

THE RETURNS TO INNOVATION BY NEW ZEALAND FIRMS

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This paper measures the returns to innovation by New Zealand firms, and more specifically how the returns to innovation vary across time and by firm characteristics. New Zealand's relatively low business expenditure on R&D has been used to argue that low investment in knowledge-based capital explains a significant proportion of New Zealand's productivity gap relative to OECD (de Serres, Yashiro, & Boulhol, 2014). Assuming this is true, it is important to understand whether this is due to relatively low returns to innovation (and/or investing in R&D) for New Zealand firms. The standard approach to measuring the returns to innovation (Crepon, Duguet, & Mairesse, 1998) is to estimate a three-equation model that translates R&D investment into economic output. However, Wakeman & Le (2015) shows that only a small proportion of New Zealand firms that report engaging in innovative activity also report doing R&D, so focusing solely on R&D-active firms is likely to miss the majority of innovative activity. Hence as a first step this paper focuses specifically on the relationship between innovation and firm performance. On its own this does not allow us to say anything about the causal relationship between innovation on output. Nevertheless we take a number of steps to deal with the endogeneity of innovative activity. Then, in the second stage, we reincorporate R&D expenditure and several other measures of "investment" in innovation (broadly defined) into the model.