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Venture capital and internationalization

Andrea Schertler [a,*], Tereza Tykvová [b]

[a] University of Groningen, The Netherlands
[b] ZEW Mannheim, Germany

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ABSTRACT

Cross-border investments represent a substantial share of venture capital activities. We use a comprehensive dataset on investments worldwide to analyze the internationalization of venture capital financing. We postulate that cross-border activity is shaped by macroeconomic factors in the venture capitalists' and the portfolio companies' countries, as well as characteristics of the venture capitalists and the deals, which likely affect the costs and benefits of investing abroad. In order to analyze how country-specific, venture capitalist-specific and deal-specific factors affect cross-border activity, we use the country, venture capitalist and portfolio company perspectives. Our results suggest that factors capturing the benefits and costs of investing abroad determine international venture capital flows.

1. Introduction

Venture capitalists (VCs) fulfill an important intermediary function. They collect funds from institutional investors who provide these funds for a previously specified number of years in exchange for an appropriate promised return, and they invest these funds in opaque risky ventures where information asymmetries between the entrepreneur and the VC are particularly pronounced (e.g., Amit, Brander, & Zott, 1998) and where hands-on management support and control is required. VCs are not interested in taking permanent positions in their ventures. Rather, they liquidate their investments after some time (e.g., Cumming, 2008). The information asymmetries between VCs and their portfolio companies (PCs) are often more difficult to resolve when the PC is located outside the VC's home country. Therefore, VCs have often been regarded as purely local investors (e.g., Bengtsson & Ravid, 2009; Dai & Cumming, 2008; Gompers & Lerner, 1998) who do not venture beyond their country's borders. However, in the late 1990s cross-border venture capital investments began to intensify (Aizenman & Kendall, 2008).

Research going beyond making *cross-country* comparisons of local VCs' investments and fund raising (starting with Jeng & Wells, 2000, and including further papers, such as Lerner, Sorensen, & Strömberg, 2009) towards studying the *cross-border* investment patterns of VCs and the motives behind their internationalization efforts and investment location choice has been in its infancy for a long time (see Wright, Pruthi, & Lockett, 2005). In recent years, however, academic researchers have started to investigate the driving factors behind cross-border venture capital investments. Several studies focus on macroeconomic characteristics of the PC countries (i.e., countries *receiving* cross-border venture capital investments). Aizenman and Kendall (2008) look at worldwide aggregated venture capital and private equity flows between country pairs, while Guler and Guillén (2010a) and Guler and Guillén (2010b) investigate the question which countries are entered by VCs

* Corresponding author: Tel.: +31 50 363 3658.
E-mail addresses: a.schertler@rug.nl (A. Schertler), tykvova@zew.de (T. Tykvová).

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headquartered in the United States. Several studies emphasize the role of VCs' international and domestic experience in internationalization. Guler and Guillén (2010a) and Guler and Guillén (2010b) find evidence that US VCs' foreign experience increases their entry chances in other countries. Prijcker, Manigart, Wright, and De Maeseneire (2009) demonstrate that the international human capital of private equity firms in five European countries increases the likelihood to operate internationally. Guler and Guillén (2010a) investigate whether a US VC's home–country network advantages, which are highly correlated with the VC's domestic experience, determine the VC's international expansion. They find evidence that social status advantage is transferable from one country to another. Few studies investigate the characteristics of the deals in which foreign VCs participate. Dai, Jo, and Kassicieh (2009) look at deals of foreign and local VCs in Asian venture capital markets and investigate how these two types of investors differ in their investment behavior and exit performance. They find evidence that foreign VCs are more likely to invest in informationally transparent PCs.

Our study contributes to the aforementioned studies in three important ways.

First, we formulate and test hypotheses on how macroeconomic factors in the PC as well as VC countries affect cross-border investments worldwide. While the recent literature (Aizenman & Kendall, 2008; Guler & Guillén, 2010a; Guler & Guillén, 2010b) has only investigated the role of macroeconomic factors in the PC countries, we argue that macroeconomic factors in the VC countries are important drivers of cross-border investments as well. We hypothesize that VCs located in countries with high expected growth and large R&D expenditures, in which plenty of investment opportunities arise, invest abroad less often if they are constrained in raising additional funds. The effect of market capitalization is ambiguous. VCs located in countries with a high market capitalization might invest abroad less intensively because high market capitalization might go hand in hand with good investment opportunities at home. However, VCs located in countries with high capitalization might build reputation and raise additional funds more easily. Consequently, these VCs are able to invest more both at home and abroad than VCs located in countries with low capitalizations. Our findings from a comprehensive dataset of worldwide venture capital deals in 48 countries spanning a period of 9 years (2000–2008) indicate that expected growth in the VC country encourages VCs' domestic investments, and weakly discourages VCs' cross-border investments. Also, VCs located in countries with viable stock markets invest more intensively both at home and abroad than VCs located in countries with poorly developed stock markets. This latter finding confirms the view that a developed stock market improves VCs' fund raising conditions.

Second, we also examine whether the benefits and costs of crossing borders vary with VCs' foreign and domestic experience. We hypothesize that VCs with more foreign experience are likely to dare to cross borders more often because they are more familiar with the institutional and legal environments in foreign countries. We also hypothesize that VCs with extensive domestic experience cross borders more often, as they may easier implement geographical diversification of their portfolios. While the former effect has been studied and confirmed in e.g., Prijcker et al. (2009), Guler and Guillén (2010a) and Guler and Guillén (2010b), the latter effect seems to be less clear (Guler & Guillén, 2010a). Our results aim at contributing to a better understanding of the role of domestic experience in cross-border investments. Our findings indicate that VCs with more foreign as well as domestic experience invest more intensively abroad.

Third, we investigate whether larger deals are responsible for VCs' internationalization. We hypothesize that foreign VCs are more likely to participate in large deals either because the degree of information asymmetries is lower and management support is less needed or because large deals have a higher diversification necessity. If diversification necessity leads to a positive relationship between deal size and cross-border activity, it is much more likely for a foreign VC to participate in a large deal taking place in a small country in which few VCs, who serve as potential syndication partners, are active. We find evidence that large deals have a higher probability of a foreign VC participating, as already documented by Dai et al. (2009) and Lerner et al. (2009), and that the effect is more pronounced when a large deal takes place in a small country, indicating that cross-border venture capital investment is partly due to limitations in the availability of local VCs.

The remainder of the paper is organized as follows: Section 2 discusses related literature and our hypotheses on when we expect VCs to invest at home and abroad. Section 3 introduces the dataset, presents some statistics on worldwide cross-border and domestic venture capital deals and describes our estimation method. In Section 4 we provide the results from our econometric analyses for three perspectives, namely the country-pair perspective, the VC perspective, and the PC perspective. Section 5 summarizes and discusses the results.

2. Related literature and hypotheses

Although cross-border venture capital investments share some features of traditional portfolio and foreign direct investments, they are at variance with both in several important aspects (Guler & Guillén, 2010a). Both cross-border venture capital investments and international portfolio investments are driven by return-risk considerations.[1] However, while the latter is a rather passive investment form, VCs take on an active role in their investments. The companies in which VCs invest typically are opaque risky ventures where information asymmetries between the PC and the VC are particularly pronounced, and which therefore require intensive pre-investment screening, post-investment hands-on management support, and

[1] In an international portfolio choice approach, the investments of a risk-averse VC are determined by the expected returns on domestic and foreign investments, the standard deviations of expected returns, and the correlations between expected returns (see Buch, 2003 for a theoretical application to commercial banks).