RISIS

RESEARCH INFRASTRUCTURE FOR SCIENCE AND INNOVATION POLICY STUDIES

DOCUMENTATION OF RISIS DATASETS

VICO

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Outline

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1 Basic Characteristics

The VICO database contains geographical, industry and accounting information on 17,854 companies founded starting from 1/1/1988, which have received at least one venture capital or angel investment starting from 1/1/1998 up to 31/12/2014, operating in 7 European countries (Belgium, Finland, France, Germany, Italy, Spain, and the United Kingdom) and Israel. Companies and investors have been involved in 28,023 investment deals.
The aim of the data collection was to update and enlarge the already existing dataset on venture capital activity in Europe, developed within the project VICO Financing Entrepreneurial Ventures in Europe. The first version of VICO consisted of 8,370 companies located in those seven European countries, 759 of which VC-backed, and 1,125 VC investors. It has been used to produce several academic publications from 2010 onwards (for further details please see http://risis.eu/wp-content/uploads/2014/08/Polimi_RISIS_Poster.pdf). Nevertheless, despite its scientific relevance, a significant drawback of the first version of VICO was the limited coverage of VC activity in Europe, in terms of both VC investment deals and VC-backed companies.
Therefore, during the RISIS1 before and, now, RISIS2 project, the main aim of the updating and enlarging activities is to create a unique data infrastructure with a substantial coverage of VC activity in Europe.
The database is operated and maintained by Politecnico di Milano, Department of Management, Economics and Industrial Engineering, located in Via Lambruschini 4/b, Milano, 20156, Italy.

2 Database content

2.1 Definition and description of observations

The database includes 17,854 companies founded starting from 1/1/1988, which have received at least one venture capital or angel investment starting from 1/1/1998 up to 31/12/2014, operating in 7 European countries (Belgium, Finland, France, Germany, Italy, Spain, and the United Kingdom) and Israel. Moreover, it provides basic information on 6,839 distinct investors, of which 5,172 venture capitalists (VCs) and 1,551 business angels (BAs) (plus a small percentage of other investors, e.g. crowdfunding, private equity...). Companies and investors have been involved in 28,023 investment deals, for a total of 52,629 observations (as one or more investors can be involved in each single investment round).

2.2 Data acquisition and processing (e.g. data cleaning)

In order to identify companies, investors and investment deals we considered three main sources: Thompson One Private Equity, Zephyr, and Crunchbase.

The data collection process consisted in four main steps, which are described in the following:

1. **Definition of a unique list of companies from the three source databases.**
The list of company names to be included in VICO was created through company names disambiguation, using automated matching procedures in Excel as well as manual checks.

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2. **Collection of accounting information from 2005 to 2014 from Orbis database.** Accounting information is available for around 80% of companies in the database.

3. **Geocoding (i.e. retrieving latitude and longitude coordinates) of companies and investors using Google API.** In particular, we applied the following procedure:
   a. Geocoding based on full addresses or zipcode plus country (the most complete information available)
   b. Geocoding based on city plus country
   c. Calculation of the geographical distance by using the coordinates obtained at the previous steps
   d. For cases in which the geographical distance was more than 40km, we manually checked the correct latitude and longitude
   e. In all other cases we kept as final coordinates the ones associated with the full address or zipcode

We were able to geolocalize the vast majority of the companies and investors (with addresses). On the basis of the geographical coordinates, we associated information on NUTS regions and Functional Urban Areas (FUAs).

4. **Finally, we exercised additional data collection efforts in order to complement and verify information coming from the source databases.** In particular, we run:
   a. A disambiguation on investors names (VC firms), again through manual checks and automatic procedures in Excel.
   b. A manual check on investor types (i.e., Independent VC, Corporate VC, Bank-affiliated VC, Governmental VC)
   c. A manual check on companies foundation year and industry when the data did not coincide between the information collected through Orbis and the information coming from the respective source database.

To perform all these checks we use additional data sources, including company and investor websites, on-line business directories, and press releases (e.g. Lexis-Nexis).

2.3 Information on all variables/indicators

Table 1 and 2 describes variables names and descriptions.

Table 1. Variable description: Investment Deals

Variable	Type	Description
CompanyID	**string**	**VICO companys ID ("VICO" + numeric code)**
RoundNumber	**float**	**Progressive number of the round of investment in the database**
InvestorID	**string**	**VICO Investors ID ("VICOInvestor" + numeric code)**
InvestmentDate	float	Date of the round of investment
InvestmentYear	float	Year of the round of investment
CompanyName	string	Name of the company
CompanyNACERev2Coremainsec	string	Company's NACE Rev. 2 core main section

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CompanyNACERev2mainsec	string	Company's NACE Rev. 2 complete list of main sections
CompanyNACERev2Corecode	string	Company's NACE Rev. 2 core code
CompanyNACERev2Corecodedes	string	Company's NACE Rev. 2 description for NACE Rev. 2 core code
CompanyNACERev2codes	string	Company's NACE Rev. 2 complete list of codes
CompanyNACERev2descriptions	string	Company's NACE Rev. 2 description(s) for NACE Rev. 2 codes
CompanyFoundedYear	float	Year of foundation of the company
FirstInvestmentReceivedYear	float	Year in which the company received its first round of investment
FirstInvestmentReceivedDate	float	Date on which the company received its first round of investment
CompanyNation	string	Company's country
CompanyCity	string	Company's city
CompanyAddress	string	Company's address
CompanyZipCode	string	Company's ZIP code
CompanyLat	float	Companys latitude
CompanyLong	float	Companys longitude
CompanyNUTS3	string	Companys Nomenclature of Territorial Units level 3
CompanyNUTS2	string	Companys Nomenclature of Territorial Units level 2
CompanyNUTS1	string	Companys Nomenclature of Territorial Units level 1
CompanyFUA_Code	string	Companys Functional Urban Area code
CompanyFUA_Name	string	Companys Functional Urban Area name
Company_ISO_A2	string	Company's ISO Alpha-2 letters code
Company_ISO_A3	string	Company's ISO Alpha-3 letters code
Company_ISO_n	string	Company's ISO numeric-3 digits code
CompanyFailed	boolean	1 if the company was liquidated
TotalEquityInvested_round	float	Total amount invested in the round of investment. Thousand Euro. Nominal
RoundNumber_max	float	Company's maximum number of investment rounds
RoundNumber_min	float	Company's minimum number of investment rounds
AgeAtFirstInvesmentReceived	float	Age of the company when first invested.
d_UndiscoledInvestor	boolean	1 if the investor is unknown or undisclosed
InvestorName	string	Name of the investor
InvestorStatus	string	Investor status: active or inactive (if a company)
InvestorFoundedYear	float	Year of foundation of the investor (if a company)
InvestorType	string	Type of investor: Independent VC; Corporate VC; Bank-affiliated VC; Government VC; University VC; Business Angel; Crowdfunding; Other
InvestorNACERev2codes	string	Investor's NACE Rev. 2 code(s) (if a company)
InvestorNACERev2descriptions	string	Investor's NACE Rev. 2 description(s) for NACE Rev. 2 codes (if a company)
InvestorNoofFundsManaged	int	Number of investor's funds managed (if a VC)
InvestorNation	string	Investor's country
InvestorStateUSA	string	Investors USA state (if Investors Nation=Unites States)
InvestorCity	string	Investor's city
InvestorZipCode	string	Investor's ZIP code
InvestorLat	float	Investors Latitude
InvestorLong	float	Investors Longitude
InvestorNUTS3	string	Investors Nomenclature of Territorial Units level 3
InvestorNUTS2	string	Investors Nomenclature of Territorial Units level 2
InvestorNUTS1	string	Investors Nomenclature of Territorial Units level 1
InvestorFUA_Code	string	Investors Functional Urban Area code
InvestorFUA_Name	string	Investors Functional Urban Area name
Investor_ISO_A2	string	Investor's ISO Alpha-2 letters code

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Investor_ISO_A3	string	Investor's ISO Alpha-3 letters code
Investor_ISO_n	int	Investor's ISO numeric-3 digits code

Table 2. Variable description: Accounting

Variable	Type	Description
CompanyID	**string**	**VICO companys ID ("VICO" + numeric code)**
Year	**float**	**Year to which the accounting data refers to**
CompanyName	string	Name of the company
FixedassetsthEUR	float	Total amount (after depreciation) of non current assets. (Intangible assets+Tangible assets+Other fixed assets). Thousand Euro. Nominal
IntangiblefixedassetsthEUR	float	All intangibles assets (after depreciation). Thousand Euro. Nominal
TangiblefixedassetsthEUR	float	All tangibles assets (after depreciation). Thousand Euro. Nominal
OtherfixedassetsthEUR	float	All other Fixed Assets (after depreciation). Thousand Euro. Nominal
CurrentassetsthEUR	float	Total amount of current assets. (Stocks+Debtors+Other current assets). Thousand Euro. Nominal
StockthEUR	float	Total inventories. Thousand Euro. Nominal
DebtorsthEUR	float	Trade receivables. Thousand Euro. Nominal
OthercurrentassetsthEUR	float	All other current assets. Thousand Euro. Nominal
CashcashequivalentthEUR	float	Detail of other current assets=amount of cash at bank and in hand of the company. Thousand Euro. Nominal
TotalassetsthEUR	float	Total Assets. (Fixed assets+Current assets). Thousand Euro. Nominal
ShareholdersfundsthEUR	float	Total Equity (Capital+Other shareholders funds). Thousand Euro. Nominal
CapitalthEUR	float	Issued Share capital. Thousand Euro. Nominal
OthershareholdersfundsthEUR	float	All shareholders funds not linked with the Issued capital. Thousand Euro. Nominal
NoncurrentliabilitiesthEUR	float	All long-term liabilities of the company. (Long term debts+Other non current liabilities+Provisions). Thousand Euro. Nominal
LongtermdebtthEUR	float	Long-term financial debts to credit institutions (>1Year). Thousand Euro. Nominal
OthernoncurrentliabthEUR	float	All long-term liabilities not related to financial institutions (including Provisions). Thousand Euro. Nominal
ProvisionsthEUR	float	Detail of other non current liabilities=Provisions. Thousand Euro. Nominal
CurrentliabilitiesthEUR	float	All current liabilities of the company (Loans+Creditors+Other current liabilities). Thousand Euro. Nominal
LoansthEUR	float	Short-term financial debts to credit institutions (<1Year). Thousand Euro. Nominal
CreditorsthEUR	float	All debts to suppliers and contractors. Thousand Euro. Nominal
OthercurrentliabilitiesthEUR	float	All current liabilities not payable to financial institutions nor trade debts. Thousand Euro. Nominal
TotalsharehfundsliabthEUR	float	Total Shareholders Equity and liabilities. (Shareholders funds+Non current liabilities+Current liabilities). Thousand Euro. Nominal to drop
WorkingcapitalthEUR	float	Net working capital (Stocks+Debtors-Creditors). Thousand Euro. Nominal
NetcurrentassetsthEUR	float	Net current assets (Current Assets-Current liabilities). Thousand Euro. Nominal
EnterprisevaluethEUR	float	Sum of the Market capitalisation, the Long term debts and the Loans (to financial institutions) minus the Cash and cash equivalent (for listed companies only). Thousand Euro. Nominal
TurnoverthEUR	float	Total operating revenues (Net sales+Other operating revenues+Stocks variations). Thousand Euro. Nominal
SalesthEUR	float	Net sales. Thousand Euro. Nominal
CostsofgoodssoldthEUR	float	Costs of sold goods, production and services. Thousand Euro. Nominal
GrossprofitthEUR	float	Turnover Costs of goods sold. Thousand Euro. Nominal

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OtheroperatingexpensesthEUR	float	All costs not directly related to the production of goods sold. Thousand Euro. Nominal
OperatingPLEBITthEUR	float	Earnings before interests and taxes (Gross profit Other operating expenses). Thousand Euro. Nominal
FinancialrevenuethEUR	float	All financial revenues (interests, incomes from shares,..). Thousand Euro. Nominal
FinancialexpensesthEUR	float	All financial expenses (interest charges, write-off financial assets,..). Thousand Euro. Nominal
FinancialPLthEUR	float	Resut from financial activities. (Financial revenues Financial expenses). Thousand Euro. Nominal
PLbeforetaxthEUR	float	Earnings before taxes. (Operating profit+Financial profit). Thousand Euro. Nominal
TaxationthEUR	float	All taxes paid by the company. Thousand Euro. Nominal
PLaftertaxthEUR	float	Earnings after taxes. (Profit before taxation Taxation) Thousand Euro. Nominal
ExtrandotherrevenuethEUR	float	All extraordinary revenues and other revenues not belonging to the ordinary activities of the company. Thousand Euro. Nominal
ExtrandotherexpensesthEUR	float	All extraordinary expenses and other rexpenses not belonging to the ordinary activities of the company. Thousand Euro. Nominal
ExtrandotherPLthEUR	float	All extraordinary and other result not belonging to the ordinary activities of the company. Thousand Euro. Nominal
PLforperiodNetincomethEUR	float	Net income for the Year. (Profit after taxation+Extraordinary and other profit). Thousand Euro. Nominal
ExportrevenuethEUR	float	Revenues from exports. Thousand Euro. Nominal
MaterialcoststhEUR	float	Detail of the cost of materials used only for goods produced. Thousand Euro. Nominal
CostsofemployeesthEUR	float	Detail of all the employees costs of the company (including pension costs). Thousand Euro. Nominal
DepreciationAmortthEUR	float	Total amount of depreciations and amortizations of the assets. Thousand Euro. Nominal
InterestpaidthEUR	float	Total amount of interest charges paid for shares or loans. Thousand Euro. Nominal
RDexpensesthEUR	float	Total amount of R&D expenses. Thousand Euro. Nominal
CashflowthEUR	float	Profit for period+Depreciation. Thousand Euro. Nominal
AddedvaluethEUR	float	Profit for period+Depreciation+Taxation+Interests paid+Cost of employees. Thousand Euro. Nominal
EBITDAthEUR	float	Operating profit+Depreciation. Thousand Euro. Nominal
Numberofemployees	float	Total number of full time employees of the company

2.4 Sectorial, temporal and geographical coverage

Sectorial classification follows the NACE Rev. 2 classification. The distribution of companies according to the NACE Rev. 2 Main Section (variable CompanyNACERev2Coremainsec in Table 1) is reported in Table 3.

Table 3. Sectorial coverage

NACE Rev. 2 Main Section	N. Companies	Percent
A Agriculture, forestry and fishing	18	0.14
B Mining and quarrying	40	0.3
C - Manufacturing	2,020	15.36
D - Electricity, gas, steam and air conditioning supply	95	0.72
E - Water supply; sewerage, waste management	43	0.33
F - Construction	192	1.46
G - Wholesale and retail trade; repair of motor vehicles and motorcycles	1,173	8.92
H - Transportation and storage	123	0.94
I - Accommodation and food service activities	131	1
J - Information and communication	4,620	35.14

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K - Financial and insurance activities	605	4.6
L - Real estate activities	102	0.78
M - Professional, scientific and technical activities	2,524	19.2
N - Administrative and support services activities	870	6.62
O Public administration and defence; compulsory social security	3	0.02
P - Education	66	0.5
Q - Human health and social work activities	196	1.49
R - Arts, entertainment and recreation	131	1
S - Other service activities	193	1.47
T Activities of households as employers; undifferentiated goods and services-producing activities of households for own use	3	0.02
Total	13,148	100.00

As VICO focuses on early-stage investments, the population of companies was restricted to those founded starting from 1/1/1988, which received the first investment starting from 1/1/1998, up to 24/03/2015 (the time of the data collection). Overall, start-ups are relatively young, with a median foundation year of 2003. Table 4 and 5 report the distribution of the companies by foundation year and year of the first investment received.

Table 4. Distribution of companies by foundation year

Foundation year	N. Companies	Percent
before 1990	463	3.32
1990≤y<1995	974	6.99
1995≤y<2000	2,886	20.71
2000≤y<2005	3,735	26.81
2005≤y<2010	3,462	24.85
2010≤y≤2015	2,412	17.31
Total	13,932	100.00

Table 5. Distribution of companies by year of first investment

First Investment Year	N. Companies	Percent
before 2000	1,236	6.92
2000≤y<2005	5,796	32.46
2005≤y<2010	4,722	26.45
2010≤y≤2015	6,100	34.17
Total	17,854	100.00

As to the temporal coverage of accounting information, accounting data are available from 2005 to 2014.

As to the geographical coverage, the database includes information on the country, NUTS regions (https://ec.europa.eu/eurostat/web/regions-and-cities/overview), Functional Urban Areas (https://www.oecd.org/cfe/regional-policy/functionalurbanareasbycountry.htm) and exact geographical coordinates (i.e. latitude and longitude). The geographical distribution according to the country, in which the company is located is reported in Table 6.

Table 6. Distribution of companies by country

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Country	N. Companies	Percent
Belgium	557	3.12
Finland	1,042	5.84
France	3,868	21.66
Germany	3,093	17.32
Israel	1,240	6.95
Italy	738	4.13
Spain	1,454	8.14
United Kingdom	5,862	32.83
Total	17,854	100

2.5 Quality and accuracy of data

Table 7 reports the number of missing values and the percentage of missing values with respect to the number of observations (i.e. the number of companies, investors and investment rounds) for all variables.

Accounting data are available for 14,429 companies (80.79%).

Table 7. Missing values

Unit of analysis: company	N. of missing	%	Total
CompanyID	0	0.00%	17,854
CompanyName	0	0.00%	17,854
CompanyNACERev2Coremainsec	4,706	26.36%	17,854
CompanyNACERev2mainsec	2,660	14.90%	17,854
CompanyNACERev2Corecode	4,706	26.36%	17,854
CompanyNACERev2Corecodedes	4,706	26.36%	17,854
CompanyNACERev2codes	14,013	78.49%	17,854
CompanyNACERev2descriptions	14,013	78.49%	17,854
CompanyFoundedYear	3,922	21.97%	17,854
FirstInvestmentReceivedYear	0	0.00%	17,854
FirstInvestmentReceivedDate	0	0.00%	17,854
CompanyNation	0	0.00%	17,854
CompanyCity	372	2.08%	17,854
CompanyAddress	0	0.00%	17,854
CompanyZipCode	2,408	13.49%	17,854
CompanyLat	441	2.47%	17,854
CompanyLong	441	2.47%	17,854
CompanyNUTS3	1,597	8.94%	17,854
CompanyNUTS2	1,597	8.94%	17,854
CompanyNUTS1	1,597	8.94%	17,854
CompanyFUA_Code	1,108	6.21%	17,854
CompanyFUA_Name	1,108	6.21%	17,854
Company_ISO_A2	0	0.00%	17,854

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Company_ISO_A3	0	0.00%	17,854
Company_ISO_n	0	0.00%	17,854
CompanyFailed	2,243	12.56%	17,854
AgeAtFirstInvesmentReceived	5,459	30.58%	17,854
Unit of analysis: investor	**N. of missing**	**%**	**Total**
InvestorID	0	0.00%	6,846
InvestorName	6	0.09%	6,846
InvestorStatus	4,166	60.85%	6,846
InvestorFoundedYear	3,427	50.06%	6,846
InvestorType	7	0.10%	6,846
InvestorNACERev2codes	4,269	62.36%	6,846
InvestorNACERev2descriptions	4,269	62.36%	6,846
InvestorNoofFundsManaged	4,827	70.51%	6,846
InvestorNation	1,020	14.90%	6,846
InvestorStateUSA	103	9.16%	1,124 (USA only)
InvestorCity	2,268	33.13%	6,846
InvestorZipCode	2,877	42.02%	6,846
InvestorLat	2,318	33.86%	6,846
InvestorLong	2,318	33.86%	6,846
InvestorNUTS3	3,794	55.42%	6,846
InvestorNUTS2	3,794	55.42%	6,846
InvestorNUTS1	3,794	55.42%	6,846
InvestorFUA_Code	2,998	43.79%	6,846
InvestorFUA_Name	2,998	43.79%	6,846
Investor_ISO_A2	1,045	15.26%	6,846
Investor_ISO_A3	1,045	15.26%	6,846
Investor_ISO_n	1,045	15.26%	6,846
Unit of analysis: investment deal	**N. of missing**	**%**	**Total**
RoundNumber	0	0.00%	28,023
InvestmentDate	0	0.00%	28,023
InvestmentYear	0	0.00%	28,023
TotalEquityInvested_round	1,591	5.68%	28,023
RoundNumber_max	0	0.00%	28,023
RoundNumber_min	0	0.00%	28,023

3 Technical Specifications

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3.1 Information on the data base system

The database is currently available in the Stata format (.dta). It is structured in two main Tables:

- Investment Deals, which contains information at the deal level (unit of analysis: company-round number- investor)
- Accounting, which contains information on accounting variables (unit of analysis: company-year)

3.2 Technical variable definition

All variables names and types are described in Table 1 and Table 2. Unique identifiers are reported in bold in each table.

3.3 Description of the Entity Relationship Model (if applicable)

The Investment Deals and the Accounting tables are related to each other by the unique identifier CompanyID.

3.4 Interfaces for access and to other infrastructures (if applicable)

VICO database is integrated in the RISIS Core Facility with other firm-level RISIS databases. In particular, integration is made possible through the use of FirmReg, a register that uniquely identifies and tracks over time companies included in different RISIS datasets, such as CIB on the largest innovative industrial firms worldwide, Cheetah on European mid-size fast growing firms and VICO. Each VICO company is connected to FirmReg through unambiguous and stable (over time) identifiers.
At the geographical level, VICO is harmonized with the other research infrastructures in RISIS by adopting the NUTS classification of administrative units (as provided by Eurostat) and the FUA classification for urban areas (as provided by the OECD).

Integration of VICO in the RCF will be allowed with anonymised company names, which is essential for legal issues due to data retrieval from different commercial databases. Only in specific cases when a high level of data protection is guaranteed, such as in case of physical visits and direct research collaborations with the datasets owners, companies names may be disclosed.

4 Scientific use cases and main references

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Given the fine-grained and wide scope of data on VC-backed firms, VICO can be used to produce large scale evidence on the ecology of the VC landscape in Europe, extending current empirical evidence based on the previous version of the dataset. In particular, promising avenues of research include:

1. Investment patterns and selection process (see Bertoni et al., 2015a; Colombo and Shafi, 2016), e.g. European v. US VCs peculiar investment criteria, how different types of VCs select their portfolio firms;
2. The treatment effect on invested companies (Croce et al., 2013; Grilli and Murtinu, 2014; Colombo and Murtinu, 2017; Cumming et al., 2017), e.g. the effect of VC value added activities on portfolio firms performance (e.g. growth, innovation, access to subsequent funding), the specific treatment effect of different types of VCs;
3. The certification effect and removal of financial constraints of portfolio firms (e.g. Guerini and Quas, 2016; Bertoni et al., 2015b);
4. The internationalization and geography of VC activity in Europe (Devigne et al., 2013; Bertoni and Groh, 2014), e.g. the emergence and/or agglomeration of VC markets around big metropolitan areas, the attraction of cross-border investments.

Moreover, the broad longitudinal timeframe (1998-2015) gives the opportunity to study the effects of the financial crisis on VC activity, while the coverage of different types of investors, in addition to VCs (e.g., BAs) allows to investigate the complementarities between VCs and other sources of finance.
In what follows, we provide an overview of both published and working papers based on VICO developed within RISIS1.

Guerini and Tenca (2018) provides evidence about the geographical concentration of VC activity in seven European countries. The work presents the geographical distribution of VC investments and VC-backed technology-intensive start-ups, analysing the regional and country-level factors associated to the regional concentration of VC activity. Results from econometric estimates suggest that regional VC activity is positively associated to the level of regional knowledge intensity, the level of regional human capital, the local supply of VC investors and a favourable countrys legal and institutional environment.

Croce et al. (2018) study how cultural distance between entrepreneurial ventures and prospective VC investors affects the likelihood of investment realization. Whilst other scholars addressed this question by investigating whether and how cross-country cultural distance affects cross-border VC investments, sub-country measures of cultural distance are used to extend the analysis to domestic investments. Based on a unique database of VC investments in European entrepreneurial ventures during the period 1998-2014, results show that sub-national cultural distance is negatively associated to the likelihood of investment realization. Furthermore, domestic VC investments are more affected by cultural distance than cross-border investments.

Guerini and Hong (2018) examine whether there are positive externalities associated with US VC firms presence in the European market. The study focuses on how the presence of US VC firms in the local market affects performances of start-ups backed by domestic investors. Specifically, the authors use VICO to investigate if entry of foreign VC firms has an additional indirect impact on the performance of start-ups backed by domestic investors. Results suggest that domestic VC firms can obtain valuable know-how through forming syndicates with foreign VC firms. Prior experience with US VC firms is associated to greater performance of domestic VC investments.

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Colombo et al (2017) empirically test the monitoring effect of VC financing on portfolio companies. Using the introduction of a new airline route between investor and investee locations as an exogenous shock lowering the cost of monitoring activities performed by a VC, the authors assess the treatment effect of VC on portfolio companies performances in terms of the likelihood of being listed or acquired, the number of patents, the number of employees and the amount of sales. Results show that VC monitoring has a positive and economically relevant effect on European portfolio companies along most of these performance measures, but with different time horizons.

Colombo et al (2018) study whether and how different country-level institutional characteristics affect the performance of entrepreneurial ventures. Matching VICO Updated with a comparable sample of non-VC backed companies, the authors provide a comprehensive evidence on how a favourable fiscal, legal and policy environment stimulates the productivity growth of European entrepreneurial ventures.

Block et al. (2018) investigate how VCs specialized expertise and the fit between investor expertise and firm characteristics affect investors ability to add value to start-ups. Using a unique longitudinal dataset on European venture financing and performance and robust econometric techniques, the authors find that greater relative specialization negatively affects investors value-add. Moreover, the study finds that greater specialization can be helpful for investor value- add in late-stage investments. Nonetheless, results suggest that greater relative specialization improves VC selection skills and thus can be a reasonable investment strategy for VC investors.
Camerani and Guerini (2018) study the impact that the 2008 financial crisis had on the economic growth and survival of small high tech firms. In particular, the study also considers how sectors and countries have been differently affected by the crisis. Finally, this study looks at the role of different kinds of VC investments in alleviating the effects of the financial crisis. The analyses suggest that the crisis affected VC industry differently in terms of sector, geographical patterns (with an increase of the local bias of VC investments) and sources of VC financing.

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