Debt financing, survival, and growth of start-up firms☆

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Abstract

We analyze the relation between different forms of debt financing at the firm’s start-up and subsequent firm outcomes. We distinguish between business debt, obtained in the name of the firm, and personal debt, obtained in the name of the firm's owner and used to finance the start-up firm. Start-up firms with better performance prospects are more likely to use debt and, in particular, business debt. Compared to all-equity firms, firms using debt at the initial year of operations are significantly more likely to survive and achieve higher levels of revenue three years after the firm's start-up. However, results hold for business debt only. Debt obtained in the name of the firm is associated with longer survival time and higher revenues, while debt obtained in the name of the firm's owner has no effect on survival time and is associated with lower revenues.

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1. Introduction

During the past few decades, academic researchers and policy makers have been trying to identify factors that determine success, measured by survival and growth, of entrepreneurial firms. Because of the limited availability of data on young entrepreneurial business ventures, most studies have focused on older, more established firms.1 More recently, the Kauffman Firm Surveys (KFS) have provided a rich source of information on approximately 5000 start-up firms established during 2004 and

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1 See Denis (2004) for the review of the entrepreneurial finance literature.

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surveyed annually through their early years of operation. Using KFS data, Robb and Robinson (2014) analyze the capital structure decisions of new entrepreneurial firms and find that: (i) start-up firms rely heavily on external debt in the form of loans and credit lines from banks; and (ii) higher levels of external debt at start-up are associated with faster growth in revenues and employment.

This study extends Robb and Robinson (2014) by documenting the differential effects on a start-up firm’s survival and growth attributable to the use of external debt obtained in the name of the business (business debt) versus external debt obtained in the name of the firm’s owner and used to finance the start-up firm (personal debt). This distinction is not considered or explored by Robb and Robinson (2014), who pool bank loans granted to the firm with bank loans granted to the firm’s owner(s) to define the external debt. Yet, we find that only business bank debt, and not personal debt, is associated with more successful outcomes for start-up firms. Thus, it is important to consider the form of a start-up’s debt when evaluating the relation between the capital structure decisions and survival and growth of young entrepreneurial firms.

Our motivation for distinguishing between business and personal debt financing of a start-up firm stems from a fundamental theory of financial intermediation. The key issue in many external financing models is the information asymmetry between the entrepreneur who seeks capital to finance the firm and the firm’s financier. The entrepreneur of a high-quality firm has incentive to reduce information asymmetry by retaining a high equity ownership stake in the firm (Jensen and Meckling, 1976; Leland and Pyle, 1977). If the firm is capital constrained, it must borrow to meet its capital needs. Diamond (1991) develops a model of bank loan demand asserting that a new borrower chooses to borrow from an informed bank that monitors rather than from an arm’s length lender that does not. This is because banks, through screening and monitoring, play a special role in reducing information asymmetry about a borrowing firm (see Berlin and Loeys, 1988; Diamond, 1984; Fama, 1985; Ramakrishnan and Thakor, 1984), which is likely to be especially high for a new borrower. Since firms want to borrow repeatedly, credit record and reputation building through monitored bank contracts are valuable to new borrowers (see, also, Rajan, 1992).

Following these arguments, we hypothesize that a high-quality start-up firm is more likely to use business debt and less likely to use personal debt than other start-up firms. Furthermore, young entrepreneurial firms using business debt at start-up outperform no-debt firms; whereas, young entrepreneurial firms using personal debt do not outperform no-debt firms. These hypotheses are based on the premise that business debt is fundamentally different from personal debt in terms of firm screening and monitoring to the extent that business debt is obtained from an informed lender, while personal debt is obtained from an arm’s length lender. When evaluating a business-loan application, the lender primarily evaluates the creditworthiness and performance prospects of the firm. If the lender provides business debt to the firm, then the lender typically will monitor the firm during the life of the loan. In contrast, when evaluating and extending a personal loan, a lender evaluates the creditworthiness of the entrepreneur — not the creditworthiness and performance prospects of the business entity. Consequently, the cost to the lender of underwriting a business loan is greater than the cost of underwriting a personal loan. Prospective lenders may choose to steer lower quality borrowers to personal loans because the lenders wish to avoid the more costly underwriting process associated with business credit, especially when the lender perceives the likelihood of a positive outcome to be low.3

Many personal loans, especially credit-card lines of credit, are underwritten largely upon information from credit rating bureaus, often with instant loan decisions. In addition, it is unusual for lenders to monitor personal loans after they are funded. In fact, the lender may not know that the proceeds of the personal loan are to be funneled by the entrepreneur into her start-up firm. The borrower also will find a business loan application to be more costly than a personal loan application in terms of document preparation and production time. Hence, the owner of a start-up firm may self-select out of a business loan application in favor of a personal loan application. However, a personal loan puts the owner’s personal wealth and assets at risk. Furthermore, such a loan does little to mitigate the asymmetric information between the lender and borrower — an important factor for a high-growth, high-quality firm which may need to borrow repeatedly.4

In practice, start-up firms borrow capital in the name of the firm not only from financial institutions but also from business suppliers; consequently, we separate business debt into two sub-categories: lending by financial institutions, which we refer to as “business bank credit,” and lending by suppliers, which we refer to as “business trade credit.” We argue that trade credit is a type of business debt, in that the supplier-creditor is evaluating and monitoring the creditworthiness and performance of the firm, rather than the creditworthiness and performance of the firm’s owner. A number of studies, including Schwartz and Whitcomb (1977, 1978), Emery (1984), Freixas (1993), Blais and Gollier (1997), Jain (2001), and Burkart and Ellingsen (2004), argue that a supplier obtains information about its borrowers through the business relationships with those firms, mitigating the asymmetric information problem, just as a bank obtains information about its borrowers through its financial relationships with those firms. In fact, many of these studies theorize that suppliers have a monitoring advantage over banks through their repeated transactions with customers, which provides them with private information that banks do not have.5 Giannetti et al. (2011) argue that while suppliers may possess monitoring abilities that are superior to those of bankers, their selection abilities

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2 The KFS identified start-up (newly established) firms by using a random sample from Dun & Bradstreet’s database of new businesses founded in 2004. The wholly owned subsidiaries of existing businesses, businesses inherited from someone else, not-for-profit organizations, and firms that had any kind of business activity prior to 2004 were excluded from the sample.

3 Unfortunately, the KFS data do not provide information on loan applications during the start-up year, so we are unable to analyze this issue.

4 In many cases, the lender may require a personal guarantee of repayment from the firm’s owner for business loans, which may suggest that the distinction between business debt and personal debt is trivial for young entrepreneurial firms. However, even firms with unlimited personal liability of the owners have incentive to signal their high quality and initiate reputation and credit record building. Furthermore, even with personal guarantees, the lender will look first to the firm for repayment because of the costs of enforcing such a guarantee through the courts.

5 Petersen and Rajan (1994, 1997), Fisman and Love (2003), Cuhat (2007) provide empirical support for this hypothesis.
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