Unlocking potential innovators: investigating the factors that attenuate entry barriers to innovation

Pablo D’Este, Jaider Vega-Jurado, INGENIO (Spanish Council for Scientific Research - Polytechnic University of Valencia, Spain)

Research topic
Innovation studies have extensively examined the drivers and sources of innovation, but it has been comparatively less systematic in examining the factors that block innovation or cause innovation failures. Redressing this unbalance is crucial, on the one hand, to identify the entry barriers faced by potentially innovative firms in order to foster innovation-based competition dynamics and attenuate systemic failures to innovation. On the other hand, to identify the obstacles most commonly faced by firms along their innovative activities in order to enhance the economic pay-offs from innovation-related efforts.

This papers aims at improving our understanding of the factors attenuating obstacles to innovation by distinguishing between firms that face deterring barriers to innovation and firms that confront revealed barriers to innovation (D’Este et al., 2008). Deterring barriers refer to obstacles that prevent or block firms from undertaking innovative activities. Conversely, revealed barriers refer to obstacles to innovation that are realised by firms alongside their innovation-related activities. Making this distinction between revealed and deterring is crucial to help disentangling two essentially different mechanisms when referring to ‘obstacles to innovation’.

Drawing upon the literature on innovation studies, we would expect the following factors to attenuate deterring and/or revealed barriers to innovation.

a) Firm size
We expect that the size of the firm would have an attenuating effect on both deterring and revealed barriers to innovation. Larger firms are more likely to draw upon an internal pool of financial and knowledge-related resources that make them less vulnerable to entry barriers to innovation (e.g. Katila and Shane, 2005); though organizational complexity and routines can offset the advantages associated to size among firms already engaged in innovative activities (Christensen and Bower, 1996).

b) Being a start up
There are two conflicting arguments with regards to new firms: the creativity and entrepreneurial dynamism associated with start ups and the liability of newness. On the one hand, recently established firms are more likely to participate in innovative activities than established firms since they are less constrained by the risks of cannibalising existing product portfolios or destabilizing core competencies (Henderson, 1993). However, start ups are comparatively more likely to confront barriers alongside their engagement in innovation activities due to a lack of prior expertise, scarcity of financial resources or lack of complementary assets (Tripsas, 1997).

c) Human capital
The availability of highly skilled employees, and particularly of employees with a higher education degree, is expected to equip firms with an adaptable, responsive and pro-active workforce, softening the challenges imposed by changes in market conditions and the emergence of disruptive technologies. Therefore, we would expect that firms with a higher proportion of highly skilled employees would be better positioned to overcome both deterring and revealed obstacles to innovation.

d) Being recipient of public financial support to innovation
Firms that have been recipients of support from public programmes oriented to stimulate innovation, should be better positioned to face entry barriers to innovation. However, for those firms that engage in innovative activities already, being recipient of this type of governmental support may actually enhance the perception of revealed barriers.

Datasets and methods
This research draws on two successive waves of the Spanish Innovation Survey (i.e. years 2004 and 2007) to construct a longitudinal dataset on firms’ innovation strategies. In order to avoid a sample selection bias problem, we consider only firms that are willing to participate in the innovation contest (see Savignac (2008) for a similar method). We then proceed to identify the sample of firms that have not engaged in any type of innovative activities - i.e. those confronting deterring barriers (1711 observations) - and those firms that have engaged in innovative activities - i.e. those that confront revealed barriers (4191 observations).
We construct a set of dependent variables measuring the extent to which firms assess ‘cost-related’, ‘market related’ and ‘knowledge related’ barriers as important, and we examine the impact of the expected attenuating factors on these three types of obstacles. We systematically compare the results for the two samples of firms mentioned above. We run Ordered Logistic Regressions due to the ordered categorical features of our dependent variables, controlling for a number of firm and industry features, such as: whether the company has engaged in innovative activities in the past, the internationalisation of the firm’s customer base and industrial sector dummies.

Results and emerging conclusions
Our findings show that: a) both firm size and being part of a larger group have an attenuating effect on deterring and revealed barriers; b) start ups face stronger revealed barriers as compared to established companies; c) a highly skilled workforce has a significant impact in attenuating deterring barriers but not in attenuating revealed ones; and d) having received public financial support to innovation in the past significantly attenuates cost-related deterring barriers.

These findings provide a valuable contribution to improve our understanding of the factors that mitigate systemic failures to innovation, so long as they shed new light on the factors that attenuate “entry barriers” to innovation. This research also contributes to the study of barriers to innovation suggesting a method to disentangle the deterring and revealed nature of obstacles to innovation.

References