# Venture Capital Inefficiencies in the University Ecosystem

How are VC investors driven or impacted by barriers to entry, and/or the complexity of startups that spin out of university-based research, particularly within UC Berkeley?

Ignacio Balaguer
André Chabaneix
Michael Jenkins
Santiago Pezzoni
Rahul Venkateshwara


Academic Advisor: Yaniv Konchitchki

# Background

Research universities are major engines of innovation and economic growth. In the United States, this started with the Morrill Land Grant Act of 1862 which provided donation of public lands to states in order to establish universities, a number of which had the explicit mandate to perform research in areas including agriculture and mechanical arts[1]. Today, both public and private universities in the U.S. perform more than half of the basic scientific and engineering research[2]. According to the Association of University Technology Managers[3], from 1990-2015, research universities have disclosed over 380,00 inventions and issued over 80,000 patents. These innovations have formed over 11,000 startups, contributed to $591 billion to US gross domestic product and supported over four million jobs from 1995 to 2016[4].

The University of California, Berkeley is one of the premier research institutions in the world. Recent innovations from UC-Berkeley's research include CRISPR gene editing, robotic legs, biofuels, and treating global malaria[5]. Research and patents from UC Berkeley have also spurred significant economic activity for the private sector. According to the Berkeley Intellectual Property & Industry Research Alliances[6] (IPIRA), over 1,300 companies have leveraged Berkeley patents through negotiated agreements with IPIRA, leading to over 600 commercialized products. Of the IPRIA licenses, 238 are to startups to commercialize inventions, which have raised $1.6B in venture capital funding since 2005[7]. Sixty-six of these startups are currently active, generating $195 million in annual revenue, and another twenty-nine have had a successful exit totaling $8.1 billion in cash and stock options[8].

This paper examines VC funding within the UC Berkeley ecosystem and the fundraising inefficiencies faced by VCs focused on university-based research. The authors worked with Blue Bear Ventures (BBV), an early stage venture fund focused on early-stage startups based on university research from UC Berkeley and other major research institutions, to raise their second investment fund, targeting Family Offices as prospective Limited Partners (LPs). We experimented with several different approaches towards cold-emails to those family offices and interviewed those investors to qualitatively assess how university-based VC investing fits within their broader portfolio criteria. This paper discusses the dislocations between family office investment goals and the opportunities presented by UC-Berkeley research-based startups.

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[1] National Research Council (US) Committee on Competing in the 21st Century: Best Practice in State and Regional Innovation Initiatives; Wessner CW, editor. Washington (DC): National Academies Press (US); 2013.
[2] Ibid.
[3] Ibid.
[4] Ibid.
[5] https://www.berkeley.edu/about/history-discoveries
[6] https://ipira.berkeley.edu/ipira-impact
[7] Ibid.
[8] Ibid.

# Venture Capital Efficiencies - Literature Review

In order to provide some background and context to the paper, we will first do a literary review of venture capital (VC) returns, the impact of networking as a key to success for VC firms and the role that corporate partners play.



*Figure 1*

The figure 1 above from Pitchbook, shows the historic IRR of VC firms split by firms with smaller AUM (<$250m) and larger AUM ($250m). The returns have a lot of volatility since before the financial crisis of 2007/08 but the returns of both size funds broadly track each other with larger funds in the past 4 years outperforming.

Whilst there is a popular belief that the majority of the returns of the VC industry are captured by a top circle of funds, the research of Cambridge Associates in November 2015[9] empirically disputes this. Their researched looked at the top 100 venture investments measured by total gains each year from 1995 to 2012 and shows that an average of 61 firms account for value

[9]https://www.cambridgeassociates.com/insight/venture-capital-disrupts-itself-breaking-the-concentration-curse/

creation in the top 100 investments in VC per year, with new and emerging firms consistently accounting for 40%-70% of the value create in the top 100 over the past 10 years.

Hochberg, Ljungqvist and Lu in their influential paper looking at the impact of a venture capital firm's network on the funds performance across the period 1980-2003 find that "VC funds whose parent firms enjoy more influential network positions realise significantly better performance, measured by the proportion of portfolio investments that are successfully exited through an IPO or a sale to another company."[10] They also find that the successes of portfolio companies in raising subsequent rounds of financing are more likely if their VC investors are better networked. The main benefit to the performance of a VC firm from having a strong network is from access to other VC's deal flow which has a large impact on the ability to attract limited partners to invest in the fund. They find that enhancing a network is an important strategy for a VC fund and can also be a barrier to entry to new VCs, which is one of the most important conclusions they arise at for this paper.

Their followup paper in 2010[11] again finds that in markets with a high degree of networks and syndication of deals among VC firms is associated with a high barrier to entry, making it difficult for new firms to enter. They also pinpoint the lower valuations achievable in markets where incumbent venture firms have a high degree of bargaining power.

One of the inefficiencies in the venture capital industry is the time taken to develop a network and one of the benefits of the University of California system is the close ties of its different campuses which would be an easy way for a venture firm to secure a good network that is geographically diverse quickly. By establishing a relationship with the UC system and helping to fund startups across each campus, a network could quickly be developed and provide a point of differentiation and a competitive edge for a firm.

Croce, Grilli and Murtinu's[12] paper looks at university-managed funds (UFs), an effort by a small number of universities in "knowledge transfer". Academics often need a leading company to commercialise technology whilst industry players are interested in the resources and assets of universities needed to develop new technologies such as research facilities and highly-skilled researchers and faculty. They focus on UFs, which are funds with a direct affiliation to the institution that invest into the equity of startups. They draw the conclusion that UFs success is

[10]Whom You Know Matters: Venture Capital Networks and Investment Performance,Yael V. Hochberg, Alexander Ljungqvist and Yang Lu The Journal of Finance Vol. 62, No. 1 (Feb., 2007), pp. 251-301 (51 pages)

[11] HOCHBERG, YAEL V., et al. "Networking as a Barrier to Entry and the Competitive Supply of Venture Capital." *The Journal of Finance*, vol. 65, no. 3, 2010, pp. 829–859. *JSTOR*, www.jstor.org/stable/25656314. Accessed 14 May 2020.

[12] Croce, A., Grilli, L. & Murtinu, S. Venture capital enters academia: an analysis of university-managed funds. *J Technol Transf* **39,** 688–715 (2014). https://doi-org.libproxy.berkeley.edu/10.1007/s10961-013-9317-8

dependent on the academic institution that created it and the ability of that institution to find suitable co-investors. Additionally they find, unsurprisingly, that a larger amount of financial resources provided by a UF lowers the failure rate of portfolio companies.

From our own research into the venture capital investment space throughout the UC system, we have noted both the lack of industry leading co-investors and also a lack of funding for investing in startups coming out of campus and as such, these are two inefficiencies that exist that the administration should address to improve its track record.

The seminal case study of Meyer, Atenm Krause and Mertzger[13] on the University of Oregon's technology entrepreneurship program (TEP) outlines the "venture launch gap" as one of the three main challenges when commercialising university research. They outline the venture launch gap as the stage of spinning a technology-based start-up out of a university. The TEP program they studied found that whilst strides were made with narrowing the technology discovery and commercialisation gaps, the difficulty in creating credible business leaders meant little progress was made in addressing the venture launch gap.

In a study of the role VC's played in the growth of university spin-offs in Spain and Italy[14], it was concluded that VCs are especially suitable investors for university spin-offs (USOs) given their expertise in financing and assisting with improving their managerial skills and commercial approach. The study found that in Spain VC involvement in a USO had a positive effect on sales growth but in Italy there was not much of an effect.

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[13] Aten, Kathryn et al. "Creating a university technology commercialisation programme: confronting conflicts between learning, discovery and commercialisation goals." *Int. J. Entrepreneurship and Innovation Management, Vol. 13, No. 2, 2011 pg 179*. Accessed 14 May 2020.

[14] Rodríguez-Gulías, M.J., Rodeiro-Pazos, D., Fernández-López, S. *et al.* The role of venture capitalist to enhance the growth of Spanish and Italian university spin-offs. *Int Entrep Manag J* **14,** 1111–1130 (2018). https://doi-org.libproxy.berkeley.edu/10.1007/s11365-017-0489-9

# University Ecosystem

Pitchbook reports that from 2006 to 2019, UC Berkeley ranked second in the most number of startups launched, however, it only ranked fifth in total capital raised per company. There is no clear indication why UC Berkeley has raised less capital per company than other universities with leading startup ecosystems, but looking at growing startup funding trends from 2013 to 2017, it is possible that Berkeley has historically been more inefficient at connecting startups with capital. That trend, however, is changing with the creation of incubator/accelerator programs and an increase in outside funds working closely with the UC Berkeley startup ecosystem.

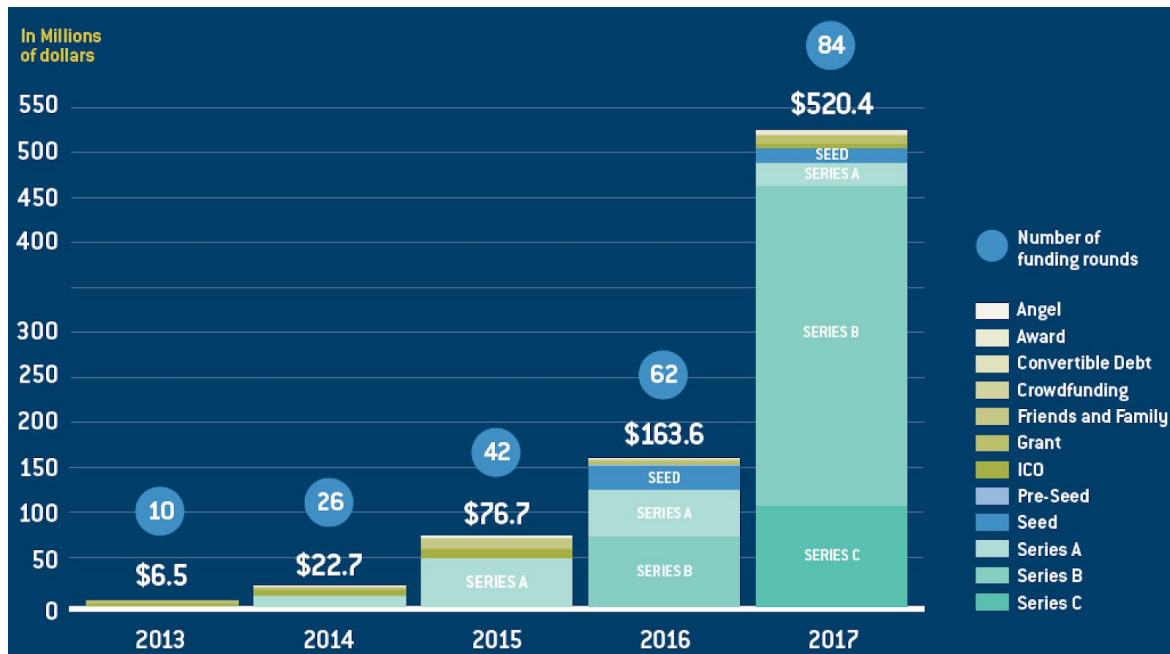| Rank | University | Founder Count | Company Count | Capital Raised (millions, USD) | Capital Raised / Company (millions, USD) | Top Companies |
|------|-----------|---------------|---------------|-------------------------------|------------------------------------------|---------------|
| 1 | Stanford University | 1288 | 1114 | 37,824.64 | 33.95 | Snap ($2622.76); DoorDash ($1971.7); Opendoor ($1345.06); Robinhood ($861.94); Solyndra ($848.1) |
| 2 | University of California, Berkeley | 1235 | 1103 | 28,605.24 | 25.93 | DoorDash ($1971.7); Flexport ($1201.9); Cloudera ($1041.91); Zynga ($1031.1); Auris ($738.15) |
| 3 | Massachusetts Institute of Technology (MIT) | 1012 | 881 | 25,564.75 | 29.02 | Oscar ($1278.92); Indigo Agriculture ($616.63); Human Longevity ($538.06); Toast POS ($497.25); WuXi NextCODE ($440) |
| 4 | Harvard University | 987 | 882 | 32,647.70 | 37.02 | Coupang ($3417.83); Cloudera ($1041.91); Peloton ($993.74); Affirm ($927.61); BabyTree ($493.75) |
| 5 | University of Pennsylvania | 910 | 828 | 17,830.49 | 21.53 | Snapdeal ($1581.38); Fuze ($485.86); Wheels Up ($449.6); Flatiron ($328); Brandless ($292.5) |

<u>Berkeley Startup Ecosystem</u>

Located in the Bay Area and with over 30,000 undergraduates and over 10,000 graduate students, Berkeley is a major hub for innovation. UC Berkeley's ecosystem has a number of resources for startups to access funds to commercialize and scale their products. Through the university, entrepreneurs can receive scholarships and grants, get assistance applying for federal grants such as the Small Business Innovation Research (SBIR) and Small Business Technology Transfer (SBTT) programs, and enter student-run competitions[15].
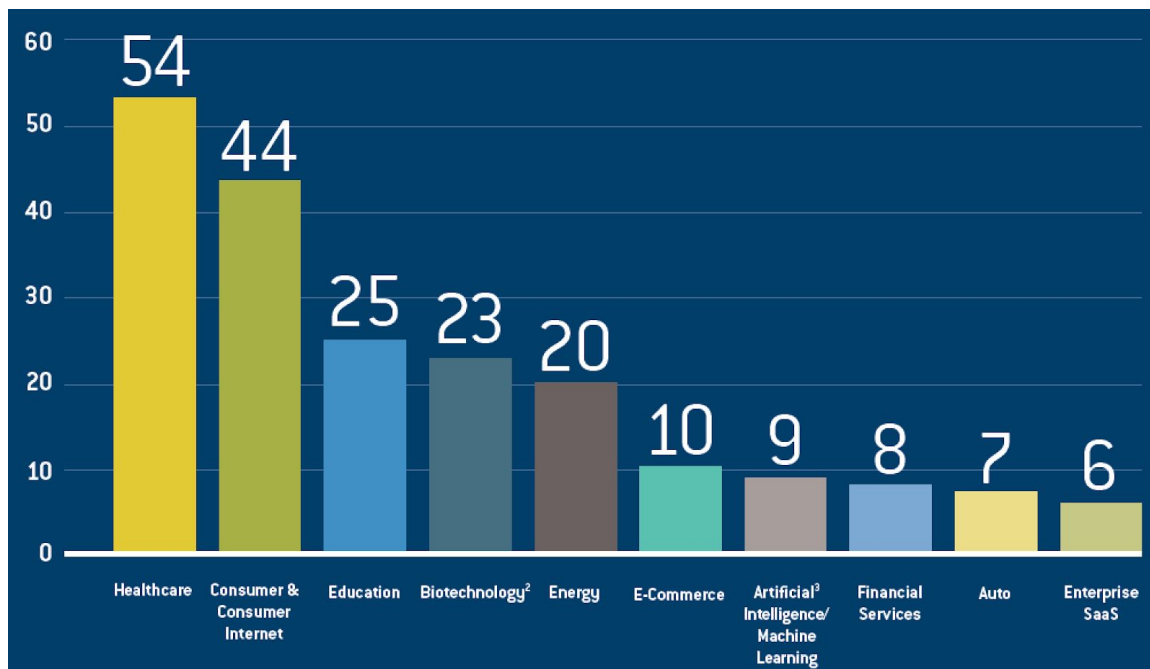
The UC Berkeley ecosystem also offers traditional sources of funding including focused incubators, accelerators, and venture capital funds (VC) all focused on startups linked to UC Berkeley. Incubator and accelerator programs like Citris Foundry, Cyclotron Road, Free Ventures, The House, Launch, StEP, SkyDeck, and QB3, support founders in the Berkeley community. Some of the VC funds actively engaged in scouting university startups include Arrow Capital, Dorm Room Fund, Contrary Capital, Bee Partners, and Pear Ventures.

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[15] https://begin.berkeley.edu/

In 2018, Startup@BerkeleyLaw published a report on "Startup and Venture Capital Trends at UC Berkeley"[16], indicating that from 2013 to 2017, 320 Berkeley startups that participated in the accelerator/incubator programs mentioned above raised $790M.



The most represented sectors by these startups span healthcare, consumer & consumer internet, education, biotech, energy, e-commerce, AI/ML, financial services, auto, and enterprise SaaS.



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[16] Startup and Venture Capital Trends at UC Berkeley. Startup@BerkeleyLaw, August 2018

Many of these startups go on to participate in external incubator programs such as Y Combinator, 500 Startups, First Round Capital, Founders Fund, Acorn Pacific Ventures, Bloomberg Beta, NFX Guild, Pear VC, Susa Ventures, and Andreessen Horowitz.

A Focus in DeepTech

Berkeley is organized into seven Research Centers and Institutes, which include Business/Law, Energy/Ecology/Climate, Engineering/Technology, Life Sciences/Health, Mathematics/Physical Sciences, Regional/Area Studies, and Social Sciences/Humanities. Many startups stemming out of Berkeley come from departments specializing in deep technologies such as energy, biotech, artificial intelligence, machine learning, and blockchain, which comprise the foundation of many startups in the UC Berkeley ecosystem.

From 2013 to 2017, Berkeley received 53 small business innovation research grants (SBIRs) totalling $27.5M. The funders of these SBIRs include the US Department of Commerce, Department of Defense, Department of Energy, Environmental Protection Agency, National Aeronautics and Space Administration, National Institute of Health, and the National Science Foundation. Although many of the startups accessing these funds do not pursue venture capital funding, these statistics demonstrate the university's leadership in spinning out startups out of research projects and labs.

# Investors and potential Limited Partners

Our project team gathered contact information of several different types of investors that traditionally represent the composition of limited partners (LPs) in venture capital funds. These types of investors were Family Offices, Investment Advisors, Angel Investors, and Venture Capitals, which all have different risk profiles and investment interests. Hence, understanding their practices, the clients they serve, and their interests, has been a crucial element in adapting our strategies for reaching out to them.

Family Offices

Our initial hypothesis was that Family Offices would be the best potential LP. Family offices are private wealth management firms for high-net-worth individuals. Many family offices offer an end-to-end solution to serve their clients from wealth transfer and charities to tax services and investing. These can be single or multi Family Offices:

- Single family offices can be considered as an outsourced Chief Investment Officer and are usually multigenerational.
- Multi family offices offer full service to their clients (families) as healthcare, travel and accounting.

From the interviewed Family Offices, the investors usually only invest in those industries or asset classes that they have strong knowledge of. The most common are Real Estate, Operating Businesses and Venture Capital or Private Equity to diversify from more traditional assets like public stock, bonds or real assets.

The investment professionals in Family Offices rarely do direct investments in startups and they basically do manager selections. Selecting a manager is establishing a relationship with a managing partner / investment manager at a firm. The sourcing comes especially from mouth-to-mouth and they analyze their past two or three funds track record of success. Once they select a manager, they usually make a follow-on investment every 2-3 years when they fundraise again, limiting the number of managers a family office has relationships with in each asset class. Family offices do some early stage (series A and B), but they mostly invest in growth, bouyout and distressed assets. In contrast, they rarely invest in micro or in very early-stage opportunities like seed or pre-seed funds.

Investment Advisor Firms

Investment Advisors are firms who advise high-net-worth individuals on investments and manage their portfolios. After knowing the financial goals of their clients, they usually make recommendations of funds in which the client can invest. As one of the investment advisors interviewed said, it's complicated to recommend a specific allocation in each asset class (e.g.

VC) so they simply find money makers for their clients. Then, they have to check that these managers don't overlap with the current portfolio of each client so that they have a well diversified portfolio. Again, the selection of managers is mostly mouth-to-mouth referrals from clients or other trusted managers.

After meeting investment advisors that specialize in alternative assets, we found that they are likely investors in VC firms once those have a track record and can be referred to them.

Angel Investors

There is a large range of Angel Investors in terms of sophistication and size of investments. We can summarize these types on the following matrix:

|  | Small investments | Large investments |
|---|---|---|
| Low sophistication | Usually professionals that are looking for an additional income / invest in friends & family | Usually wealthy individuals that have invest in industries that are not familiar with but are expected of high return |
| High sophistication | Management level professionals that are subject matter experts | Usually former entrepreneurs that understand the industry |

This type of investor does not necessarily look for a high return (in case they share a common background with the VC); but in most cases they are looking for a high return given the risk.

Venture Capital Firms

Venture Capital (VC) firms invest in private equity from startups and emerging companies with high growth potential. Managing Partners at VC firms manage the fund and make investment decisions. These funds are raised from investors - Limited Partners (LPs) - which can be high-net-worth individuals, endowments, pension funds, family offices, and other VC funds of funds that select fund managers instead of selecting companies to invest in directly.

For this experiment we didn't consider VC firms as potential firms but we considered partners at those firms as potential individual investors. In addition, creating a relationship with a VC that shared a common thesis could lead to a recommendation to their LPs.

# Experimental Design / Methodology

From January to May 2020 the authors worked with Blue Bear Ventures to reach out to potential LPs to invest in the second BBV fund. BBV is a venture capital fund focused on early stage companies in deep technology sectors including AI/ML, healthcare, and cleantech, and focused on companies spun out of university-based research. From BBV's first fund they invested in over $3MM in nearly 20 companies at the Seed and Series A stages. We sourced lists of several thousand potential LPs from Pitchbook and FamilyOfficeList.org, primarily consisting of single- and multi-family offices, accredited investors, and wealth managers who have invested in venture capital and/or startups in the past.

During the outreach, we developed an experiment for email outreach to family offices. We crafted 3 automated campaigns: Invest (asking for direct invest in fund), AI/ML (offering a webinar on AI/ML), and Student (asking as an MBA student for research assistance). After identifying 1193 family offices we scanned their descriptions for keywords that matched areas of BBV's investment (AI/ML, biotech/healthcare, software, and robotics). Of the 1151 family offices we identified, we held out 226 for the approach that yielded the best results. Of the remaining 925 we allocated them to each of the three approaches and sent emails from each of the authors' UC Berkeley student accounts.

The goal of all three outreach approaches was to move potential LPs through the sales funnel (below), escalating from email to phone call with the goal of securing an investment in BBV's fund. Quantitatively we tracked the number of LPs that went to each stage. Qualitatively, we leveraged our communications with LPs (email and phone call) to understand how family offices allocate assets and consider venture investments.

| Phase | Name | Description |
|-------|------|-------------|
| 1. | Attempt | Attempted initial email |
| 2. | Closed - Contact Info | Could not send email due to no or incorrect contact information |
| 3. | Lead | Email sent, less Closed - Contact Info |
| 4. | Email Engagement | Investor replied to email |
| 5. | Call/Pitch | Phone call with investor to introduce project and pitch investment opportunity with BBV |
| 6. | Negotiating | Discussing terms on BBV investment |
| 7. | Closed - Funded | Investor moved forward to invest in BBV |

Prior to this outreach experiment, we reached out to 530 LPs with only the Invest approach. However, after experiencing low engagement, we developed this multi-outreach method experiment. After the outreach experiment, we sent 547 additional Student approach emails, as it had the best engagement from the experiment. 226 of the LPs were from the holdout group, and 321 of the LPs were sent but did not engage with an Invest or AI/ML campaign from the experiment. While neither of these scenarios were a randomized experiment, we documented the LP interactions within our qualitative findings.

# Quantitative Findings

The experiment saw few LPs progress through the sales funnel. Of the 873 we successfully sent a lead email to, only 25 or 2.9% moved to the next step by replying, and as of now none have invested. The Student approach yielded the best outcomes, with 3.6% of lead emails replied to and all of the phone call pitches and negotiations from the outreach. The Invest approach appears to be the weakest, with the lowest email engagement and none of its outreach moving further.

Outreach Results (number of LPs)

|  | Student | AI/ML | Invest | Total |
|---|---|---|---|---|
| **Attempt** | 296 | 355 | 274 | 925 |
| **Closed - Contact Info** | 15 | 24 | 13 | 52 |
| **Lead** | 281 | 331 | 261 | 873 |
| **Email Engagement** | 10 | 10 | 5 | 25 |
| **Call/Pitch** | 4 | 0 | 0 | 4 |
| **Negotiating** | 1 | 0 | 0 | 1 |
| **Closed - Funded** | 0 | 0 | 0 | 0 |

Outreach Results (% of LPs receiving lead email)

|  | Student | AI/ML | Invest | Total |
|---|---|---|---|---|
| **Lead** | 100.0% | 100.0% | 100.0% | 100.0% |
| **Email Engagement** | 3.6% | 3.0% | 1.9% | 2.9% |
| **Call/Pitch** | 1.4% | 0.0% | 0.0% | 0.5% |
| **Negotiating** | 0.4% | 0.0% | 0.0% | 0.1% |
| **Closed - Funded** | 0.0% | 0.0% | 0.0% | 0.0% |

However, when comparing each approach to the overall experiment average, the Student approach did not produce statistically significantly better outcomes than average across all stages of the sales funnel. The three methods did not see statistically significantly different outcomes from average at the email engagement or negotiating (very small sample) stages. The call/pitch stage did show some statistical variation, with both the AI/ML and Invest approaches 0% throughput statistically lower than average at a $p=0.05$ level, while the Student approach's 1.4% throughput statistically higher than average at a $p<0.2$ level.

<u>Outreach Results Compared to Total (if outcomes are statistically different by stage)</u>[17]

|  | **Student** | **AI/ML** | **Invest** |
|---|---|---|---|
| **Lead** | N/A | N/A | N/A |
| **Email Engagement** | T-Score: 0.56 P-Value: 0.58 | T-Score: 0.14 P-Value: 0.89 | T-Score: -0.93 P-Value: 0.35 |
| **Call/Pitch** | T-Score: 1.3 P-Value: 0.19 | T-Score: -2.00 P-Value: 0.05 | T-Score: -2.00 P-Value: 0.05 |
| **Negotiating** | T-Score: 0.65 P-Value: 0.52 | T-Score: -1.00 P-Value: 0.32 | T-Score: -1.00 P-Value: 0.32 |
| **Closed - Funded** | N/A | N/A | N/A |

While none of the three approaches saw statistically significantly different performance at the email engagement stage, there is preliminary evidence suggesting the Invest approach yields worse engagement from initial outreach. The Invest approach performs worse than Student at a p<0.25 level and worse than AI/ML at a p<0.4 level. While neither is at a significance level typical for financial analysis, it may meet the threshold for VCs and startups raising capital.

<u>Outreach Comparison at Email Engagement Stage (if outcomes are statistically different)</u>

|  | **Student** | **AI/ML** | **Invest** |
|---|---|---|---|
| **Student** | - | T-Score: 0.37 P-Value: 0.71 | T-Score: 1.18 P-Value: 0.24 |
| **AI/ML** | - | - | T-Score: 0.87 P-Value: 0.38 |

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[17] Note: p-values from two-sided test

# Qualitative Findings

Through interviews with family offices, we sought to understand how investors make asset allocations and manage investment selection decisions to determine if startups fit their investment criteria. Not surprisingly, we quickly learned that venture capital investments are not a good fit for the majority of family office investments. The majority of family office investments go towards public markets, due to lack of awareness and the added risk of venture investments. Of the investors that do target startups, only a small portion of the total managed funds go towards these investments. Feedback from the family offices we talked to indicated that regular family funds are looking to preserve wealth, thus only the highest net worth individuals can afford venture capital investments. For investments that pursue venture capital opportunities, the focus is primarily around later stage rounds (e.g., C and D) or in startups that are profitable, overlapping with early-stage private equity investment territory.

An important learning from our interviews was that family funds that pursue VC opportunities primarily invest in name-brand funds due to lack of knowledge in the startup space. When deciding where to invest, LPs value relationships and familiarity with the fund manager. Through our interviews, we found that LPs primarily are looking to invest with a fund manager or startup founder with whom they have a long standing relationship. Not surprisingly, we also found that LPs that are Berkeley alumni or affiliated with the Berkeley network were more likely to respond to our outreach efforts and consequently resulted in a higher conversion from email outreach to phone calls.

We investigated the most common industry verticals which family offices are interested in. LPs were more willing to invest in industries that they have more familiarity with (e.g., an ex pharma CEO is more willing to invest in a healthcare startup). Fintech was amongst the verticals with the highest interest from investors without knowledge in the sector. Many LPs were also cautious of investing in some sectors, such as cleantech, due to bad experiences in earlier investment cycles, and others were skeptical about trends such as artificial intelligence and machine learning due to the overuse of related buzzwords in today's startup ecosystem.

While some investors follow general investment trends, others are willing to invest in startups / VC funds that attempt to tackle issues that they are passionate about (e.g., climate change or gene therapy) and do not prioritize returns. But as mentioned before, close relationships or shared backgrounds (e.g., university network or social club) with startups or funds is still the dominant factor in influencing the investor's decision to invest.

# Further Research Suggestions

We propose three potential areas to further this research.

<u>Expand Industry Verticals</u>
We leveraged the industry verticals of artificial intelligence and machine learning, healthcare, and cleantech when reaching out to family offices. In a future experiment we could expand the number of industry verticals used in the outreach to include both these university-based research sectors and more heavily invested ones such as software, business services, and fintech[18]. By comparing the responsiveness to sectors associated with university-based research and those that are not, we can build on our qualitative findings and better measure differences in LP's willingness to invest across sectors.

<u>Expand Target LPs</u>
This experiment focused on family offices as LPs. Another future experiment could expand the potential LPs to include other institutional investors, such as pension funds and endowments, and individual accredited investors. We would be able to measure these other investor classes' willingness to invest in startups based on university research and expand our qualitative understanding of their investment criteria.

<u>COVID-19 Impacts</u>
Our research was primarily conducted in the early stages of the pandemic. The impacts the pandemic will have on investors and startups will not be fully understood for several years. As universities like UC Berkeley lead research efforts to combat COVID-19, there may be increased willingness from family offices to invest in companies spun out of university-based healthcare research. A follow-up experiment in the future could allow us to measure if this space becomes more appealing to family offices and qualitatively assess how much is driven by expected financial returns or potential societal impact.

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[18] https://graphics.wsj.com/venture-capital-deals/

# Conclusions

This paper aimed to understand how investors allocate their capital and how they make their investment decisions. The hypothesis that we were trying to prove was that Family Offices are willing to allocate a portion of their capital on investments that tackle relevant problems of the world, such as climate change or gene therapies to cure diseases, assuming that only a good investment track record and credentials were enough proof for the VC choosing these investments.

Primary research, such as contacting prospective investors to understand their needs and offering them an investment opportunity, yielded unexpected results. First, the reach out to the investors proved to be much more difficult than expected, having a very low response rate regardless of the approach used. Second, once we engaged in conversations with the prospective investors, the high return typically associated with VC investments turned out to be less important than initially expected. Finally, although we did validate that many investors are seeking altruistic investment destinations, they are willing to invest only in funds that they already have an existing relationship with.

It is important to acknowledge that these results were highly influenced by three important factors. First, our research happened during the break of the COVID-19 pandemic and the major stock market crash, therefore it is possible that during a strong market and stable economy, investors are willing to place less weight on the relationship they have with the fund and rely more on the credentials. Second, we focused our research on a fund that invests in verticals such as AI, genetics and energy, under the hypothesis that it would seem appealing to investors given the altruistic applications of those and we found out that many investors feel more comfortable with investments on less complex industries such as fintech or foodtech.

Given our findings, we have identified a big market inefficiency in the research based startups that come out of university labs. There is an information asymmetry between investors, funds, and startup founders, which highly hampers the opportunity of efficient capital allocation in the ecosystem of startups that spin out of PhD and postdoc programs, and labs from universities.

In conclusion, we suggest that for research based startups and funds to better connect with potential investors, they should build their reputation by developing a voice in their subject matter. Additionally, they should try to leverage their existing networks (e.g., university, social circle) to access funding opportunities and build new relationships through warm introductions, rather than cold outreach.

# Appendix

Invest Approach Email

Subject: Investments in Frontier Tech

Dear [name] Investment Team,

I hope all is going well with your investment portfolio. I am reaching out to chat about Blue Bear Ventures (BBV).

BBV is a VC fund focused on top-talent startups based on research from University of California, Stanford, Harvard and MIT. We invest in founders working on the frontiers of science and technology with the ambition to solve the most pressing challenges the world faces today.

Do you have any time to connect? It would be great to tell you more about BBV's thesis to see how we could invest together in companies such as Synkrino Biotherapeutics (https://angel.co/i/uNrFy).

Best,
[Author]

AI/ML Approach Email
Subject: How AI is disrupting biotech and genetics

Dear [name] Investment Team,

I am reaching out to you to inquire if you would be interested in getting one to one detail in how AI and Machine Learning are disrupting industries like Biotech and Genetics.

Our experts Deepak Gupta and Patrick Scaglia, PhDs and partners of BBV (a VC fund focused on Frontier Tech) are organizing a knowledge base to share their perspectives on AI and Machine Learning, such as our current portfolio company that is disrupting the pharma space, described on this Wall Street Journal article: wsj.com/articles/startup-aims-to-unlock-drug-discovery-with-machine-learning-11568823688.

Let me know if you would like to know more.

Best,




Student Approach Email
Subject: MBA student research

Dear [name] Investment Team,

I hope you are doing well. I am currently pursuing my MBA at UC Berkeley-Haas and working on a research project about how investors (either Family Offices, Wealth Management funds or Angels), make asset allocation decisions and source new investment opportunities.

Given your work at [company name] I would love to gain your perspective on this matter. Please let me know if you are available to have a call sometime this or next week..

Best,
[Author]

# Sources

*Background:*

- https://techtransfercentral.com/2007/12/05/ucla-spin-out-nets-537-million-in-acquisition/
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