

# An absorptive capacity theory of knowledge spillover entrepreneurship

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**Abstract** The knowledge spillover theory of entrepreneurship identifies new knowledge as a source of entrepreneurial opportunities, and suggests that entrepreneurs play an important role in commercializing new knowledge developed in large incumbent firms or research institutions. This paper argues that, knowledge spillover entrepreneurship depends not only on new knowledge but more importantly on *entrepreneurial absorptive capacity* that allows entrepreneurs to understand new knowledge, recognize its value, and commercialize it by creating a firm. This absorptive capacity theory of knowledge spillover entrepreneurship is tested using data based on U.S. metropolitan areas.

**Keywords** Entrepreneurship · Knowledge spillover · Absorptive capacity · Human capital

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## 1 Introduction

Where do innovations arise from? Schumpeter (1934) identifies entrepreneurial activity of carrying out new combinations as a mechanism of innovation. The knowledge production function approach (Jaffe 1986, 1989; Griliches 1979) suggests that industry R&D and university R&D are sources of innovations. This is further supported by new growth theory (Romer 1990) that reveals firms' purposeful R&D under certain institutional settings as a major driver of long-term economic growth. Romer also proposes another type of the knowledge production function, in which innovative activity is determined by human capital and public knowledge stock.

Knowledge spillover appears to be important both in the knowledge production function approach and in new growth theory. In the former case, knowledge spillover from universities to industries is one of the key determinants of innovation in the private sector. In the latter case, the extent to which knowledge can spill over from individual firms to the public shapes the public knowledge stock that, as pointed out by Solow (1957), plays a critical role in economic growth.

However, neither the knowledge production function approach nor new growth theory sheds light on the mechanism of knowledge spillover. As argued by Acs et al. (2009) and Audretsch (1995), these theories assume that knowledge spillover can occur automatically. As a response, they developed a knowledge spillover theory of entrepreneurship, identifying new