Success in Global Venture Capital Investing: Do Institutional and Cultural Differences Matter?

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Importance and Motivation

• VC Investing is a phenomenon throughout the world
• Global non-US VC investing nearly $25 billion in 2007
• Many US based VC firms actively invest abroad
• Successful global investing has several benefits for VC firms: improved access to deal flow, increased diversification, potentially higher growth
• But, investing in small private companies in foreign countries also increases risks manifold
• Observed success of VC investments varies substantially across countries, suggesting important country-specific factors facilitate VC success
Hypotheses: Institutional Factors

• H1: Better country-specific legal rights and protection positively influence the likelihood of international VC success

• H2: Better developed stock markets are more conducive for successful VC exits
  – Black and Gilson (1998)
Hypotheses: Cultural Factors

- **H3N**: A higher cultural disparity between the VCs and their portfolio companies adversely affects the performance of international VC investments.
- **H3A**: A higher cultural disparity between the VCs and their portfolio companies leads to better ex-ante screening and due diligence by VCs thereby positively affecting the performance of international VC investments (Chakrabarti et al., 2008).
Hypotheses: Cultural Factors

• H4: VC syndicates with local investment participation perform better than ones without local VC investors
Data

- VC investments made between 1996 and 2002, in companies that received first round of funding beginning in 1996
- We track the performance of portfolio companies until the beginning of 2007
  - SDC VentureXpert
  - Thomson Financial New Issues Database (for IPOs) and M&A database
- Country-specific law variables
  - LLSV; Transparency International; Spamann
- Culture Distance: Geert Hofstede’s measures of culture
- Other sources of data
  - Morgan Stanley Capital International (MSCI) indices
  - Penn World Tables
  - World Bank World Development Indicators
- Final Sample: VC Investments in more than 9,000 portfolio companies across 32 countries; 20 developed and 12 emerging
Key Variables

• Country-Specific Legal Indices (LLSV): capture shareholder rights, enforcement rights, rule of law, corruption, and accounting disclosure standards

• Country Stock Market Development: cumulative number of IPOs in the country from 1993 until the year prior to portfolio company’s initial VC investment divided by the country population (in million) in the year prior to the initial VC investment
  – More IPOs denotes that the country’s stock markets are more receptive to equity issues by companies going public
  – cumulating the number of IPOs over several years adjusts for fluctuating stock market conditions that may positively or adversely affect the number of stock offerings in certain years.
  – normalizing the cumulative number of IPOs by population facilitates a more meaningful comparison across countries of different sizes (Rajan and Zingales, 2003).
Key Variables

- Hofstede Cultural Distance: Cartesian distance between Hofstede’s four different cultural dimensions for the portfolio company’s and lead VC’s nations
- Hofstede classifies culture into four major dimensions
- *Power distance:* the degree of equality, or inequality, between people in the country’s society.
  - Societies displaying small power distances, people relate to each other more as equals regardless of formal positions.
  - Large power distance countries (India, Japan) people tend to accept the power of others simply based on their hierarchical positions.
- *Uncertainty Avoidance:* society’s attitude towards uncertainty and its attempt to cope with anxiety in uncertain situations.
  - Cultures that scored high on uncertainty avoidance tend to prefer rule-based societies, and structured circumstances (Mediterranean countries, Japan).
Cultural Distance

- **Individualism:** extent to which the society helps in reinforcing the individual achievement, whereas **collectivism** emphasizes collective action by individuals.
  - Latin American societies rank among the most collectivist, while the U.S. is one of the most individualistic cultures.

- **Masculinity:** extent to which the society values the traditional ‘masculine’ features such as assertiveness, achievement, competitiveness, and the accumulation of materialistic possessions. In contrast, **femininity** emphasizes relationships and quality of life. Furthermore, a high femininity ranking indicates the country has a low level of differentiation and discrimination between genders.
  - Japan is considered one of the most “masculine” countries in this regard while Sweden the most “feminine.”
Main Regression Specifications

• \( \text{Prob. (Exit: IPO or M&A)} = \varphi_0 + \varphi_1 \text{Legality} + \varphi_2 \text{Stock Market Development} + \varphi_3 \text{Hofstede Cultural Distance} + \varphi_4 \text{Dummy}=1 \text{ if a US VC firm invested in the portfolio company} + \varphi_5 \text{Dummy}=1 \text{ if the VC syndicate contains a US firm and a local VC firm} + \Phi \text{ Control Variables} + \epsilon \)

- Logit and Hazard Regressions

• Control Variables
  – VC Experience: Lead VC age, dummy=1 if the VC Syndicate has a US VC firm
  – VC Syndication: VC Syndicate Size
  – Exit condition: stock market conditions prior to exit
  – Country’s macroeconomic environment: GDP, country openness
  – Portfolio company’s riskiness: dummy=1 if first VC investment occurred at company’s seed/early stage
  – Industry fixed effects; \( p \)-values are adjusted for country level clustering
Main results

- Institutional and cultural factors are important in determining VC success internationally.
- Higher legal index and developed stock markets have a strong positive impact on VC performance in both developed and emerging countries.
- Cultural distance also increases the likelihood of a successful exit in both developed and emerging countries.
  - Impact is significantly higher in emerging countries.
  - VCs set a higher bar for investments in culturally distant nations, and thus increase due-diligence and screening.
- Local investor participation in the VC syndicate increases the likelihood of a successful exit in only developed countries.
  - Inexperienced local investors in emerging countries.
## Select statistics

<table>
<thead>
<tr>
<th></th>
<th>Overall Sample</th>
<th>Developed Economies</th>
<th>Emerging Economies</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Legal Index</strong></td>
<td>0.620***</td>
<td>0.481***</td>
<td>1.311***</td>
</tr>
<tr>
<td><strong>Stock Market Development</strong></td>
<td>0.012***</td>
<td>0.012***</td>
<td>0.094***</td>
</tr>
<tr>
<td><strong>Cultural Distance</strong></td>
<td>0.016***</td>
<td>0.008**</td>
<td>0.051***</td>
</tr>
<tr>
<td>Dummy=1 if a US VC firm invested in the portfolio company</td>
<td>0.012</td>
<td>0.016</td>
<td>-0.354**</td>
</tr>
<tr>
<td>Dummy=1 if the VC syndicate contains a US firm and a local VC firm</td>
<td>0.357***</td>
<td>0.400**</td>
<td>0.200</td>
</tr>
</tbody>
</table>
Cultural distance, due diligence, and VC success

- We conjecture that a higher cultural distance leads to a better success record for VCs, due to increased screening and due diligence.
- We find that more experienced VCs (with better screening and due diligence capabilities) invest in culturally distant countries.
- An attempt to construct a measure of due-diligence (a latent variable) and determine its impact on VC success.
- A significantly positive coefficient on the due-diligence measure would support the idea that better screening and evaluation of companies does result in a higher success rate for VC firms.
Cultural distance, due diligence, and VC success

- We first regress VC experience on Hofstede culture distance and obtain the fitted values and residuals.

- \( \text{Lead VC age} = \phi_0 + \phi_1 \text{Hofstede Cultural Distance} + \epsilon \)

- VC experience (or reputation) is likely to reflect both screening and monitoring capabilities of the VC firm.
- Fitted values are likely to be correlated with that aspect of VC experience that is best explained by culture distance.
- The VC age is measured at the time of VC’s first investment in the portfolio company, thus the fitted values largely reflect VCs’ due-diligence of their portfolio companies, when VCs first invest in them.
- The residuals capture aspects of VC experience related to the value added by the VCs as they monitor and manage the portfolio companies to successful exits.
Cultural distance, due diligence, and VC success

• We introduce the two components—fitted values and residuals in our main regression.

\[ \text{Prob. (Exit: IPO or M&A)} = \phi_0 + \phi_1 \text{Legality} + \phi_2 \text{Stock Market Development} + \phi_3 \text{Fitted Values} + \phi_4 \text{Residuals} + \Phi \text{Control Variables} + \epsilon \]

• The significance of fitted values reflects the positive impact of due-diligence on VC success

• This impact is significantly higher in emerging countries compared to developed countries
Robustness

• Spamann’s index of shareholder rights
• Two alternate measures of country-specific stock market development
  – cumulative number of IPOs in a country divided by the cumulative GDP of the country. An indicator variable that equals one when the stock market development is greater than or equal to the median value in the sample, and zero otherwise. Among successful (unsuccessful) portfolio companies, about 55% (49%) belonged to countries with better developed stock markets.
  – The number of listed companies divided by the country population, and create an indicator variable equal to one when the stock market development is greater than or equal to the median value in the sample, and zero otherwise. Among successful (unsuccessful) portfolio companies, about 62% (50%) belonged to countries with better developed stock markets.
Robustness

• Eurobarometer measure of bilateral trust among nations used in Guiso et al. (2008) and Bottazzi et al. (2008b)
  – Negative relation with success; lower level of trust due to cultural differences, creates incentives for better ex-ante screening and due diligence. Leads to a relatively higher likelihood of VC success.

• Importance of individual cultural elements
Endogeneity

• Potential concern that better experienced VCs that are more prone to investing in culturally distant nations, simply happen to match with better quality companies. This two-sided matching may account for a higher likelihood of VC success, rather than the VCs' due-diligence ability.

• Two stage framework
  – First stage: model an experienced VC’s likelihood of investing in a portfolio company, in a probit framework.
  – Dependent variable equals unity when the lead VC’s age is greater than or equal to the age of the top quartile of all lead VCs that invested in a given year, and zero otherwise.
  – Explanatory variables include the total amount of VC funding received by the portfolio company, and indicator variables for the three countries (US, UK, and South Korea) whose lead VC firms account for at least ten percent of VC investments in our sample.
  – Second stage, add the inverse Mills ratio received from the first-step probit regression as an additional regressor in the hazard analysis of VC success.
Conclusion

• Analyze of the cross sectional determinants of success in international venture capital (VC) investing
• Assemble the largest-to-date dataset comprising international VC investments in both developed and emerging economies
• Institutional and cultural differences positively impact the likelihood of VC success
• Local investor participation positively impacts the likelihood of VC success in only developed countries
• Provide evidence consistent with the notion that VCs are likely to engage in more intensive screening and due-diligence when they invest in culturally distant nations and particularly in emerging economies, which in turn contributes significantly VC success
• Findings help provide guidance for nations considering developing venture capital markets to spur innovation and promote entrepreneurship