

## **Networking as a Barrier to Entry and the Competitive Supply of Venture Capital (By Yael Hochberg, Alexander Ljungqvist and Yang Lu)**

Networks are the predominant choice of organizational form in the venture capital (VC) industry. Hochberg, Ljungqvist, and Lu (2005) find that this organizational form has strong implications for success in the VC market: Better networked VC firms enjoy better performance, even after accounting for other performance drivers such as experience, skill, or access to deal flow.

In this paper, we ask how exactly networking improves performance. Clearly, syndication entails costs: It requires making a larger number of relatively smaller investments, which not only dilutes the lead VC's share in a promising startup but also entails a considerable increase in due diligence and monitoring costs. Among the many benefits of syndication that the academic literature has highlighted, one stands out: The ability to reduce competition for deal flow by syndicating deals with friendly VCs (Lerner (1994), Brander, Amit, and Antweiler (2002); Casamatta and Haritchabelet (2003)). The idea that VCs network and thus co-operate, rather than compete, with a view to improving their bargaining power with entrepreneurs implicitly requires that incumbents can keep entrants out, for in the presence of free entry, their bargaining power should not increase. We focus on this missing link by examining whether networking indeed allows incumbent VCs to deter entry, and thereby improve their bargaining power. We seek to answer three questions. (1) Do strong network ties among incumbent VCs in a given market deter entry? (2) Can potential entrants overcome this barrier to entry by establishing ties, in their own home markets, with the incumbent VCs of the target market? (3) What are the consequences of reduced entry for the valuations at which entrepreneurs raise VC funding?

VC investments are geographically concentrated and VCs tend to specialize in a small set of industries. Thus, a natural definition of a VC market is an industry/ state pair. For each of these markets, we construct two types of measures of the extent of networking borrowed from economic sociology, namely the "density" of ties in the market (i.e. the proportion of the *possible* relationships that are *actually* observed among incumbents) as well as the "centrality," or influence, of the typical incumbent in the market. Controlling for other likely determinants of market entry such as demand for capital, investment opportunities, funding availability, and market size, we find that more densely networked markets see substantially less entry than more sparsely networked markets.

Of course, how densely networked a market is is likely not exogenous. To correct for this

potential endogeneity problem, we follow two approaches. First, we use instrumental variables motivated by non-strategic and mechanical determinants of syndication decisions. Second, we link observed networking at the level of a market to the entry decision of an individual potential entrant or to the valuations at which entrepreneurial companies raise venture money. This mismatch of the units of analysis lessens the impact of endogeneity, because it is harder to argue that incumbents make their networking choices with respect to an individual potential entrant or an individual future funding round. For the purpose of an individual VC's entry decision or the negotiations with an entrepreneur, observed networking can reasonably be taken to be predetermined.

When we estimate the probability of a potential entrant successfully entering a market, we find, as in the market-level analysis, that strong networks among incumbents in the target market reduce the likelihood of entry. This increases our confidence that the density of network ties in a market truly affects entry decisions in a causal fashion. But not every potential entrant is deterred. Controlling for geographic proximity to the target market and prior experience in the industry (which each double the likelihood of entry), we find that a potential entrant is significantly more likely to enter if it has previously established ties to the incumbents through inviting them into syndicates in its own home market. When we consider interaction effects crossing how densely networked the target market is with dummies capturing pre-existing ties between an entrant and the incumbents, we find that such ties are sufficient to completely overcome this particular barrier to entry.

Finally, we examine the price effect of reduced entry by comparing the valuations of companies receiving VC funding in relatively more protected and relatively more open markets. This analysis speaks directly to the conjecture in the literature that VCs syndicate to increase their bargaining power over entrepreneurs. Controlling as best we can for other value drivers, we find that valuations are significantly lower in more densely networked markets. This indicates that incumbent VCs benefit from reduced entry through paying lower prices for their investments. On the other hand, the more market share entrants can capture, the higher are the valuations paid in a market in the following year, suggesting that entry is pro-competitive and, at least in that sense, benefits entrepreneurs. The industrial organization of a local VC market therefore has significant implications for entrepreneurs seeking startup capital.