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Does the market value R&D investment by European firms? Evidence from a panel of manufacturing firms in France, Germany, and Italy ☆

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Abstract

Several studies based on US and UK data have used market value as an indicator of the firm's expected R&D performance. However, there have been no investigations for the continental countries in the European Union, in part because the analysis is complicated by data availability problems. In this paper we take a first step towards filling this gap using a newly constructed panel dataset of firms which are publicly traded in France, Germany, and Italy. Controlling for either permanent unobserved firm effects or sample selection due to the voluntary nature of R&D disclosure, we find that the relative shadow value of R&D in France and Germany is remarkably similar both to each other and to that in the US or the UK during the same period. In contrast, we find that R&D in publicly traded Italian firms is not valued by financial markets on average. However, when we control for the presence of a single large shareholder, we find that both French and Italian firms have high R&D valuations when no single

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shareholder holds more than one third of the firm, but that R&D is essentially not valued at all in the remaining firms.

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1. Introduction

The question of how R&D investment affects the performance of the firm is of considerable interest to economists and other researchers. A number of empirical studies, beginning with the seminal contribution of Griliches (1981) and based on US firm-level data from the Compustat database, have used market value as an indicator of the firm's expected economic results from investing in R&D (among others, Hirschey, 1982; Jaffe, 1986; Cockburn and Griliches, 1988; Hall, 1993a,b).[1] These analyses generally show a positive relationship between R&D investments and the market value of the firm, even though the R&D coefficient is volatile between and even within studies.[2] Recent analyses in the same spirit conducted for the UK (Blundell et al., 1999; Toivanen et al., 2002) have also found a positive relationship between R&D investments and the market value of the firm. However, to our knowledge there have been no investigations into this subject for other countries in the European Union, including G8 economies such as France, Germany, and Italy. Lack of such studies is unfortunate because these countries are different in several important ways from Anglo-Saxon countries. First, a lower presence of professional investors and a relatively looser discipline exerted by public stock markets may lead firms in the continental European countries to have a higher propensity for long-term investments, due to the lack of pressure for quarterly results imposed by financial capital markets. Previous work has shown, for example, how financial constraints on firms' R&D and capital investments are looser in continental European countries than in the UK and the US (Hall et al., 1999; Mulkay et al., 2000; Bond et al., 2003a). These differences could have important implications for the market valuation of R&D investments, implying that we might obtain different results for French, German and Italian firms when compared to those available for UK and US firms.

Second, in France, Germany and Italy, which are characterized by a civil law system, the rights of minority shareholders and creditors are less protected than in the UK and the US, having a common law system (La Porta et al., 1998, 2000). In the former countries, therefore, external investors are more exposed to the risk of expropriation by controlling shareholders and ownership structures tend to be more concentrated than in the US and the UK (La Porta et al., 1999). The differences in legal regimes and ownership structures are particularly important for the market valuation of R&D investments, since, as demonstrated by Aboody and Lev (2000), these investments create higher information asymmetries that can favor expropriation by insiders more than other corporate investments. Accordingly, the presence of a controlling shareholder, jointly with a poor protection of minority shareholders, could negatively impact on the market value of R&D investments in continental European countries.

[1] The NBER R&D database based on Compustat is described in detail in Hall (1990).

[2] See Hall (2000) for a review and Oriani and Sobrero (2003) for a meta-analysis of the main results of these studies.