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The effects of private equity and venture capital on sales and employment growth in small and medium-sized businesses

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ABSTRACT

We study the effects private equity (PE) and venture capital (VC) financing have on small and mid-sized single entity business establishments from 1995 to 2009. We focus on single entity establishments to cleanly examine the impact of PE and VC financing on establishments' organic growth. This study reveals that PE and VC financing have positive impacts on single entity business establishments' net sales and employment growth. The impact of PE financing on establishments' growth is slower and smaller than VC financing. However, we find that the benefit of PE financing lasts longer than VC financing. We also find that ethnic minority, female, and foreign business owners are less likely to receive PE and VC financing. Finally, we find evidence that although establishments with government contracts are more likely to receive PE and VC financing, those contracts fail to produce marginal post-funding growth and employment benefits.

1. Introduction

Private equity, and to a larger extent, venture capital funds are often criticized for not producing sufficient returns to limited partners. Venture capital has returned just a 6.07% average annual return for the 10-year period ended September 30, 2012, while private equity averaged 13.71%.[2] Meanwhile, over the same time frame, the NASDAQ averaged 10.27% per year. Despite the weak performance, the number of private equity funds has grown considerably. Given the generally weak returns, one may wonder if private equity and venture capital investing play significant roles to provide capital to privately owned businesses to grow. Do private equity and venture capital provide capital for diverse groups of business owners? Do they contribute to increased revenue and employment? Recent studies have examined the relationships between private equity leveraged buyouts and job creation/destruction (Davis et al., 2011; Amess and Wright, 2012) and offer somewhat mixed views. However, these studies are focused on large firms where the opportunities for cost cutting are significant and access to capital, mostly via public sources where costs are relatively cheap, is almost guaranteed. Existing studies also fail to examine organic growth as they do not utilize single entity establishment level data.

This study takes a closer look at two main roles of private equity (PE) and venture capital (VC) financing: (1) What types of business owners' characteristics are more likely to receive PE and VC financing? (2) What is the differential impact of private equity (PE) and venture capital (VC) financing on small and medium-sized business establishments' net sales and employment growth? We focus on single entity establishments to closely examine the impact of PE and VC financing on business establishments' organic growth. By examining data at the single establishment level, we are better able to isolate the impacts of receiving capital on the single business entity that is the beneficiary of such financing. This approach reduces the confounding noise associated with investigating acquisition and divestiture activities within a corporate entity with

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[2] Cambridge Associates LLC U.S. Venture Capital Index and Selected Benchmark Statistics, September 30, 2012. http://www.cambridgeassociates.com/pdf/Venture%20Capital%20Index.pdf. And Cambridge Associates LLC U.S. Private Equity Index and Selected Benchmark Statistics, September 30, 2012. http://www.cambridgeassociates.com/pdf/Private%20Equity%20Index.pdf.

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multiple business units and aggregated firm level data. This differentiates our study from other research in this area. For example, compared to Davis et al. (2011), our study examines the impact of both PE and VC on single entity establishment sales growth in addition to employment growth. Compare to Puri and Zarutskie (2012) as well as Chemmanur et al. (2011), our study covers smaller business entities with lower numbers of employees and smaller revenues. Relative to Guo et al. (2011), our business establishments are significantly smaller than $100 million. Furthermore, our sample covers more recent private equity transactions–those occurring after 2006. More importantly, our study compares the timing and long lasting impact of PE and VC financing on net sales and employment growth at the single entity establishments level.

Neumark et al. (2011) find that small businesses create more jobs than the rest of their sample. Still, the benefits of private equity investment in small and mid-sized businesses are not completely understood, in part because access to private equity capital for most small and mid-sized businesses is elusive and, as a result, data are sparse.[3] In fact, according to a recent report by the *Pepperdine Private Capital Markets Project*, just 15% of businesses that attempted to tap private equity in the second quarter of 2012 were successful.[4] For small and mid-sized companies, obtaining capital from private equity and venture capital often determines whether or not these business establishments survive. The consequences to those not successful raising capital are often severe. Citing the same Pepperdine research, for those businesses seeking capital, a failed attempt is expected to yield the following results: slower revenue growth (71%); hiring fewer employees than planned (54%); and reducing the number of employees (23%). These data suggest that private equity and venture capital play more important roles regarding growth and job creation in the small and medium-sized business space than for large businesses.

Several studies report on the impacts of venture capital (VC) financing on firms' growth and efficiency. Engel and Keilbach (2002), Davila et al. (2003), and Alemany and Marti (2005) empirically show that VC-backed firms have significantly higher revenues and employment growth rates than non-VC-backed firms. Chemmanur et al. (2011) also find that VC-backed firms have higher operating efficiency than non-VC-backed firms due to screening and monitoring. Puri and Zarutskie (2012) report a performance gap between VC and non-VC financed firms. However, little is known about the scarce allocation of venture capital among various types of business owners. According to the *Pepperdine Private Capital Markets Project*, just 9% of businesses that attempted to tap into venture capital in the second quarter of 2012 were successful.

In this study, we utilize the Institute for Exceptional Growth Companies (IEGC) or National Establishment Time-Series (NETS) database, which includes employment time series data on over 44 million business establishments during 1990–2009. The NETS database is coupled with private equity and venture capital transaction information from the Pitchbook database, as well as financial data from Dun & Bradstreet from 1995 to 2009. Because our research focuses on the establishment level, these databases allow us to clearly investigate the impacts of PE and VC on organic growth of small and mid-sized businesses, which are vital to the economy.[5] To better understand their roles, our study investigates two relationships: (1) The owners' characteristics displayed that result in increased rates of successfully securing PE or VC financing; and (2) The revenue and employment growth (or destruction) that occurs with PE versus VC financing at these establishments.

In order to investigate, we begin by constructing matched pair samples between single entity establishments that received PE or VC financing with those that never received PE or VC financing (control group). We further refine our sample by selecting single entity establishments that have only grown organically. That is, our sample excludes those businesses that have engaged in acquisitions or divestitures. We also analyze and present the results for establishments that received only one round of PE or VC financing instead of those with multiple rounds of financing. We find consistent evidence that minority (non-Caucasian), women, and foreign business owners' establishments are significantly less likely to receive PE and VC financing. This finding is consistent with the existing literature (Carter and Allen, 1997; Robb and Fairlie, 2007; Cole and Mehran, 2011).

We also find that PE financing is not immediately impactful, either negatively or positively, in affecting the establishments' sales and employment growth rates in the year of financing. However, we do find that PE financing increases establishments' sales and employment growth rates for three consecutive years after funding. This finding suggests it takes some time to develop and execute on new strategies. By contrast, we find that VC financing immediately increases establishments' sales and employment growth rates indicating that a VC capital infusion is crucial for these businesses to execute their strategies. These findings indicate that PE and VC financing provide different impacts in terms of timing and sustainability of growth for small and mid-sized single entity business establishments. Our analysis also shows that business establishments with the government contracts are more likely to secure PE or VC financing. However, establishments with government contracts do not necessarily have higher sales and employment growth. While government contracts provide certifications and stable cash flows that allow business owners to secure funding from PE or VC, government contracts themselves do not provide growth. Our findings are robust throughout all additional tests.

The rest of this paper is organized as follows. In Section 2, we discuss existing literature that is relevant to our study. Section 3 describes the database comprised of IEGC (NETS), Dun & Bradstreet (D & B), and Pitchbook data, matching process, sample distribution, and univariate analysis. Section 4 explains the methodology of regression estimations, hypotheses, and structural regression models. Section 5 discusses the first stage and second stage regression results. We examine the results from additional tests and robustness checks in Section 6. Finally, Section 7 concludes with a summary of the main contributions of this study.

2. Literature review

Several studies have examined the impact of business owners' access to capital and demographics on firms' growth. Although the growth of women- and minority-owned businesses are increasing at a rapid rate, it has been shown that both demographics are less likely to access venture capital. Each demographic group experiences their own set of complications that has fostered varying ideologies on their competency, affected their firms' leverage, and has further altered their confidence in their ability to secure external financing.

Bates and Bradford (2008) report that minority-owned firms are capital constrained, which could be attributed to their differential

[3] The Small Business Association defines small and mid-sized businesses as businesses with the average annual sales of $12 million with less than 500 employees. http://www.sba.gov/content/table-small-business-size-standards.

[4] Private Capital Access Survey Responses, Q2 2012, Paglia (2012). http://bschool.pepperdine.edu/appliedresearch/research/pcmsurvey/content/Q2_2012_PCA.pdf.

[5] Small businesses represent 63% of net new private-sector jobs, 48.5% of private sector employment, and 46% of private-sector output. SBA Office of Advocacy, Frequently Asked Question, March 2014. http://www.sba.gov/sites/default/files/FAQ_March_2014_0.pdf.