
Editorial: Entrepreneurship: a short literature review

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1 Introduction

In the last 50 years, we have witnessed the rise of entrepreneurship research. Schumpeter's theory of economic development based on entrepreneurship (Schumpeter, 1934) triggered entrepreneurship research.

Schumpeter's book, first published over one century ago in German, did not produce a massive wave of studies on entrepreneurship, but allowed Schumpeter to gain a Chair at the University of Graz, and later on a professorship at Harvard University. In fact, the influence of his theory of entrepreneurship grew exponentially after the Second World War. Neither classical nor neoclassical economic theories had paid attention either to the creation of new firms, or to entrepreneurs and entrepreneurship. Schumpeter underlined their key role in economic development, and argued that entrepreneurs are those who both break equilibrium and also promote economic progress by the introduction of new goods, new services, new methods of production, and new organisational forms.

The entrepreneur is the one who introduces innovation. And his 1912 definition of innovation is basically the same as the one the OECD has adopted since the 1960s. Innovation is:

- The introduction of a new good or a new quality of a good.
- The introduction of a new method of production.
- The opening of a new market.
- The conquest of a new source of supply.
- The carrying out of a new organisation of any industry (Schumpeter, 1934).

The subject of entrepreneurship has risen from virtual non-existence to high standing in just three or four decades (see Table 1). More than 50% of all articles on entrepreneurship have been published in the last decade.

The first wave of studies on entrepreneurship put the accent on the entrepreneur's psychological traits (Gartner, 1988). Entrepreneurship soon gained a small place in management studies at Harvard University, only to flourish after the 1980s (Carlsson et al., 2013). It took decades before it gained another (small) place in the departments of economics. Neoclassical economics has neither role nor tolerance for entrepreneurs. Fortunately, the Schumpeterian approach was kept alive in North America and Western Europe. The knowledge spillover theory of entrepreneurship is a major recent

development (Acs et al., 2009). Schumpeter had neglected this dimension; he saw the entrepreneurs searching opportunities in a sort of homogeneous economic environment. However, entrepreneurs are people who see the opportunities appearing mainly in the market where they operate.

Table 1 Number of articles on entrepreneurship (1950–2017)

<i>Period</i>	<i>Number of articles</i>
1950–1959	10
1960–1969	24
1970–1979	82
1980–1989	454
1990–1999	1,846
2000–2019	7,527
2010–2017	18,575
Total	28,518

Source: SCOPUS

Increasingly often, these opportunities are created by the new knowledge produced in universities, government research institutes, innovative firms and other organisations. And all countries do not produce the same number and quality of such knowledge opportunities. The USA and now China lead the world in scientific publications and national patents. Today they are the world leaders in the provision of entrepreneurial opportunities.

The lack of entrepreneurial skills explains why the returns to R&D investments are often low in most OECD countries (Michelacci, 2003). This hypothesis makes clear why emerging countries such as China, Singapore, South Korea, and Taiwan produce so many new firms, and why products invented in the USA or Western Europe (from TV sets and fax machines, to flat panel displays, solar photovoltaic technologies, Über, and magnetic levitation trains) are often exploited and commercialised in Asia, and not in the USA or Europe. Entrepreneurial motivation and skills may be lacking in some countries in which the inventing institutions are strong.

Entrepreneurship fuels economic growth [Baumol, (2002), pp.59–61]. The entrepreneur is absent in state-controlled economies such as those of Cuba, North Korea or Venezuela, as it was absent in the Chinese empire, and in today's stagnant developing countries. Even in advanced OECD nations, a fresh dose of entrepreneurship may add some vitality to the lagging yet creative economies.

2 Defining entrepreneurs and entrepreneurship

An entrepreneur is the person who creates new technical and organisational combinations, who sees how to fulfil currently unsatisfied needs or perceives a more efficient means of doing what is already being done (Schumpeter, 1934). Entrepreneurship and entrepreneurial orientation have been differentiated (Verhees et al., 2004). Entrepreneurship is the identification and exploitation of an opportunity and to the

development of a niche in the market (ibid). Alternatively, Carlsson et al. (2013, p.914) defines it:

“Entrepreneurship refers primarily to an economic function that is carried out by individuals, entrepreneurs, acting independently or within organizations, to perceive and create new opportunities and to introduce their ideas into the market, under uncertainty, by making decisions about location, product design, resource use, institutions, and reward systems. The entrepreneurial activity and the entrepreneurial ventures are influenced by the socioeconomic environment and result ultimately in economic growth and human welfare.”

In Schumpeter’s work, as in the vast majority of entrepreneurship literature, entrepreneurship is seen as a positive addition to the economy, and one that leads to economic growth. However, it has been shown that entrepreneurship is not necessarily always productive. Under certain conditions, entrepreneurship may be unproductive (such as speculative financial activities, or new methods of tax evasion) and even destructive or wealth destroying such as guerrilla warfare or Islamic terrorism [Acs, (2015); Part I; Baumol, (2002), pp.62–65].

By contrast, ‘entrepreneurial orientation’ is a multidimensional variable that includes three elements: innovativeness, proactiveness, and risk taking (Rauch et al., 2009; Walter et al., 2006). In academic and public sector spin-offs, entrepreneurial orientation is moderately related to the growth of the new firms. The most significant dimension of entrepreneurial orientation is the proactiveness related to the search of venture capital, according to a meta-analysis of the entrepreneurial orientation studies (Rauch et al., 2009).

3 International variations in entrepreneurship and globalisation

Measuring entrepreneurship has not been an easy task but in recent years some progress has been made. The OECD (2008, p.8) has combined several dimensions to produce the following definitions:

“Entrepreneurs are those persons (business owners) who seek to generate value through the creation or expansion of economic activity, by identifying and exploiting new products, processes or markets.

Entrepreneurial activity is enterprising human action in pursuit of the generation of value through the creation or expansion of economic activity, by identifying and exploiting new products, processes or markets.

Entrepreneurship is the phenomenon associated with entrepreneurial activity.”

The Global Entrepreneurship Monitor has used these definitions to produce a quantitative report since 1999, bringing data about entrepreneurial activities in some 70 countries. An empirical study using these data on the 37 countries participating in 2002 showed that not all entrepreneurial firms had a significant impact on economic development, but only high-growth new firms did (Wong et al., 2005). Such a result brings an important dimension to specify the impact of entrepreneurship on economic growth. All new firms do not significantly contribute to the expansion of gross domestic product (GDP) but high-growth (usually high-tech) firms do. This finding helps to explain the stagnation of

many developing countries where such entrepreneurship flourishes, but high-growth firms do not represent a significant share of entrepreneurial start-ups.

4 Entrepreneurship in high-tech industries

If it is the case that high-growth firms represent a substantial share of macroeconomic growth, it is worth having a look at entrepreneurship in high-technology sectors. Many of these new firms are spin-offs of technical universities and public R&D labs. It is difficult to avoid starting mentioning the most classical and cited book on the subject. Roberts (1991, 2011) has shown that most high-technology firms in the Greater Boston area are linked to the Massachusetts Institute of technology (MIT). MIT had a long tradition of supporting high-technology firms, usually by transferring technology to new ventures, but also by lending buildings and equipment to its entrepreneurial spin-offs. Another major pole of entrepreneurial universities was Stanford University, where Frederick Terman, a professor of engineering led the creation of the Stanford Industrial Park in 1941, the cradle of Silicon Valley (Kenney, 2000). If MIT and Stanford were early examples of entrepreneurial universities, today many other US universities have joined the fray and support the establishment of new firms through technology transfer as well as personnel and financial support. However, some studies have shown that not all US universities have had the same success as cradles of high-tech entrepreneurs (O'Shea et al., 2005). Faculty quality, the size and orientation of the science and engineering faculties, funding and commercial capability, and the existence of a medical school were predictors of entrepreneurial academic spin-offs. Among the long list of US universities with such resources one finds the University of California system, and such universities as the California Institute of Technology, Chicago, Columbia, Duke, Harvard, John Hopkins, New York, Princeton, the University of Texas System, and Yale, to name a few.

The European situation is fairly different. Most European universities are public ones, recruiting only or primarily citizens of the same country, with British and Swiss universities being the exception. Their budgets depend on public funds, and few of them have private endowments. Aghion et al. (2008) have shown that public universities and endogamic ones are far less productive than those that recruit faculty and students on a world scale, that are usually private higher education institutions. However, European universities are learning to compete for international researchers, students, and funds (McKelvey and Holmén, 2009). Also, the European Union has implemented measures to promote the diffusion and use of academic knowledge in the economy, particularly through the creation of spin-off entrepreneurial companies (Algieri et al., 2013).

Finally, in this issue Hoshino and Matsumura show that innovative platform leaders may enhance the diffusion of their platforms by building good relationship with complementary firms, pricing adequately the platforms to different clients and eventually exercising some power over complementors.

5 Women entrepreneurs

The literature on women entrepreneurs is still less developed than that of entrepreneurship in general. In the past, women have been less often involved in technical entrepreneurship. Also, women are under-represented in the fields of science

and engineering. However, the number of new firms founded and managed by women is rising, and they represent between one fourth and one third of new businesses (OECD, 2000). Their proportion is probably inferior among women immigrants (Brettell, 2007). These entrepreneurial women find all sorts of difficulties in their new homeland: different accent, qualifications and experience not recognised, employment found essential with co-ethnic groups and others (Pio, 2007).

Yet, Canada and the USA lead the way in the number and quality of new businesses founded by women. A recent empirical study has identified the key factors behind female entrepreneurship rates, namely the Human Development Index, the Gender Inequality Index and the religious composition of the population (Maniyalath and Narendran, 2016). The higher the percentage of Muslim religious people in the population the lower the FTEA (female total entrepreneurial activity, the dependent variable of this study, measured by the Global Entrepreneurship Monitor). The lower the Gender Inequality Index, the higher the female entrepreneurial activity rate. GDP per capita is negatively correlated with FTEA, except in the case of several Muslim countries (Egypt and Pakistan). In countries where women have ample opportunities to be employed in established businesses, they prefer to do so instead of launching new firms. By contrast, the Human Development Index was strongly and positively correlated with FTEA. Thus economic factors are not the sole predictor of female entrepreneurship. Another study found that women represented only 3% of technology firms and 1% of high-tech firms (Robb and Coleman, 2010). In this book we have three papers on women entrepreneurs. Using Statistics Canada data, Rosa and Sylla find that companies headed by women entrepreneurs in Canada are more innovative but have lower profits than those headed by men. With Statistics Sweden data, Karlsson et al. in this volume discover that women are more likely to be the top manager when family firms are not listed in the stock exchanges. Also women are less likely to be the founders and/or the top managers in family firms. Finally Park in this volume recalls the literature on Korean female entrepreneurs and finds that the quantity and quality of new firms founded by women in Korea have increased substantially in the recent years, but several topics have been understudied and a comprehensive portrait of the Korean situation is still lacking.

6 Entrepreneurial states

In classical and neoclassical economics, governments have nothing to do with entrepreneurship. Talents, new industries and firms should grow all by themselves through the perfect operation of self-sufficient markets. The development of these simplified pictures of the economy may help any academic economist to get promotion in her or his university. Yet in the real state of things, governments and markets interact to create talents (i.e., through education), industries (through infant industry protection, direct subsidies to R&D, fiscal credits for R&D and/or government laboratories) and firms (through legislation on company creation and registration, or by outright establishment of new firms where they are needed and the market does not provide them).

All governments in developed and emerging countries are or have been entrepreneurial. In a few cases, such as Italy, the state has become entrepreneur almost by chance: the nationalisation of failing banks in 1933 gave the government the control of

several pans of industry practically by default (Holland, 1972). But in most cases of late development, the state has created firms where the private sector was unable to do it. The entrepreneurial state in East Asian economies of China, Singapore, South Korea, and Taiwan have created the Asian miracle (Amsden, 1989, 2001; Amsden and Chu, 2003; Duckett, 1996; Jones, 1975; Sun, 2014; Wade, 1990; Zheng, 2010). Governments may act as entrepreneurs through “Planning, learning, revision of plans and elimination of errors” [Yu, (1997), p.51]. In the rapid deployment of a high-speed train, the Chinese entrepreneurial state acted using the typical tools of the private sector entrepreneur: “alertness to opportunities, resource exploration and consolidation, and strategic learning” (Sun, 2015). Such entrepreneurial activities were conducted by national state-owned enterprises, under the supervision and initiative of the Ministry of Railways (MOR) and the Ministry of Science and Technology (MOST).

Mazzucato (2013) analysed more explicitly the links between the economic theory of market and system failures. She argued that in the past, in Western as well as in East Asian countries, governments have not only tried to reduce market failures or system failures. More importantly, they have launched large entrepreneurial initiatives in order to develop entirely new industries, particularly those where local expertise was non-existent, economies of scale required very large investments in public facilities, and uncertainty and risk where high. China’s large renewable energy grids are her examples of such governmental initiative, using at the same time multiple demand-and supply-side policy tools. And it was not only the national state that acted in an entrepreneurial manner; also local Chinese governments were acting in the same way, as smaller but very active entrepreneurs, as shown by Zheng (2010).

Yet in this issue, Kastle et al. show that some industries have grown the other way around: from local initiatives to national programs. It would be interesting to use these hypotheses in order to find out how common these bottom-up initiatives prosper to become national programs. Also in this special issue, Østergaard and Marinova draw a link between human capital and the development of entrepreneurial ecosystems, and they introduce four generic archetypes of entrepreneurs.

7 Promoting private-sector entrepreneurship

A step behind the entrepreneurial state is the public policy promotion of entrepreneurial firms. Countries where entrepreneurship is very active, such as the USA and China, have adopted numerous policies to support productive entrepreneurs. They include policies to facilitate inward transfer of foreign technology (China), the development of a venture capital industry (USA), the establishments of national development banks (China and Canada), the entry of highly skilled immigrants (Australia and Canada), encouraging innovation through the tax system (USA), fuelling the commercialisation of university research results (USA), maintaining a skilled technical workforce (Australia, Canada, China Germany, USA), reducing legal paperwork for starting a business and simplifying bankruptcy law (Baumol et al., 2007; OECD, 2003) or establishing effective R&D subsidies for R&D in small firms (Hayter, 2015). Singapore, New Zealand, Denmark, South Korea, Hong Kong, the UK and the USA appear in the first seven ranks in the Ease of Doing Business Index created by the World Bank Group.

Also, the development of micro-credit has been shown as a positive factor for the development of women entrepreneurship. But in order to get women entering into

technical entrepreneurship. Improving their access to science and engineering careers is a basic condition. In our special issue, two papers deal on state promotion of entrepreneurship. Han and Niosi shows that the much-admired US Small Business Innovation Research (SBIR) program has not promoted market entrepreneurship in the sector of photovoltaic technology, but more often fuels captive firms that work for one client, the US Department of Defense. It is interesting to have a paper (the one authored by Veilleux et al.) that suggests that entrepreneurs should not spend too much efforts working for one initial client – be it the state – and develop products that serve multiple clients in international markets. Also Chisholm in this issue argues that the regulation of entrepreneurial firms may be either ‘organic’ (based on customs and common law) or ‘imposed’ (based on top down civil laws that may be distant in space and time to the subjects to which this law is applied). Chisholm maintains that this kind of law may be detrimental to innovation and entrepreneurship. Also in this issue Bueno et al. show that institutions frame the type of collaborations and networks that develop among innovative firms and institutions.

8 Conclusion and policy implications

Governments can and should promote productive entrepreneurship among the population. They can do it by stimulating entrepreneurial universities, venture capital, and technical and scientific education. The simplification of the procedures required to create and wind up a firm is also important.

In the absence of these policies and incentives, governments can also promote an entrepreneurial state, launch development banks, and encourage public R&D laboratories that spin-off new firms. In the last resort, governments have themselves founded large companies where risk and uncertainty or the low capacity of the private sector has left key needs unattended. Of course, these entrepreneurial states have both good, like many of those prevailing in East Asia, or Norway (Wade, 1990) and bad experiences where incompetent or corrupt governments have squandered public funds for the benefit of the few (such as in Nigeria or Venezuela).

It remains that productive entrepreneurship, particularly when it is focused on the adoption and development of advanced technologies be they communication satellites, high-speed trains or advanced grids of renewable technologies, is a key component of economic development.

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