Research Policy xxx (2013) xxx–xxx

Contents lists available at ScienceDirect

Research Policy

journal homepage: www.elsevier.com/locate/respol

Family firms and R&D behavior – New evidence from a large-scale survey☆

Thomas Schmid*, Ann-Kristin Achleitner, Markus Ampenberger, Christoph Kaserer

Center for Entrepreneurial and Financial Studies (CEFS), TU München, Arcisstr. 21, 80333 München, Germany

A R T I C L E I N F O

Article history:
Received 23 August 2011
Received in revised form 6 May 2013
Accepted 15 August 2013
Available online xxx

JEL classification:
O30
G30

Keywords:
Family firms
Family control and management
R&D intensity
Opacity

A B S T R A C T

This paper analyzes how founders and their families influence R&D intensity. Information on R&D comes from a large-scale, bi-annual survey among listed German firms. We find that R&D intensity is higher in firms that are actively managed by the family. The impact of family control (via voting rights) is negative, but mostly not significant. While this negative family control effect is in line with hitherto existing literature, the positive impact of family management is surprising. Indeed, this positive effect disappears if we follow previous research and use R&D information from financial statements. We show that this puzzling result is related to corporate opacity. Opaque family managed firms report too conservative R&D expenditures, especially if they face financial constraints. This leads to an under-estimation of R&D intensity in these firms if accounting figures are used.

© 2013 Elsevier B.V. All rights reserved.

1. Introduction

Research and development (R&D) is important for firms to develop and produce innovative products, technologies or services, remain competitive, and ensure long-term firm survival. Moreover, R&D investments are relevant not only at the firm-level but for the entire economy. Innovation creates new knowledge and jobs, fostering prosperity for the society at large.

Hence, it is not surprising that the question of how corporate governance and incentive structures influence the R&D decision became increasingly important within the economics, management, and finance literature during past decades. An early approach with mixed results focused on the impact of institutional investors on investments in R&D (e.g., Hansen and Hill, 1991; Bushee, 1998). More recently and driven by the awareness that many corporations around the world are dominated by the firms' founders and their families, several studies have focused on the influence of founding families on R&D decisions.[1]

The empirical analysis of their behavior is especially interesting in this context. The reason for this is that theoretical considerations suggest that founders and their families are different from other investors in two aspects which are of importance for R&D decisions. First, their undiversified equity and human capital might foster risk aversion, leading to lower levels of R&D. Second, they are often thought to be more long-term orientated. This would suggest that they invest more in R&D. Previous studies mainly support the view that firms dominated by founders or their families invest less in R&D than other firms.

However, there are two possible concerns with the hitherto reported results on family firms and R&D behavior. First, the infant literature on family firms lacks a generally accepted definition of what constitutes a family business (e.g., Schulze and Gedajloviv, 2010). Family firms are a very heterogeneous group of firms. While some firms are only owned by the founders and their families, others are also family managed. Even more, R&D behavior might vary among those firms in which the founder herself is actively involved and older (later-generation) family firms. Many empirical studies, especially outside the U.S., do not consider this

☆ We thank the "Stifterverband für die Deutsche Wissenschaft" for giving us the opportunity to analyze the survey data. In particular, this paper greatly benefited from discussions with Andreas Kladroba and Gero Stenke. We also thank two anonymous referees for their helpful comments. Financial support from the "Deutsche Forschungsgemeinschaft" (DFG) is gratefully acknowledged. The usual caveat applies.

* Corresponding author. Tel.: +49 89 289 25179.
E-mail address: thomas.schmid@cefs.de (T. Schmid).

[1] These are, for example, Chen and Hsu (2009), Munari et al. (2010), Miller et al. (2011), Munoz-Bullon and Sanchez-Bueno (2011), Anderson et al. (2012), Block (2012), and Chrisman and Patel (2012).

0048-7333/$ – see front matter © 2013 Elsevier B.V. All rights reserved.
http://dx.doi.org/10.1016/j.respol.2013.08.006

heterogeneity. In this paper, we overcome this problem by focusing on the impact of three components which are often used to define family firms: family control (i.e., voting right in hands of the founding family), management, and supervision. Furthermore, we distinguish between founders and other family members.

Second, most existing studies analyze R&D behavior based on data from financial statements. However, family firms may be more opaque than their non-family counterparts (Anderson et al., 2009). Thus, they might either avoid disclosing their R&D activities in their financial statements or report conservative figures, for example by assigning R&D related expenditures to more general accounts. This potential "under-reporting" cannot be observed if publicly available accounting figures are used. We overcome this problem by using both accounting data *and* a unique dataset on R&D activities gathered from a longitudinal survey among German firms. Combining these two datasets provides more comprehensive evidence and allows us to analyze the existence of such "opacity effect". The survey is collected bi-annually by the "Stifterverband für die Deutsche Wissenschaft" and used to develop R&D statistics for the German Federal Government, the European Union, and the OECD. The high level of detail allows us to use an alternative measure for R&D: R&D personnel.

Our analysis contributes to the literature along three dimensions: *First*, in contrast to previous studies outside the U.S., we analyze not only the influence of voting rights in hands of the founding family on R&D investment, but consider that founding families might use different channels to influence firm policy. The German two-tier board structure allows us to distinguish the effects of family management, i.e., the presence of the founders or their families in the firms' management board ("Vorstand") from family supervision, i.e., their presence in the supervisory board ("Aufsichtsrat"). In addition – and following the recent literature – our detailed data on firms' shareholders and board members allows to distinguish between the impact of the founders and other non-founder family members. *Second*, to the best of our knowledge, this is the first large-scale study on the influence of family firm characteristics on R&D activities which uses survey data. In particular, we use R&D personnel to total staff as an alternative measure for R&D intensity. *Third*, we complement survey data with accounting based measures for R&D to investigate the impact of family firm opacity on reported R&D intensity.

Our main results can be summarized as follows: (i) The active participation of the family in the firm's management leads to higher R&D activities if survey data is used to measure R&D intensity. By contrast, (pure) family control has a negative, but mostly insignificant impact. (ii) The main driver of the positive effect of family management are the founders themselves, not their descendants or relatives. (iii) Based on R&D data from financial statements, we find no family management effect. However, after splitting the sample in opaque and non-opaque observations, we find a positive family management effect in the latter group. We then show that opacity leads to lower reported R&D levels in family managed firms. Further analyses indicate that this under-reporting of family managed firms is mainly present in financially constraint firms. This is consistent with the view that family managers in these firms under-report R&D to attract (myopic) outside investors.

To sum up, our result of a higher R&D intensity in family managed firms, is not in line with prior findings (e.g., Block, 2012).[2] We show that this can be explained by opacity which leads to an underestimation of R&D levels of family managed firms if accounting data is used. The negative (although mostly insignificant) impact of family control is less surprising and in accordance with results from previous research (e.g., Munari et al., 2010).

The remainder of the paper is structured as follows: Section 2 describes the underlying theory and develops the hypotheses. Our dataset is described in Section 3, while Section 4 presents the empirical results as well as robustness tests. Finally, Section 5 concludes with a summary of the main results and a discussions of their implications.

2. Theoretical framework

Investments in R&D are a prerequisite for a firm to create new or improved products and/or technologies, strengthen its competitive position, and ensure firm survival over the long term. However, investment in R&D differs substantially from investment in existing products or technologies. R&D projects require expertise and scientific knowledge and thus are human-capital intensive (Hall and Lerner, 2010). They are long term and characterized by high idiosyncratic risks and uncertain outcomes (Holmstrom, 1989). In fact, many R&D projects produce negative cash-flow in the beginning and become, if at all, profitable only in a later phase. Consequently, returns of R&D projects are uncertain and often highly skewed (Scherer and Harhoff, 2000). Aboody and Lev (2000) show that R&D projects are characterized by high levels of information asymmetry. However, it is also argued that R&D spending provides long-term benefits to the firm and that these benefits potentially exceed those from capital expenditures (e.g., Cockburn and Griliches, 1988; Chan et al., 2001; Eberhart et al., 2004; Del Monte and Papagani, 2003; Hall and Oriani, 2006). Altogether, it is a well established view in the literature that R&D expenditures are beneficial, yet uncertain and long-term types of investments. With respect to their specific nature, R&D projects are especially prone to agency problems.

In the following, we first develop hypotheses for the impact of family control and management. In general, the long-term orientation of founders and their families suggests higher R&D, whereas the opposite assumption is true for excessive risk aversion. We construct separate hypotheses for family control and management because we hypothesize that their impact on R&D might be different. For example, it might be necessary for a firm to have family owners *and* family managers to overcome myopic behavior and invest more in R&D. After that, we discuss possible implications of (i) family supervision and (ii) differences between founders and non-founder family members. The theoretical section concludes with a discussion of R&D reporting and opacity.

2.1. Hypotheses for family control and management

In the context of R&D, two specific agency problems should be addressed here. *First*, there is an agency conflict between shareholders and managers (agency conflict I). Because of the short-term orientation and risk aversion of the latter, publicly-held firms can be presumed to under-invest in R&D (Narayanan, 1985; Stein, 1988; Laverty, 1996). However, family-owned firms are assumed to have a lower agency conflict I as they are governed for the long term: Family members view the family business not only as a stream of income or as their financial investment but intend to pass on the business to their heirs and future generations (Arregle et al., 2007). In addition, the reputation and the heritage of the family are closely interlinked with the reputation of the family business. Thus, family shareholders provide "patient capital" (Lumpkin and Brigham, 2011). Because the benefits of R&D investments are only visible in the long-run, family shareholders are expected to have higher incentives to invest in R&D if compared to more short-term

[2] Chrisman and Patel (2012) also find a negative impact of family involvement on R&D intensity. However, in a further move they find that family firms with a founder or later generation CEO and at least one family member in the top-management show higher R&D levels.

Please cite this article in press as: Schmid, T., et al., Family firms and R&D behavior – New evidence from a large-scale survey. Res. Policy (2013), http://dx.doi.org/10.1016/j.respol.2013.08.006

Download English Version:

https://daneshyari.com/en/article/10482594

Download Persian Version:

https://daneshyari.com/article/10482594

Daneshyari.com