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Doctoral Dissertation
Doctoral Program in Management, Production and Design (35th Cycle)

Technology and financial markets: venture capital perspectives

Short Synthesis

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Synthesis

The thesis deals with the fascinating world of Venture Capital, where, daily, investment professionals bet on high-risk, high-reward ventures with the potential to change the way we all live radically. Since the early 1900s, people with good ideas (often inventors) looked for people with money (i.e., investors) to provide them with the capital to develop and commercialize their inventions. At the same time, wealthy families and individuals looking for original ways to increase their wealth started betting on high-risk, high-reward technological projects with the potential to disrupt and improve how people live. A few decades after, in 1946, in the United States, the venture capital (VC) phenomenon officially kicked off with the birth of the first “modern” VC firm, the American Research & Development Corporation (ARD). Since then, the industry has heavily changed and evolved until it assumed the peculiar characteristics, dynamics, and global presence of these recent days. Over the years, and coherently with the risk profile of the asset class, the VC phenomenon has led to tremendous breakthroughs (and financial returns) in various fields (leading, for example, to the commercialization of insulin for human use), but also to loud failures (it is sufficient to think about the Theranos scandal which hit the headlines various times in the past decade¹).

As of today, the VC sector has been thoughtfully investigated by academics and practitioners with different backgrounds and looking at different dimensions. What makes the industry particularly appealing are its intrinsic and unique characteristics. In VC, small investment teams allocate huge amounts of money to innovative ventures and technologies, betting on different possible futures. Given the relevance (in terms of dimensions) of the assets that these teams manage (almost \$2 trillion in assets under management in 2022²), those investment professionals, by selecting the companies in which they invest, are heavily influencing the technological development and direction of our society. Thus, the impact on our economy and society of such a small number of professionals is enormous and financing the right innovations is key to successfully facing many of the challenges of our century (i.e., the climate one, access to food and water, raising inequality, etc.).

Over the recent years, the sector has increasingly gained relevance, growing to more than \$600 billion invested globally in 2021, soaring from \$335 billion in 2020³, and consequently

¹ [Business Insider \(2018\)](#)

² [Preqin, 2022](#)

³ [Crunchbase, 2021](#)

it has become particularly important to investigate whether this capital is used efficiently and wisely.

To this end, this work contributes to two research streams. Firstly, it explores the social impact investment phenomenon by analyzing a proprietary dataset of more than 60 funds and 300 companies associated with the relative financial and accounting information. It describes the dynamics of this growing trend and the economic impact of such investments on the backed companies, finding a positive effect in the medium and long term. By doing so, it tries to address a growing concern on whether and to what extent investment professionals care about the social impact of their activity. Secondly, it analyzes the ability of VCs to select promising technologies. To this end, two methodologies are used. On the one hand, building on the findings of a Delphi forecasting technique, the work compares the investment choices of venture capitalists to opinions gathered from industry experts on possible blockchain-enabled futures. Interestingly, VC investment choices fit the highest-risk scenarios depicted by industry experts, confirming the strong risk attitude of such investment professionals. On the other end, it exploits a novel and proprietary dataset including both listed and VC-backed companies active in the biotechnology and pharmaceutical industry (almost 2,000 companies with more than 100,000 patents) to assess whether financial markets reward high-risk VC-backed technology more than traditional and more mature solutions. Interestingly, but not surprisingly, the opposite seems to hold true, as financially driven markets struggle to value high-risk technology that can only provide financial returns in the long run.

This research confirms the need for venture capitalists in the innovation ecosystem and confirms an optimistic view about the future. VCs, who have the honor and burden of selecting, working, and nurturing the innovators of tomorrow, are starting to care about the social impact of their investment and, coherently with their nature, are betting on the most disruptive technologies, the ones that no one else would be that fool to support, but that could radically change our lives (for the better).