risk, capital investment, finance
	Entrepreneurship education	Teaching, higher education, universities, research institutions
Macroeconomic approach	Policy	Capitalism, welfare state
	Innovation	Diffusion process
	Growth	Development, technological change
	Regional	Networks, clusters, spatial

Our goal in this paper is to build a literature review on entrepreneurship literature and present the state-of-the-art in terms of education issues related to entrepreneurship, namely in higher education institutions. However, it is also important for us to evaluate which themes are predominant in the literature, assess the extent of their exploration and capture the emergence of some themes as main research topics. We presume that education entrepreneurship is a recent topic but an increasingly popular one. Hence, in the following section we perform a bibliometric analysis on entrepreneurship literature to assess our presumption.

3. A bibliometric analysis on entrepreneurship literature: uncovering gaps and emergent fields of research

Our analysis allowed to identify the dominant research topics in literature, per type of publication, and, more importantly, to provide insights on possible literature gaps or less explored subjects and new emergent fields of research. From a cross section perspective, Table 3 synthesizes our results on the relative amount of research done on each topic per type of publication.

We highlighted the dominant topics in each type of publication and it is immediately observable that corporate entrepreneurship, mostly focusing management issues, has been the area of most publications among entrepreneurship literature.

Table 3: Distribution of addressed themes per type of publication

Theme	Handbooks	Topic Rank	Books	Topic Rank	Hdbk + Bk	Topic Rank	Journals	Topic Rank
Entrepreneurship	1	6	13	5	14	7	0	7
Theory Building	(2,7%)		(7,6%)		(6,8%)		(0%)	
Microeconomic Approach	Entrepreneurial Psychological issues	3	12	6	15	6	0	7
		(8,1%)	(7,1%)		(7,3%)		(0%)	
	Demographic Traits	3	9	8	12	9	3	4
		(8,1%)	(5,3%)		(5,8%)		(9,7%)	
	Entrepreneurial Context	2	8	9	10	10	1	6
	(5,4%)		(4,7%)		(4,9%)		(3,2%)	
Corporate Entrepreneurship	7	1	46	1	53	1	7	1
	(18,9%)		(27,1%)		(25,7)		(22,6%)	
Micro-Macro	Venture Capital	6	13	5	19	2	3	4
		(16,2%)	(7,6%)		(9,2%)		(9,7%)	
	Entrepreneurship Education	4	13	5	17	4	1	6
	(10,8%)	(7,6%)		(8,3%)		(3,2%)		
Macroeconomic Approach	Policy	3	16	2	19	2	5	3
		(8,1%)	(9,4%)		(9,2%)		(16,1%)	
	Innovation	2	14	4	16	5	3	4
		(5,4%)	(8,2%)		(7,6%)		(9,7%)	
	Growth	2	11	7	13	8	2	5
	(5,4%)	(6,5%)		(6,3%)		(6,5%)		
Regional development	3	15	3	18	3	6	2	
	(8,1%)	(8,8%)		(8,7%)		(19,4%)		
Total of Publications	13		84		97		12	

Following corporate entrepreneurship, the macroeconomic themes dominate the literature. Policy and regional development are popular subjects across publications with the exception of handbooks. For the latter, venture capital issues and entrepreneurship education are the 2nd and 3rd most popular subjects.

We may extend our analysis by introducing time. If we analyze the distribution of research per topic across 5-year periods and per type of publication, we observe the emergence of themes and perceive that, though in overall terms corporate entrepreneurship is dominant,

nowadays, other themes seem to be concentrating more attention on entrepreneurship related literature. In fact, macroeconomic themes have become dominant. We can interpret this trend as a natural evolution. Entrepreneurship literature started with Cantillon (1759) and Schumpeter (1934) with the conceptualization of entrepreneurship’s role. Then, in the 1980s, literature started focusing on the microeconomic incentives to entrepreneurship, approaching more management focused issues or, to a less extent, trying to identify psychological or demographic traits that shaped entrepreneurship propensity and potential. It is our interpretation that the recent arise of the macroeconomic themes and education is related to a change of perception regarding entrepreneurship. If previously entrepreneurship was associated with economic empires and corporate management issues, nowadays entrepreneurship is increasingly understood as a policy instrument or a pillar for innovation and economic growth (Strom, 2007), thus becoming increasingly central to macroeconomic policy. These trends and the emergence of some research subjects like education can be captured by the following figures analyzing the distribution of articles per theme and time for each type of publication that we analyzed.

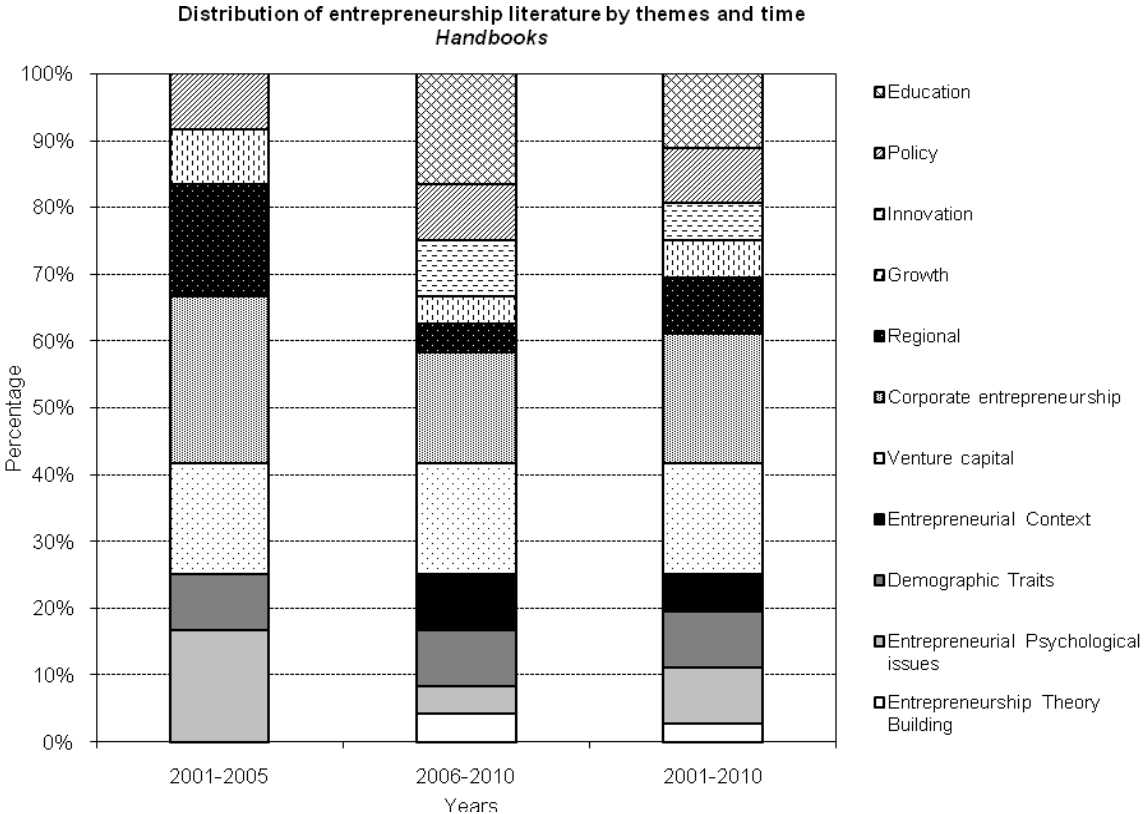


Figure 2: Handbooks’ relative amount of research per theme and time period

Figure 2 allows us to derive some important insights. Firstly, corporate entrepreneurship is confirmed as a major topic of research but its relative weight is decreasing. Secondly, a major topic of research regarding education and entrepreneurship has recently emerged as a strong field in the literature. Overall, the macroeconomic set of themes is increasingly relevant. However, in handbooks, the predominance of the microeconomic focus is still present even though it has decreased.

Figure 3 synthesizes the results, reproducing the above-mentioned analysis for books. .

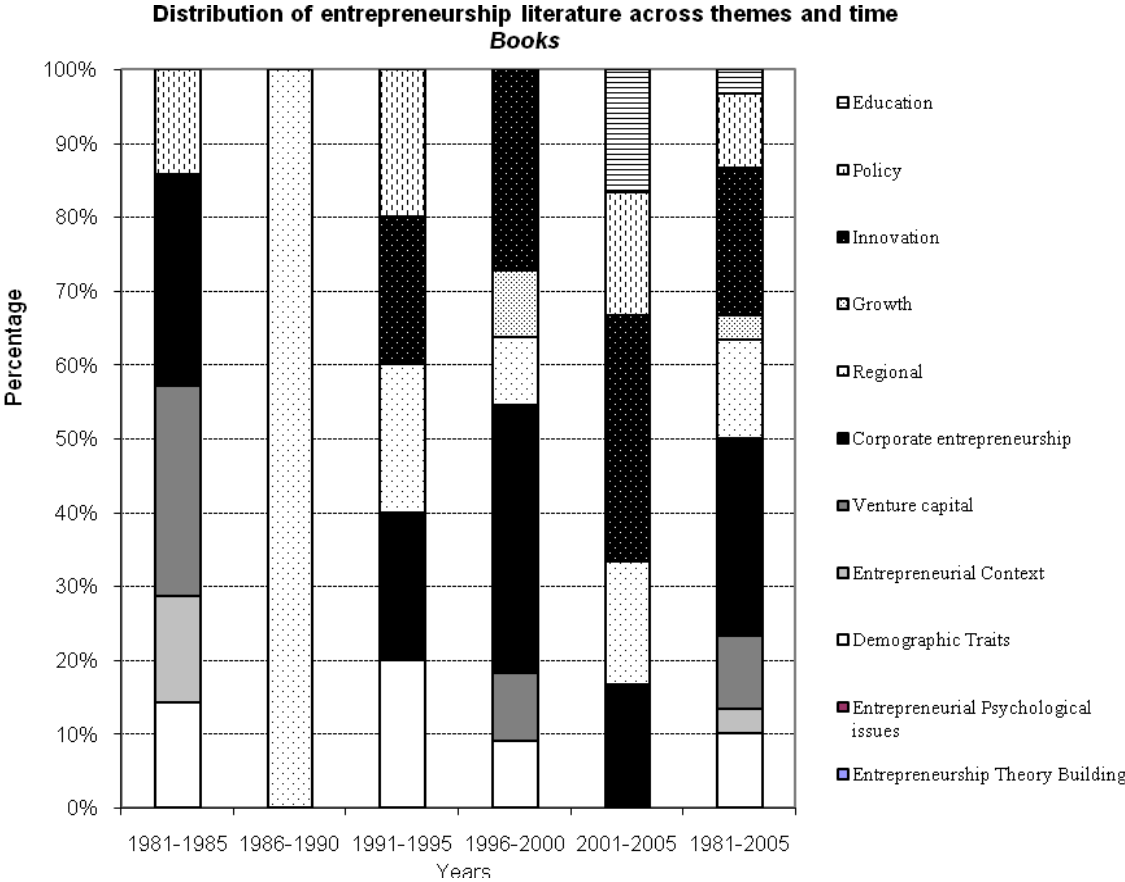


Figure 3: Books' relative amount of research per theme and time period

From the figure above, the importance of corporate entrepreneurship as a major topic of research across time is again perceivable, as well as venture capital's literature. However, like for handbooks, in more recent years, subjects such as innovation, regional, and education are receiving increasingly more attention. In particular, innovation associated to entrepreneurship has become an important topic of research since the 1990s and even predominant in the most recent period considered. Only in recent years entrepreneurship education has arisen in books covering entrepreneurship literature as a new emergent field of study.

It is also important to capture the evolution of these themes on academic journals. We should recall here that our analysis illustrates the type of subjects published by each of the 12 top and/or new academic journals on entrepreneurship in accordance to the descriptions of aim in their respective websites. The dispersion of themes on entrepreneurship literature on the sample of 12 academic journals considered follows a similar time pattern to handbooks and books. Corporate management is the overall predominant subject. However, for the more recent periods, the macroeconomic themes have become increasingly important with innovation becoming the most addressed topic of research. Themes that focus more on the individual characteristics of the entrepreneurs or in its conceptualization (e.g. entrepreneurship theory, psychology, demographic traits) observe a decreasing tendency. On the other hand, policy and regional are becoming increasingly the focus of entrepreneurship literature alongside with innovation. In some part associated to the need to increase the return on R&D and enhance innovative performance and growth, entrepreneurship education has emerged as a new topic of research, particularly addressing entrepreneurship in higher education, which will be our focus in Section 4.

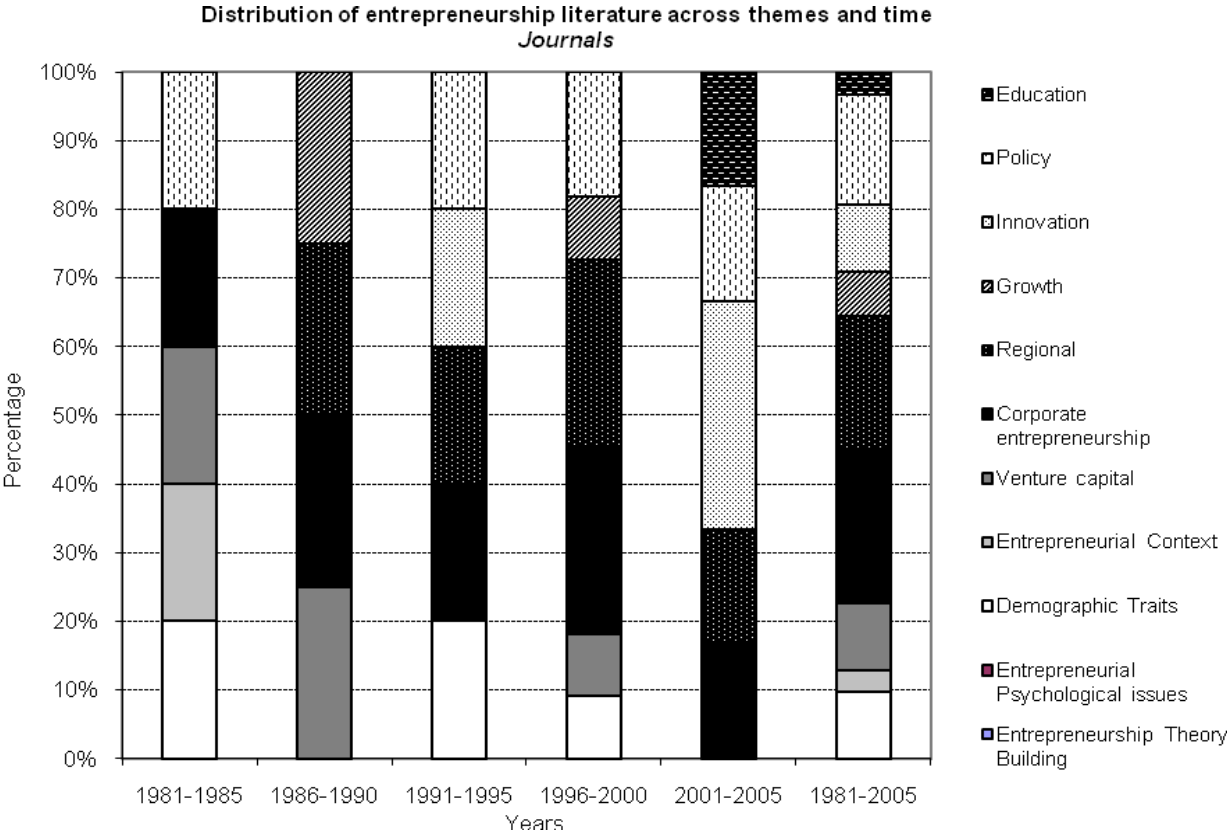


Figure 4: Academic Journals’ relative amount of research per theme and time period

Overall, the three analyses – handbooks, books and journals – convey the same perspective that literature on entrepreneurship is increasingly focusing on the macroeconomic issues regarding innovation, regional or policy or on emergent areas such as education that despite bearing a micro/macro analysis, is associated with the popularity of entrepreneurship in fostering innovation and structural change in regions. Entrepreneurship literature on the individual (e.g. psychology, demographic traits) is becoming less relevant as well as the management perspective covered by corporate entrepreneurship and venture capital topics. Indeed, entrepreneurship literature is reducing its microeconomic focus towards the macroeconomic one, more focused on policy issues associated to themes such as innovation, policy, regional, and, more recently, education, namely, the subject of entrepreneurial universities.

In the next section, we establish the state-of-the-art in terms of entrepreneurship education, in particular, in terms of entrepreneurship in higher education, thus uncovering possible gaps to which we may contribute to fulfil in future research.

4. Entrepreneurship in higher education – universities’ and students’ perspectives

As we argue in Section 2 and as bibliometrically demonstrated in Section 3, the literature on university entrepreneurship is rapidly increasing, both in the United States and Europe (Rothaermel et al., 2007).

The rise of entrepreneurship education as a new topic of research is related to the recognition by universities of the need to become entrepreneurial organizations in order to fulfil and sustain their role and purpose in society (Grigg, 1994). But even under this research topic, several dimensions can be analyzed. Rothaermel et al. (2007) divide the literature on entrepreneurship education into four sub-themes, namely, entrepreneurial research university, productivity of technology transfer offices, new firm creation, and environmental context including networks of innovation.

As far as the entrepreneurial research university sub-theme is concerned, the increased interest is related to the passing of the Bayh-Dole Act (1980) in the U.S., which stimulated the commercialization of academic research (Brouwer, 2005). But the Bayh-Dole was only one of several important factors (e.g., federal financial support, shifted portfolio of university research) behind the rise of university patenting and licensing activity (Mowery et al., 2001). The competition for research funds has led US universities to a more active commercialization of faculty inventions (Goldfarb and Henrekson, 2003). According to Bain

(2005) there are four types of commercialization options for academics: licensing their intellectual property, owning shares in a spin-out, personal consulting and writing books. Examples like the Israeli University have demonstrated that research institutes do not need to have prior experience in management in order to develop science based industry (Freier, 1986). Commercialization aids technology transfer and diffusion but each university chooses different types of commercialization. The academies of Swedish and Irish universities have a higher degree of interest in softer activities such as consultancy and contract research, but not in new firm creation via technology spin-offs (Klofsten and Jones-Evans, 2000). One of the reasons that could explain the lack of entrepreneurial activity of the University of Sweden is the low rate of return to human capital investment (Henrekson and Rosenberg, 2001).

For Grigg (1994), universities need to be entrepreneurial organizations if they are to sustain their role in society, which is to foster creativity to make changes in scientific, technological and economic dimensions. We also found studies analysing differences in commercialization of knowledge among universities and inside a university by gender (Stephan and el-Ganainy, 2007; Rosa e Dawson, 2006).

Despite these differences in the commercialization process among universities, Audretsch and Lehmann (2005) observed that these are not correlated with the type of university, technical or non technical. In fact, these authors found that technical universities are not more successful in the spillover and commercialization of knowledge than more traditional Universities.

The way to promote the change in paradigm from a research university into an entrepreneurial university has also been addressed by the literature. Such an example is the study of Jacob et al. (2003). According to the authors, creating an entrepreneurial university requires changes in infrastructures and culture (Jacob et al, 2003). Mok (2005) shows this in his study of the University of Hong Kong where the promotion of entrepreneurialism was achieved by extending its network system and involving non-governmental actors in entrepreneurial activities (Mok, 2005). According to Mok (2005), the reductions of government financing in higher education coupled with revitalization and marketization processes in universities was on the basis of more propensity to an entrepreneurial approach by universities. Hence, industry financing became an alternative which forced Universities to pursue more applied research and answers to the market's needs (Gulbrandsen and Smeby (2005). Lee (1996) reinforces these arguments when he concludes that the perception of declining federal R&D

in the United States forced universities to look for new types of support like university-industry cooperation, (Lee, 1996).

Entrepreneurship in higher education studies also addresses the role of technology transfer offices. Technology transfer offices (TTOs) work as a bridge between the university and the industries. Their function is to obtain royalties and licensing fees, particularly when the technology is not at an initial phase. If technology is at an early stage, royalties are lower and sponsored research is preferred (Thursby et al., 2001). The faster technology transfer offices commercialize patent-protected technologies, the greater their licensing royalties and the more new ventures they spin off (Markman et al., 2005). Their activities are very important for inventions in technological areas where existing links between academia and industry are weak (Colyvas et al., 2002). In a case-study of four universities in Sweden, Gulbrandsen and Smeby (2005) it was concluded that these links can lead to more applied research, enhance the collaboration with external researchers, both in academia and in industry, and result in more scientific publications.

The performance measures of the university-industry links intermediated by technology transfer offices often include the number of licensing agreements and licensing revenues, number of invention disclosures and the amount sponsored research agreements (Rothaermel et al., 2007). However, this performance also depends on institutional factors like the reward systems for faculty involvement in university-industry transfer offices, compensation and staffing practices in the TTOs and efforts to reduce informational and cultural barriers (Siegel et al., 2003). The legal system of European universities, particularly in Germany, Italy, Sweden and United Kingdom makes the efficiency of technology transfer offices less efficient than their US counterparts (Rothaermel et al., 2007). In a survey of 291 biotechnology scientists in Israel, Oliver (1994) concludes that few scientists in Israel had industrial collaborations. According to Goldfarb and Henrekson (2003) in the US, by comparison to Swedish universities, the competition among universities for research funds and scientists, has led to a more active commercialization of faculty inventions through their technology transfer offices. Promoting spin-offs as a way to commercialize technology and enhance the economy's innovative performance also implies the study the propensity for students, particularly college students, to become entrepreneurs. One of the examples in entrepreneurship education literature is the study of Link et al. (2007). Aiming to assess the propensity of academics to engage in informal technology transfer, like transfer of commercial technology, joint publications with industry scientists, and industrial consulting,

they find that male, tenured, and research-grant active faculty members are more likely to engage in all three forms of informal technology transfer. Women, on the other hand, are less likely to disclose information, less likely to patent and present a lower propensity to engage in entrepreneurial activity (Stephan and el-Ganainy, 2007).

Despite the growing interest in fostering university entrepreneurship, few studies address differences in the intents to entrepreneurship by college students (Teixeira, 2008; Teixeira and Forte, 2008). There are, however, some noticeable exceptions. Franke and Lüthje (2004) surveyed college business school students from Austria, US and Germany. Based on a sample of 1313 students, the authors concluded that propensity differed across countries with 50% of US students showing interest in becoming entrepreneurs, whereas in Germany only a quarter revealed an entrepreneurial intent. In line of Franke and Luthje (2004), Guron and Atsan (2006), and Henderson and Robertson (1999) have conducted empirical surveys on business students from Turkey and the UK. Results show a relatively low entrepreneurial intent with only 18% of the surveyed Turkish students and 23% of the British students revealing that they would like to become entrepreneurs. Teixeira (2008) presents a brief survey on this literature strand which highlights that although there has been some research on the potential of University students to become entrepreneurs, these are mainly focused on business and, to a lesser extent, engineering students. However, there are many other scientific domains where a student starting his own business is as viable and desirable. Attempting to fulfill this gap, Teixeira and Forte (2008) conducted an extensive survey on college students of 60 majors in Portugal. Their results reveal a reasonable 25% entrepreneurial intent among students.

The support of University entrepreneurship can be also derived from the promotion of spin-offs. According to Fontes (2005), spin-off companies are an alternative to other technology transfer mechanisms and technology transfer organizations. The role of technology transfer offices in these companies is to support their development and take equity stakes in them (Leitch and Harrison, 2005) and educate them (Lerner, 2005). According to Carayannis et al. (1998), the formation of these spin-off companies in the US and Japan is due either with the left of the founder or technology transfer from mother firm. Chiesa and Piccaluga (2000), based on a survey of 48 Italian spin-off companies, identify the obstacles faced by university entrepreneurship promoters, namely, the stability and lifelong employment at universities, the difficulty to obtain funding and the entrepreneur's limited management skill. Spin-off policies can reduce these obstacles and enhance the growth potential of the ventures (Degroof and Roberts, 2004). Particularly, spin-off policies involving strict selectivity combined with high

support are more suited to environments with weak entrepreneurial infrastructure and culture. However, they require a significant amount of resources (Degroof and Roberts, 2004). Di Gregorio and Share (2003) point out other policy factors that could positively affect the creation of start-ups, such as making equity investments in lieu of patent and licensing costs and a low inventor share of royalties. So, the success of spin-off companies is affected by university policies. Also the previous success in technology transfer, faculty quality, science and engineering orientated to life science, chemistry, and computer science majors, as well as a strong commercial resource base, are all positively related to university spin-off activity (O'Shea et al., 2005). In line with this reasoning, Powers and McDougall (2005) concluded in their study that the faculty quality, the level of industry R&D funding, the age of the technology transfer office and the level of venture capital investment are all important determinants of the spin-off output of Universities.

Some other aspects can determine the propensity of Universities to foster entrepreneurship like the intention to set up relations with external agents and their frequency of interaction with external agents (Grandi and Gfrimaldi, 2003), collaborations with parental and outside organizations (Gubeli and Doloreux, 2005). Steffensen et al. (2000) state that the mechanisms that facilitate the spin-off process are the following: research center and its directors facilitating the flow of information and other resources across the university's boundaries and well planned (rather than spontaneous) spin-offs. The main inhibitors for spin-off process are the conflicts on intellectual property rights (Steffense et al., 2000).

Scholars addressing entrepreneurship education have also identified environmental factors that directly influence university entrepreneurship like science parks. The firms in science-parks have more relations with universities, they are more innovative and have a higher focus on marketing but they were not more profitable than those outside the science-park (Loftsen and Lindeloft, 2002). When a university has a relationship with science parks, there is an increase in publications, patenting, extramural funding, ability to hire preeminent scholars and placement of doctoral students (Link and Scott, 2003). Science parks can facilitate the university-firm links through the establishment of informal and human resource links (Vedovello, 1997). University spin-off firms in science-parks use academic facilities for R&D networks with the university more than corporate spin-offs (Loftsen and Lindelof, 2005) besides having a higher research productivity (Siegel et al., 2003).

Even though the literature on university entrepreneurship is rapidly increasing, both in the United States and European countries, literature has paid a minor amount of attention to

entrepreneurial intents of students. Moreover, to the best of our knowledge, no study in this latter line of research crossed students' entrepreneurial intents with university organization models and entrepreneurial context. Such an issue seems to be a poorly explored subject on a still quite virgin territory of university entrepreneurship, and, therefore, it is a challenging and promising avenue for further research.

5. Conclusions

Entrepreneurship has been gaining increasing attention observable by the notable dynamics of publications on the subject. Based on the in-depth analysis of different publications - handbooks, books and scientific journals - we were able to identify several common themes: entrepreneurship theory building; psychology; demographic traits, context; corporate entrepreneurship; venture and angel capital financing; education; policy; innovation; growth and finally regional development.

The above-mentioned analyses allowed us to perceive that the focus of entrepreneurship literature on the individual is becoming less relevant as well as the management perspective covered by corporate entrepreneurship and venture capital topics. Instead, entrepreneurship literature is reducing its microeconomic focus towards a macroeconomic one, more focused on policy issues associated to themes like innovation, policy, regional development and nowadays education, in particular, addressing the role of universities in fostering entrepreneurship. In fact, entrepreneurship education has become a new topic of research as the maximization of innovative potential per euro/dollar spent on R&D has become an imperative. Furthermore, Universities have realized that they need to be entrepreneurial organizations if they want to fulfil their role and purpose in society and simultaneously be competitive in attracting research funds.

We observed that in general, entrepreneurship education studies are centred on US Universities, and, to a lesser extent, on some European cases. The assessment of the intents of university students towards entrepreneurship is a central aspect but has captured the attention of still a relatively scarce number of authors (e.g., Franke and Luthje, 2004; Guron and Atsan, 2006; Teixeira, 2008; Teixeira and Forte, 2009) and among these, analyses are tremendously focused on business or engineering students. This fact presents itself as a literature gap where the extension to a comparative international analysis of Teixeira and Forte's (2009) comprehensive study for Portugal, which included 60 majors, potentially constitutes one promising path for future research. Moreover, the exploration of different patterns of

entrepreneurship intents across distinct universities, rooted in different cultures, or situated in different economic contexts, subject to different policies, might be an important contribution to entrepreneurial studies.

References

- Ács, Z. J. and David, B. (2005), *Handbook of Entrepreneurship Research: an Interdisciplinary Survey and Introduction*, Kluwer Academic Publishers.
- Alvarez, S. (2005), “Theories of Entrepreneurship: Alternative Assumptions and the Study of Entrepreneurial Action”, *Foundations and Trends*. ®. in. *Entrepreneurship*. 1 (3): 105-148.
- Alvarez, S. A.; Agarwal, R. and Sorenson, O. (2005), *Handbook of Entrepreneurship Research: Disciplinary Perspectives*, New York: Springer.
- Audretsch, D. B. and Lehmann, E. E. (2005), “Do University Policies make a Difference?”, *Research Policy*, 34(3), pp. 343–347.
- Audretsch, D. B.; Grilo, I. and Thurik, R. (2007), *Handbook of Research on Entrepreneurship Policy*, Elgar Publication.
- Bains, W. (2005), “How Academics can Make (extra) Money out of their Science”, *Journal of Commercial Biotechnology*, 11(4), pp.353–363.
- Baron, R. A. and Shane, S. A. (2005), *Entrepreneurship – A Process Perspective*, Thomson South-Western.
- Bates, T. (1995), Self-employment entry across industry groups, *Journal of Business Venturing*, 10, pp. 143–156.
- Bates, T; Jackson, W. E.; Johnson, J.H. (2007), “Advancing Research on Minority Entrepreneurship”, *The Annals of the American Academy of Political and Social Science*, 613: 10-17.
- Baumbach, C. M. and Mancuso, J. R. (1975), *Entrepreneurship and Venture Management*, 2nd Edition, Prentice-Hall.
- Baumol, W. (1993). Entrepreneurship: Productive. Unproductive, and Destructive. In *Entrepreneurship. management and the structure-of payoffs*. Cambridge. MA: MIT Press, pp. 25-47.

- Baumol, W. J.; Litan, R. E. and Schramm, C. J. (2007), *Good Capitalism, Bad Capitalism, and Economics of Growth and Prosperity*, Yale University Press.
- Bergmann, H. and Sternberg, R (2006), “The Changing Face of Entrepreneurship in Germany”, *Small Business Economics*, 28: 205-221.
- Berle, G. (1991), *The Green Entrepreneur: Business opportunities that can save the Earth Make you Money*,
- Birley, S. and Muzyka (2000), *Mastering Entrepreneurship: Your Single-Source Guide to Becoming a Master of Entrepreneurship*, Prentice-Hall.
- Bjerke, B. (2007), *Understanding Entrepreneurship*, Elgar Publication.
- Bonaccorsi, A. and Daraio, C. (2007), *Universities and Strategic Knowledge Creation: Specialization and Performance in Europe*, Elgar Publication.
- Boston, T. D. and Boston, L. R. (2007), “Secrets of Gazelles: The Differences Between High-Growth and Low-Growth Business Owned by African American Entrepreneurs”, *The Annals of the American Academy of Political and Social Science*, September, 613: 108-130.
- Brouwer, M. (2005), “Entrepreneurship and University Licensing”, *Journal of Technology Transfer*, 30(3), pp. 263–270.
- Brush, C.; Monti, D.; Ryan, A.; Gannon, A. M. (2007), “Building Ventures Through Civic Capitalism”, *The Annals of the American Academy of Political and Social Science*, 613:155-177.
- Busenitz, L. W.; III West, G. P.; Shepherd, D.; Nelson, T.; Chandler, G. N.; Zacharakis, A. (2003), “Entrepreneurship Research in Emergence: Past and Future Directions”, *Journal of Management*, vol.29(3): 285-308.
- Bygrave, W. and D’Heilly, D. (1997), *The Portable MBA in Entrepreneurship: Case Studies*, John Willey and Sons.
- Campbell, N. D. and Rogers, T. (2007), Economic Freedom and Net Business Formation, *Cato Journal*, Vol. 27 (1) Winter.
- Cantillon, Richard, (1775), ‘The Circulation and Exchange of Goods and Merchandise’, in H. Higgs (ed.), *Essai sur la Nature du Commerce en Général*, London: Macmillan (1931).

- Cantner, U.; Malerba, F. (2007), *Innovation, Industrial Dynamics and Structural Transformation: Schumpeterian Legacies*, SpringerPublication.
- Carayannis, E. G.; Rogers E. M.; Kurihara, K. and Allbritton, M. M. (1998), “High-technology spin-offs from government R&D laboratories and research universities”, *Technovation*, 18(1), 1–11.
- Carson, D.; Cromie, S.; McGowan, P. and Hill, J. (1995), *Marketing and Entrepreneurship in SMEs: an Innovative Approach*,
- Casson, M. (1990), *Entrepreneurship*, An Elgar Reference Collection.
- Casson, M. (1995), *Entrepreneurship and Business Culture: Studies in the Economics of Trust*, Edward Elgar Publishing.
- Casson, M. (2006), *The Oxford Handbook of Entrepreneurship*,
- Chiesa, V. and Piccaluga, A. (2000), “Exploitation and diffusion of public research: the case of academic spin-off companies in Italy”, *R & D Management*, 30(4), pp.329–339.
- Colyvas, J., Crow, M., Gelijns, A., Mazzoleni, R., Nelson, R. R., Rosenberg, N. (2002), “How do University Inventions Get Into Practice?”, *Management Science*, 48(1), pp. 61–72.
- Congregado, E. (2008), *Measuring Entrepreneurship: Building a Statistical System*, New York: Springer.
- Corbetta, G.; Huse, M. and Ravasi, D. (2005), *Crossroads of Entrepreneurship*, Springer.
- Cornelius, B.; Landström, H. and Persson, O. (2006), “Entrepreneurial Studies: The Dynamic Research Front of a Developing Social Science”, *Entrepreneurship Theory and Practice*, May, pp. 375-398.
- Davidsson, P. (2004), *Researching Entrepreneurship*, Springer.
- Davidsson, P. (2005), *Nascent Entrepreneurship Studies and Developments*, Now Publishers.
- Degroof, J.-J. and Roberts, E. B. (2004), “Overcoming weak entrepreneurial infrastructures for academic spin-off ventures”, *Journal of Technology Transfer*, 29(3–4), pp. 327–352.
- Di Gregorio, D. and Shane, S. (2003), “Why do some universities generate more start-ups than others?”, *Research Policy*, 32(2), pp. 209–227.

- Dowling, M and Schmude, J. (2007), *“Empirical Entrepreneurship in Europe: New Perspectives”*, ElgarPublication.
- Drucker, P. (1985), *Innovation and Entrepreneurship*, Heinemann: London.
- Drucker, P. (2007), *Innovation and Entrepreneurship: Practice and Principles*
effects on the academic mission of universities”, *International Journal of Industrial Organization*, 21(9), pp.1323–1356.
- Etzkowitz, H., Webster, A., Gebhardt, C., and Terra, B. R. C. (2000), “The future of the University and the University of the future: Evolution of Ivory Tower to Entrepreneurial Paradigm”, *Research Policy*, 29, pp. 313–330.
- Fayolle, A. (2007), *Handbook of Research in Entrepreneurship Education: Context Perspective*, Edward Elgar Publishing.
- Fayolle, A. (2007), *Handbook of Research in Entrepreneurship Education: A General Perspective*, Edward Elgar Publishing.
- Fayolle, A. and Klandt, H. (2006), *International Entrepreneurship Education: Issues and Newness*, Edward Elgar Publishing.
- Feldman, M. and Desrochers, P. (2003), “Research Universities and Local Economic Development: Lessons from the History of Johns Hopkins University”, *Industry and Innovation*, 10(1), pp. 5–24.
- Fontes, M. (2005), “The process of transformation of scientific and technological knowledge into economic value conducted by biotechnology spinoffs”, *Technovation*, 25(4), pp. 339–347.
- founding teams”, *Small Business Economics*, 21(4), pp. 329–341.
- Freier, S. (1986), “Parks of science-based industries in Israel”, *Technovation*, 4(3), pp. 183–187.
- Gamboa, E. C. and Brouthers, L. E. (2008), “How International is Entrepreneurship?”, *Entrepreneurship Theory and Practice*, May, pp. 551-558.
- Gartner, W. B. Shaver, K. G.; Carter, N. M.; and Reynolds, P. D. (2004), *Handbook of Entrepreneurial Dynamics: The Process of Business Creation*, Sage.
- Geuna, A. (1998), “Determinants of university participation in EU-funded R&D cooperative

- Gladman, W. G. (1996), *Who Wants to be an Entrepreneur?*, National Library of Canada.
- Gladstone, D. and (2001), *Venture Capital Handbook: an Entrepreneur's Guide to Raising Venture Capital*, Prentice Hall.
- Goldfarb, B. and Henrekson, M. (2003), "Bottom-up versus Top-down Policies towards the Commercialization of University Intellectual Property", *Research Policy*, 32(4), pp.639.
- Grandi, A. and Grimaldi, R. (2003), "Exploring the networking characteristics of new venture
- Grigg, T. (1994), 'Adopting an Entrepreneurial Approach in Universities,' *Journal of Engineering and Technology Management*, 11(3-4), pp. 273-298.
- Gubeli, M. H. and Doloreux, D. (2005), "An empirical study of university spin-off development", *European Journal of Innovation Management*, 8(3), pp.269-282.
- Gulbrandsen, M. and Smeby, J.-C. (2005), "Industry Funding and University Professors' Research Performance", *Research Policy*, 34(6), pp. 932-950.
- Harper, D. A. (2002), *Entrepreneurship and the Market Process: an Enquiry into the Growth*, Routledge.
- Hatten, T. S. (1997), *Small Business: Entrepreneurship and Beyond*, Prentice Hall.
- Henrekson, M. and Rosenberg, N. (2001), "Designing Efficient Institutions for Science Based Entrepreneurship: Lesson from the US and Sweden", *Journal of Technology Transfer*, 26(3), pp.207-231.
- Henry, C., Hill, F. and Leitch, C. (2003), *Entrepreneurship Education and Training: The Issue of Effectiveness*, Ashgate Publishing.
- Hisrich, R. D.; Peters, M.P.; Shepherd, D. A. (2008), *Entrepreneurship*, 7th edition, McGraw-Hill International Edition.
- Hughes, J (1986), *The Vital Few: the Entrepreneur and American Economic Progress*, Oxford University Press.
- Iandoli, L.; Landstrom, H. and Raffa, M. (2007), "*Entrepreneurship, Competitiveness and Local Development: Frontiers in European Entrepreneurship Research*", ElgarPublication.

- Jacob, M., Lundqvist, M. and Hellsmark, H. (2003), “Entrepreneurial Transformations in the Swedish University System: the Case of Chalmers University of Technology”, *Research Policy*, 32(9), pp.1555–1568.
- Kalantaridis, C. (2004), *Understanding the Entrepreneur: an Institutional Perspective*, Ashgate Publishing.
- Katz, J. and Boals, K. (2002), *Entrepreneurship Journal Ranking*,
- Katz, J. and Boals, K. (2005),
- Kent, C.A. (1990), *Entrepreneurship Education: Current Developments, Future Directions*, Greenwood Publishing Group.
- Kirzner, I. M. (1973), *Competition and Entrepreneurship*, The University of Chicago Press.
- Klandt, H. (1993), *Entrepreneurship and Business Development*, The Avebury Business School Library.
- Klofsten, M. and Jones-Evans, D. (2000), “Comparing Academic Entrepreneurship in Europe-the Case of Sweden and Ireland”, *Small Business Economics*, 14(4), pp.299 – 309.
- Kreft, S. F., & Sobel, R. S. (2005), “Public policy, entrepreneurship, and economic freedom”, *Cato Journal*, 25, pp.595–616, Fall.
- Kuratko, D. F. (2005), “The Emergence of Entrepreneurship Education: Development, Trends and Challenges”, *Entrepreneurship Theory and Practice*, September: 557-597.
- Kuratko, D.F., Ireland, R.D., Covin J.G and Hornsby J.S.. (2005), “A Model of Middle-level Managers’ Entrepreneurial Behavior,” *Entrepreneurship Theory and Practice*, 29, pp. 699–716.
- Landström, H. (2005), *Pioneers in Entrepreneurship and Small Business Research*, Springer.
- Landström, H. (2007), *Handbook of Research on Venture Capital*, Elgar Publication.
- Leadbeater, C. (1997), *The Rise of The Social Entrepreneur*,
- Lee, Y. S. (1996), “Technology transfer and the research university: a search for the boundaries of university-industry collaboration”, *Research Policy*, 25, pp. 843–863.

- Leitch, C. M. and Harrison, R. T. (2005), 'Maximising the potential of university spin-outs: the development of second-order commercialisation activities,' *R & D Management*, 35(3), pp. 257–272.
- Lerner, J. (2005), "The university and the start-up: lessons from the past two decades", *Journal of Technology Transfer*, 30(1–2), pp. 49–56.
- Lesonsky, R. (2001), *Start Your Own Business*,
- Link, A. N. and Scott, J. T. (2003), "U.S. science parks: the diffusion of an innovation and its
- Link, A. N. and Siegel, D. S. (2007), *Innovation, Entrepreneurship, and Technological Change*, Oxford University PressPublication.
- Livesay, H. C. (1995), *Entrepreneurship and the Growth of Firms (International Library of Critical Writings in Business History)*, vol. I, Edward Elgar Publishing.
- Lofsten, H. and P. Lindelof (2002), "Science parks and the growth of new technology-based firms - academic-industry links, innovation and markets", *Research Policy*, 31(6), 859.
- Lofsten, H. and P. Lindelof (2005), 'R&D networks and product innovation patterns - academic and non-academic new technology-based firms on science parks,' *Technovation*, 25(9), pp.1025–1037.
- Markman, G. D., Gianiodis, P. T., Phan, P. H. and Balkin, D. B. (2005), 'Innovation Speed: Transferring University Technology to Market,' *Research Policy*, 34(7), pp. 1058–1075.
- Mok, K. H. (2005), "Fostering Entrepreneurship: Changing Role of Government and Higher Education Governance in Hong Kong", *Research Policy*, 34(4), pp. 537.
- Mowery, D. C., Nelson, R.R, Sampat, B. N. and Ziedonis, A. A. (2001), 'The Growth of Patenting and Licensing by the U.S. Universities: an Assessment of the Effects of the Bayh-Dole act of 1980,' *Research Policy*, 30(1), pp. 99–119.
- O'Shea, R. P.; Allen, T. J.; Chevalier, A. and Roche, F. (2005), "Entrepreneurial orientation, technology transfer and spinoff performance of U.S. universities", *Research Policy*, 34(7), pp. 994–1009.
- Oliver, L. A. (2004), "Biotechnology entrepreneurial scientists and their collaborations",

- Organisation for Economic Co-operation and Development (2007), *Competitive Cities: A New Entrepreneurial Paradigm in Spatial Development*, Organisation for Economic Co-operation and Development Publication.
- Organisation for Economic Co-operation and Development (2007), *SMEs in Mexico: Issues and Policies*, Organisation for Economic Co-operation and Development Publication.
- Owen-Smith, J., Riccaboni, M., Pammolli, F. and Powell, W. W. (2002), “A comparison of U.S. and European University-industry relations in the life sciences”, *Management Science*, 48(1), 24–43.
- Powell, B. (2008), *Making Poor Nations Rich: Entrepreneurship and the Process of Economic Development*, Stanford University Press.
- Powers, J. B. and McDougall, P. P. (2005), “Policy orientation effects on performance with licensing to start-ups and small companies”, *Research Policy*, 34(7), pp. 1028–1042.
- Projects”, *Research Policy*, 26(6), pp.677.
- Research Policy*, 33(4), pp. 583.
- Reynolds, P. D. (2007), *Entrepreneurship in the United States: The Future is Now*, SpringerPublication.
- Reynolds, P. D., Hay, M., and Camp, S. M. (1999), *Global Entrepreneurship Monitor*, Kansas City, Missouri: Kauffman Center for Entrepreneurial Leadership.
- Ripsas, S. (1998), “Towards an Interdisciplinary Theory of Entrepreneurship”, *Small Business Economics*, 10:103-115.
- Robinson, J., Blockson, L. and Robinson, S. (2007), “Exploring Stratification and Entrepreneurship: African American Women Entrepreneurs Redefine Success in Growth Ventures”, *The ANNALS of the American Academy of Political and Social Science*, 613, 131.
- Robles, B.J. and Cordero-Guzmán, H. (2007), Latino Self-Employment and Entrepreneurship in the United States, *The ANNALS of the American Academy of Political and Social Science*, 613, 18.
- Romer P. (1986), “Increasing Returns and Economic Growth”, *American Economic Review* 94, pp.1002–1037.

- Rothaermel, F. T.; Agung, S. D. and Jiang, L. (2007), “University entrepreneurship: a taxonomy of literature”, *Industrial and Corporate Change*, 16 (4): 691-791.
- Sahlman, A. W.; Andrews, W.; Howard, H; Bhide, A.; Roberts, M. J. (1999), *The Entrepreneurial Venture: Reading Selected*, Harvard Business Press.
- Sardy, M. and Alon, I. (2007), “Exploring the Differences Between Franchisee Entrepreneurs and Nascent Entrepreneurs”, *International Entrepreneurship Management Journal*, 3: 403-418.
- Sathe, V. (2003), *Corporate Entrepreneurship: Top Managers and New Business Creation*,
- Say, Jean Baptiste, (1803), *Traité d’Economie Politique*, Paris.
- Schumpeter, J. (1942), *Capitalism, Socialism and Democracy*, New York: Harper.
- Schumpeter, Joseph, (1934), *Theory of Economic Development: An inquiry into Profits, Capital, Credit, Interest and the Business Cycle*, Cambridge: Havard University Press.
- Shane, S. (2002), *The Foundations of Entrepreneurship*, vol. I, An Elgar Reference Collection.
- Shane, S. (2002), *The Foundations of Entrepreneurship*, vol. II, An Elgar Reference Collection.
- Shane, S. (2003), *A General Theory of Entrepreneurship*,
- Sheshinski, E.; Strom, R. and Baumol, W. J. (2007), *Entrepreneurship, Innovation and the Growth Mechanism of the Free-Enterprise Economies*, Princeton University Press.
- Siegel, D. S., Waldman, D. A. and Link, A. N. (2003), “Assessing the Impact of Organizational Practices on the Productivity of University Technology Transfer Offices: an Exploratory Study”, *Research Policy*, 32(1), 27–48.
- Silva, O. (2007), “The Jack-of-All-Trades Entrepreneur: Innate Talent or Acquired Skill”, *Economics Letters*, 97: 118-123.
- Smith, D. G. (1999), “How Early Stage Entrepreneurs Evaluate Venture Capitalists”, in: P. D. Reynolds (Ed.) *Frontiers of Entrepreneurship Research*, pp. 289 – 303.
- Sobel, R. S., Clark, J.R. and Dwight, R. L. (2007), “Freedom, Barriers to entry, Entrepreneurship, and Economic Progress”, *Review Austrian Economy*, 20, pp. 221–236.

- Solow, R. (1956), "A Contribution to the Theory of Economic Growth", *Quarterly Journal of Economics*, 70, pp. 65–94.
- Steffensen, M., Rogers, E. M. and Speakman, K. (2000), "Spin-offs from research centers at a research University", *Journal of Business Venturing*, 15(1), pp.93–111.
- Stephan, P. E. and El-Ganainy, A. (2007), "The Entrepreneurial Puzzle: Explaining the Gender Gap", *Journal Technology Transfer*, 32: 475-487.
- Stone, I. and Stubbs, C. (2007), "Enterprising Expatriates: Lifestyle Migration and Entrepreneurship in Rural Southern Europe", *Entrepreneurship and Regional Development*, vol. 19 (5), pp. 433-450.
- Strom, R. D. (2007), "Fostering Research on Minority Entrepreneurship", *The Annals of the American Academy of Political and Social Science*, 613:6-9.
- Suarez-Villa, L. (1989), *The Evolution of Regional Economies: Entrepreneurship and Macroeconomics Change*, Praeger.
- Swedberg, R. (2000), *Entrepreneurship: The Social Science View*, Oxford University Press.
- Támasy, C. (2006), "Determinants of Regional Entrepreneurship Dynamics in Contemporary Germany: a Conceptual and Empirical Analysis", *Regional Studies*, vol.40 (4), pp. 365-384.
- Tebat, T.J. (1983), *Brazil's State-Owned Enterprises: A Case Study of The State as an Entrepreneur*, Cambridge University Press.
- Teixeira, A.A.C. (2008), "Entrepreneurial Potential in Engineering and Business Courses ... Why Worry Now? ", in *Innovation in Manufacturing Networks, IFIP International Federation for Information Processing*, 266: 325-336
- Teixeira, A.A.C. and Forte, R. (2008), "Entrepreneurial intentions of final year university students: a multi-course investigation", *mimeo*, Faculdade de Economia, Universidade do Porto.
- Therin, F. (2007), *Handbook of Research on techno-Entrepreneurship*, ElgarPublication.
- Thursby, J. G., Jensen, R. A. and Thursby, M. C. (2001), "Objectives, Characteristics and Outcomes of University Licensing: a Survey of Major U.S. Universities", *Journal of Technology Transfer*, 26(1–2), pp. 59–70.

- Valliere, Dave and Peterson, Rein (2007) 'When Entrepreneurs Choose VCs: Experience, Choice Criteria and Introspection Accuracy', *Venture Capital*, 9:4, 285 – 309.
- Van Praag, C. and Versloot, P. H. (2007), “What is the Value of Entrepreneurship? A Review of Recent Research”, *Small Business Economics*, 29, pp. 351–382.
- Vedovello, C. (1997), “Science parks and university-industry interaction: geographical proximity between the agents as a driving force”, *Technovation*, 17(9), pp. 491–502.
- Welter, F. and Rosenblatt B. V., (1998), _Der Schritt in die Selbstaendigkeit, Gruendungsneigung und Gruendungsfaehigkeit in Deutschland [The Step into Self-Employment, Start-up Propensity and Start-up Ability in Germany], Internationales Gewerbearchiv 46,pp. 234–248.
- Wijbenga, F.H. and van Witteloostuijn (2007), Entrepreneurial Locus of Control and Competitive Strategies – The Moderating Effect of Environmental Dynamism, *Journal of Economic Psychology*, vol.21, pp.566-589.
- Wood, C.C.; Holt, D. T.; Reed, T. S. and Hudgens, B. J. (2008), “Perceptions of Corporate Entrepreneurship in Air Force Organizations: Antecedents and Outcomes, *Journal of Small Business and Entrepreneurship*, 21(1), pp.117-132.
- Wright, M. Clarysee, B., Mustar, P. and Lockett, A. (2007), *Academic Entrepreneurship in Europe*, ElgarPublication.
- Yago, G.; Barth, J. R.; Zeidman, B. (2008), *Entrepreneurship in Emerging Domestic Markets: Barriers and Innovation*, Springer.
- Young, G. and Ho, K. W. (2006), Innovation, Imitation and Entrepreneurship, *The Singapore Economic Review*, Vol. 51 (2), pp. 147–173.
- Zacharakis, A. L., Bygrave, W. D., & Shepherd, D. A. (2000). Global entrepreneurship monitor: national entrepreneurship assessment: United States of America. Kansas City, Missouri: Kauffman Center for Entrepreneurial Leadership.
- Zhang, M. Y. and Dodgson, M. (2007), *High-Tech Entrepreneurship in Asia: Innovation, Industry and Institutional Dynamics in Mobile Payments*, Elgar Publication.
- Zimmerer, T. W. and Scarborough, N.M. (1998), *Essentials of Entrepreneurship and Small Business Management*, 2nd Edition, Prentice Hall.

Appendix 1: Acronyms

AER - The American Economic Review (American Economic Association, Nashville)

AME - Academy of Management Executive (Academy of Management)

AMJ - Academy of Management Journal (Academy of Management, Ada, Ohio)

AMR - Academy of Management Review (Academy of Management)

AR - The Accounting Review (American Accounting Association)

ASQ - Administrative Science Quarterly (Cornell University)

CMR - California Management Review (UC Berkeley)

EC - Econometrica (Econometric Society, University of Chicago)

ET&P - Entrepreneurship Theory and Practice (Baylor University, Waco, Texas)

HBR - Harvard Business Review (HBR Press)

HRM - Human Resource Management (Routledge Journals, London)

IJHRM - International Journal of Human Resource management (Basil Blackwell, Oxford)

ISR - Information Systems Research (Institute for Operations Research and the Management Sciences)

JAE - Journal of Accounting and Economics (Elsevier)

JAP - Journal of Applied Psychology (American Psychology Organisation)

JAR - Journal of Accounting Research (University of Chicago)

JBV - Journal of Business Venturing (NYU/Elsevier)

JCR - Journal of Consumer Research (American Association for Public Opinion)

JF - Journal of Finance (American Finance Association)

JFE - Journal of Financial Economics (University of Rochester/Elsevier)

JIBS - Journal of International Business Studies (Academy of International Business/university of South Carolina)

JM - Journal of Marketing (American Marketing Association)

JMR - Journal of Marketing Research (American Marketing Association)

JOM - Journal of Operations Management (Elsevier)

JPE - Journal of Political Economy (University of Chicago)

JSBM - Journal of Small Business Management (National Council for Small Business Management Development)

LRP- Long Range Planning (Elsevier, Oxford)

MIR - Management International Review (Gabler Verlag, Wiesbaden)

MISQ - MIS Quarterly (Society for Information Management, University of Minnesota)

MS - Management Science (Institute for Operations Research and the Management Sciences)

OB&HDP - Organizational Behaviour and Human Decision Processes (Academic Press)

OR - Operations Research (Institute for Operations Research and the Management Sciences Research/University of Chicago)

RFS - Review of Financial Studies (Oxford University Press)

SMJ - Strategic Management Journal (John Wiley and Sons)

SMR - Sloan Management Review (MIT)

Appendix 2

Table A1: Entrepreneurship themes covered in selected Handbooks

date	2001	2004	2005	2005	2005	2006	2007	2007	2007	2007	2007	2007	2007	2007	2007
Conceptualization						X									
Psychology		X	X			X									
Demographic traits		X										X			
Entrepreneurial context						X							X		
Corporate entrepreneurship		X	X	X	X	X	X								X
Venture capital	X		X	X		X									X
Education								X							
Regional		X	X	X		X									
Growth			X			X									
Innovation						X									
Policy			X			X	X								

Table A1: Entrepreneurship themes covered on selected books

date	2000	2000	2000	2000	2001	2001	2001	2001	2002	2002	2002	2003	2003	2003	2003	2003	2003	2004
Conceptualization		X							X									
Psychology									X									X
Demographic traits																		X
Entrepreneurial context		X							X									X
Corporate entrepreneurship	X		X		X				X									X
Venture capital										X								
Education																		
Regional																		X
Growth																		
Innovation																		
Policy																X		

Table A3: Entrepreneurship themes covered on selected academic journals

Journal	JSBM	JBV	ERD	SBE	JDE	JSBE	EA	EIMS	IJEM	CIM	JIE	JEE
Date of the first issue	1984	1985	1989	1992	1996	1997	2000	2000	2001	2002	2003	2004
Conceptualization												
Psychology												
Demographic traits	X			X		X						
Entrepreneurial context	X											
Corporate entrepreneurship	X	X		X		X	X	X	X			
Venture capital	X	X						X				
Education												X
Regional			X	X	X	X	X				X	
Growth			X		X							
Innovation				X					X	X		
Policy	X			X	X		X		X			

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