ABSTRACT

This paper provides empirical evidence related to the factors which allow SBIR winner firms to be more innovative. The analysis is carried out by investigating the influence of firm-specific characteristics, together with regional-specific characteristics, on the cumulative number of patents awarded by SBIR to life science firms from 1983 to 2006. Based on a dataset of SBIR winners that operate in the life science field, the data were analyzed under a fitted Poisson count data model with an estimated marginal effect for each of the continuous explanatory variables. We find evidence that larger and older firms are more prolific in generating more patents. We also find evidence that firms that have received venture capital funds produce more than three times the number of patents, as opposed to SBIR awards, which did not show strong explanatory power. Additionally, the idea of positive effects arising from spatial collocation with successful firms is supported from the significance influence that the number of firms located within a 20-mile radius from a given firm has on patent production. Finally, the econometric analysis also shows that firms that employ knowledge bases close to their core science are more abundant in producing patents, which highlights the economic significance of the type of external knowledge sourced by a particular firm.