Marko Bender

# Spatial Proximity in Venture Capital Financing

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## A Theoretical and Empirical Analysis of Germany

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Für meine Eltern,

ihre unendliche Liebe, unermüdliche Unterstützung

und grenzenloses Vertrauen.

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Nuremberg, July, 2010
Dr. Marko Bender

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## List of Abbreviations

| | |
|---|---|
| AIC | Akaike Information Criterion |
| Betw. | Between |
| Bus. | Business |
| BVK | Bundesverband deutscher Kapitalbeteiligungsgesellschaften |
| CEO | Chief executive officer |
| CFO | Chief financial officer |
| Coef. | Coefficient |
| COO | Chief operating officer |
| Coop. | Cooperative |
| CVC | Corporate venture capital |
| Dep. | Dependent |
| Dev. | Development |
| Df | Degrees of freedom |
| Diff. | Difference |
| Dist. | Distance |
| EVCA | European private equity and venture capital association |
| Exec. | Executive |
| Exp. | Expenses or experience depending on context |
| F.e. | Fixed effects |
| FRG | Federal Republic of Germany |
| Fundr. | Fundraising |
| GDR | German Democratic Republic |
| Ger. | Germany |
| GICS | Global Industry Classification Standard |
| HHI | Herfindahl-Hirschman Index |
| HTGF | High Tech Gründerfond |
| Indep. | Independent |
| Inst. | Institution |
| Inv. | Investment(s) or investor(s) depending on context |
| IPO | Initial public offering |
| KfW | Kreditanstalt für Wiederaufbau |

| | |
|---|---|
| Km | Kilometer |
| Ln | Natural logarithm |
| LR | Likelihood ratio |
| M&A | Mergers and acquisitions |
| Max. | Maximum |
| Min. | Minimum or minutes depending on context |
| MBG | Mittelständische Beteiligungsgesellschaft |
| Mgt. | Management |
| MSCI | Morgan Stanley Capital International |
| No. | Number |
| Obs. | Observations |
| OL | Ordered logistic |
| PE | Private equity |
| Prod. | Product |
| Prof. | Profitable |
| RAM | Reinforcement-Affect-Model |
| R&D | Research and development |
| REL | Rare event logistic |
| SC | Small cap |
| S.d. | Standard deviation |
| Shipp.prod. | Shipping product |
| Subs. | Subsidiary |
| Synd. | Syndication |
| UK | United Kingdom |
| US | United States |
| Var. | Variable |
| VC | Venture capital or venture capitalist depending on context |
| Vol. | Investment volume |
| ZEW | Zentrum für Europäische Wirtschaftsforschung |

## List of Symbols

| | |
|---|---|
| $C_{ET}$ | Entrepreneurial team cooperates |
| $C_{VC}$ | Venture capitalist cooperates |
| $D_{ET}$ | Entrepreneurial team defects |
| $D_{VC}$ | Venture capitalist defects |
| $i$ | Venture capitalist |
| $I$ | Number of venture capitalists |
| $j$ | Index of observation |
| $k$ | industry segments / investment stages |
| $K$ | Number industry segments / investment stages |
| $N$ | Sample size |
| $r$ | VC investment round |
| $R$ | Number of VC investment rounds |
| $r_i$ | VC investment round of venture capitalist $i$ |
| $R_i$ | Number of VC investment rounds of venture capitalist $i$ |
| $\mathbf{W}$ | Weighting matrix |
| $w_1$ / $w_0$ | Fraction of ones (event) /zeros (no event) in the sample relative to the fraction of ones / zeros in the population |
| $\mathbf{X}$ | Matrix of explanatory variables |
| $\mathbf{x_j}$ | Vector of explanatory variables |
| $Y_j$ | Observation j |
| $\hat{\beta}$ | Estimator of regression coefficients |
| $\tilde{\beta}$ | Estimator of regression coefficients that is corrected for rare events |
| $\hat{\pi}_j$ | Estimator of the probability of a certain event $Y_j$=1 |