Fostering private involvement in the development of entrepreneurial ecosystems. A policy perspective with evidence from the emerging FinTech industry

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Keywords: Entrepreneurial ecosystem development; High-growth entrepreneurship; Industrial and technology policy; Entrepreneurship policy; Regional development

Introduction

Following examples of successful entrepreneurial regions, since the 1990s policy-makers in advanced economies started to focus on innovation as a key driver of economic growth and crafted policies aimed at encouraging the formation of fast-growth firms (European Commission, 2010; World Economic Forum, 2011). Such policies, however, were often implemented before being tested (Stam and Bosma, 2015) and yielded unsatisfactory results. Policy failures can be explained by different factors like the inability to address the specific needs of target companies (Brown and Mason, 2014), and a generalized lack of understanding of the underlying characterizing attributes of a region (Harrison and Leitch, 2010). Given these elements a shift toward a different form of support capable of promoting firms' market orientation, defined as "relational support", has been suggested by literature (Mason and Brown, 2014). Concurrently the literature on Entrepreneurial Ecosystems (henceforth, EE), focused on identifying the factors and understanding the mechanisms capable to develop EE, started to gain relevance. This framework suggest that all the characterizing elements of an EE must be developed simultaneously and that private intervention is vital to complement government actions (Acs et al., 2014; Isenberg, 2011; Mason and Brown, 2014). In this context, some actors are more important than others in enabling the creation of high-performing EE. For instance, the presence of innovation intermediation services serves as facilitator to the exchange of information and resources among different actors in an EE, by mediating the creation of the relationship and by bridging the knowledge gaps between actors participating to the EE (Howells, 2006; Edler and Yeow, 2016), thus providing the "relational" type of support needed

to better sustain high-growth firms. Despite the widespread importance of innovation intermediaries is recognized in the EE literature (Schrijvers et al., 2021; Spigel, 2016), it is still unclear how governments could spur the establishment of such private initiatives.

Purpose

This paper aims to understand the combination of enabling factors on which governments can intervene to favor innovation within a certain region and that have consistently led to the presence of private innovation intermediary organizations. More specifically, the paper aims to answer the following research questions:

RQ1: *What are the specific combinations of innovation enabling related factors which must be sufficiently developed in a region to enable the emergence of programs provided by private innovation intermediaries?*

RQ2: *To what extent is the total number of programs provided by private innovation intermediaries in a country influenced by specific innovation enabling related factors?*

Methodology

We investigated these RQs by considering a panel dataset consisting of count data regarding the number of private startup programs offered across all 28 EU countries (including the UK) during the 5-year period 2016-2020 and we complemented the dataset with country-level EE enabling measures retrieved from the database provided by the European Innovation Scoreboard[1]. We also kept track of the type of private program provider (corporate vs third party) with the aim of obtaining further insights regarding the levers capable of fostering different types of initiatives. To summarize, our dataset contains data over five years on the 28 EU countries, consisting of a total of 140 country/year observations. To minimize reverse causality issues, in our models we included all the independent variables with a time lag of one year with respect to the dependent variable. To analyze whether consistent configurations of factors leading to the presence of private programs were available (RQ1), a fuzzy-set QCA approach has been adopted. The outcome variables were represented by dummy values (presence or lack of programs) and sufficiency and necessary conditions were analyzed by comparing outcomes with the list of the innovation enabling factors (namely measures of quality of the human resources, level of digitalization, venture capital expenditure, government support for R&D, private R&D spending, process innovation and level of employment in

[1] https://ec.europa.eu/research-and-innovation/en/statistics/performance-indicators/european-innovation-scoreboard/eis

knowledge-intensive sectors). RQ2 was investigated through Poisson panel regression, utilizing the total number of programs as the dependent variables and the same list of attributes as independent. To investigate these RQs, we focused our attention on the FinTech industry. FinTech industry is particularly attractive for our research purposes as it represents a good entrepreneurial investment option (about 200 B$/year in 2021, with an increase in investments of 1900% in the last 10 years[2]), and has started playing a significative role in the agenda of European policy-makers (See for example SPD2 directive). Focusing on how this emerging industry can be nurtured and sustained should therefore be a focal point of policymakers, who might still be capable of influencing and controlling the future evolution of the related EE in upcoming years.

Findings and discussion

Our first RQ aimed to identify the "robust" configurations of factors capable of facilitating the emergence private programs for startups. While considering the availability of all private FinTech programs in a specific country, a minimum recurring pattern of sufficient conditions emerged: on top of confirming findings of previous literature regarding the importance of having a mix of talented people and well-developed knowledge-intensive sectors (Schrijvers et al, 2021), our findings highlight that to favor the emergence of private initiatives it is also required to the government to lower its subsidization of R&D toward industry. This configuration is the only consistent and robust to change[3] configuration that persists over time. Finer-grained analyses on different providers were performed to better disentangle the causal relationship of possibly different phenomena[4]. These separate analyses highlighted that similar configurations of sufficient conditions recur. While considering programs separately, on top of the sufficient factors cited before, the additional presence of sufficiently high levels of R&D carried out by firms seems to enable the emergence of private programs (either provided directly by corporates or by third parties), highlighting the fact that increasing the demand side of entrepreneurship by increasing the competitiveness of the specific target industry (Verheul et al, 2002) might accelerate the development of the related entrepreneurial ecosystem. According to the necessary condition analyses, no conditions were deemed necessary for the presence of private programs for startups in any test performed. With the second RQ we investigated

2 https://www.statista.com/statistics/719385/investments-into-fintech-companies-globally/ Source: KPMG and PitchBook

[3] Among the Countries in our sample, programs were activated at different points of time. Moreover, sometimes in some Countries programs stopped being supplied.

[4] While considering the overall availability of programs, some information was lost due to aggregation (or non-specification) of the typology of supplier. For example, the outcome=1 condition could be obtained having only internal programs, only external programs, or a mix of both. Analyzing by provider therefore enables a better understanding of the causation mechanisms.

whether the same factors can influence the quantity programs delivered through a Panel Poisson Regression fixed effect model which allowed us to estimate the net effect of the variation of enabling factors on the total number of programs offered. Considering the totality of programs available in a country as the dependent variable, the only significant factor which influences the total number of programs is the amount of investment in R&D directly made by businesses. We performed further analyses considering programs provided by corporate and programs provided by third parties separately. For corporate-related programs, increases in the availability of highly qualified personnel lead to the activation of a higher number of initiatives. Similarly, the same effect holds true also with reference to the level of investment in process innovation. As found in previous regressions, the growth of R&D investments at the firm level has a very strong multiplicative effect on the total number of programs. Interestingly, a strong detrimental effect appears when Venture Capital expenditure grows. While considering only programs organized by third parties, it seems that no innovation enabling factor considered for this analysis can significantly influence the total number of these programs.

Limitation

Two main limitations might constrain the soundness of the study. First of all, the majority of private programs for FinTech startups have been implemented after 2015, thus the timespan we could consider in the study was inherently limited. Moreover, since the phenomenon is relatively new and the area of investigation is fixed, during the timeframe considered some countries were lacking programs, leading us to operate with a smaller sample while investigating RQ2. Despite this limitation, adding observation from subsequent years might easily strengthen the research model for further testing. The second assumption is related to the nature of the aid provided by different startup programs: within our framework, all typologies of programs organized by private organizations were treated as equally effective in providing relational support needed by startups. This is a strong assumption since the effectiveness of the relational support of different type of programs is difficult to prove, compare and measure, but programs were treated as equally effective due to the similar function of innovation intermediary performed. All these programs to some extend are designed provide relational support to startups, therefore we hypothesized that increasing their number might be beneficial at least in terms of potential relational support that could be delivered.

Contribution and Policy implications

Our finding can contribute to the literature on EE by revealing the parameters on which a government can put leverage on to favor the establishment of private innovation intermediary organizations, thus offering important evidence on the beneficial effect that public-private synergies in ecosystem development might foster (Mason and Brown, 2014). Furthermore, our analyses show that the same factors that favor the emergence of corporate-backed programs are also capable of favoring the emergence of third-party organized programs (even though the latter are less controllable by potential targeted policies), that certain policies might be more influential than others and that potential complementary actions (like favoring VC expenditure) may have unwanted effects.

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