Beyond the Pitch: Role of Founders' Characteristics in Startup Funding

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While investigating founders' characteristics important for startups' funding and analyzing more than 1900 funded US startups with the help of CrunchBase dataset spanning 2017-2022, I find that companies with diverse founders enjoy less funding. It happens because the venture capital industry is dominated by less diverse investors who bring down the total funding volume for such new ventures. I show that a degree from a technical university can help founders raise funding for their respective startups because venture capitalists prefer to see someone with technical background at the helm of a new business considering that three out of five top industries for startups are technical. Interestingly, graduating from top schools such as Ivy League universities does not substantially help founders achieve the same goal of increased funding. COVID-19 pandemic can make funding even harder for startups with diverse founders, while enacting laws such as SB826 in California demanding to have at least one female representative on the board of directors can, on the other hand, improve the situation.

Keywords: startups, entrepreneurs, education, diversity, gender, COVID-19, tech

INTRODUCTION

According to research by PitchBook, in 2008, only 3.8% of startups were founded solely by female entrepreneurs in the US. In 2022, the situation has improved and 7.2% of new ventures were founded by women. On the other hand, funding for female-led startups didn't change much during all those years; they had just 1.8% of all VC capital in 2008, and in 2022 it went up just by 0.1% to 1.9%. While working at one of the largest accelerators for startups in Houston, Texas, I also first handily observed very similar picture of female-founded startups underfunding.

At the same time, Hatch and Stephen (2015) show that women, more often than men create startups that benefit society. Bridging the gap between female-led startups' impact and funding, I investigate what factors are important for entrepreneurs to secure more financial capital. Could it be internal founders' characteristics such as gender, education, or some external events like COVID-19 or the enaction of a special diversity law that have an important impact on startups' funding?

This paper utilizes a comprehensive dataset and investigates more than 1900 funded startups. I obtain information from CrunchBase from 2017 to 2022 and focused only on privately held startups to understand what founders' characteristics are important for startups' funding. The paper proceeds as follows: I start with a literature review section that helps to outline hypotheses, then I discuss data utilized in the paper and the main results uncovered through regression analysis. Explanation of received results follows with additional investigation of external events that may alter findings depending on the period. Finally, I run a battery of robustness tests and conclude with the main takeaways for entrepreneurs and policymakers.

LITERATURE REVIEW AND HYPOTHESES

Startups founded by female entrepreneurs are among the fastest-growing businesses around the world, according to Brush et al. (2009); that's why it's especially important to understand how founders' diversity in general, as well as gender and education in particular, influences funding opportunities of such new entities.

There is a lot of prior research on determinants of entrepreneurial success and entrepreneurs' characteristics importance but most of it is focused on developing countries. For example, Schröder et al. (2021) investigate such determinants in Taiwan, lots of research has also been done on Indian market (Pattanayak and Kakati, 2023). On the other hand, I concentrate on the US-based startups and consider only the most recent funding outcomes, including those that happened during the COVID-19 pandemic.

Gender importance for startups' access to debt capital has already been investigated (Coleman, 2000), but much less is known about equity financing and founders' diversity impact on it, the gap that I bridge with my research.

Mainstream literature points to poor outcomes of many female-led startups due to the lack of previous professional experience of the founders (Fairlie and Robb, 2009) and limited connections to those who can provide financing (Autio et al., 1997). Harris and Jenkins (2006) also mention that the root of the poor profitability of startups founded by women could be in the overall lower risk-taking profile of female entrepreneurs that might in return influence ability to fund their startups initially. Moreover, before, it was also found that women-owned firms tend to be mostly concentrated in the retail and services sectors as such not need a lot of capital, according to Carter et al. (2001). Still, it wasn't shown whether or not that trend has been reversed, taking into account the high-tech nature of many startups nowadays.

Overall, fewer than 1 in 10,000 new businesses in the US receive VC funding (GEM, 2004), so being backed by VC is by itself a very difficult task. Moreover, Kolb and Williams (2003) show that women still face a lot of additional difficulties during negotiations with VCs related to gender-related biases. Nelson et al. (2009) also find that female founders need to make a lot more effort before their negotiations with VCs can even begin, otherwise, it could be hard for them to even present their ideas in the first place.

On the other hand, there is a new stream of literature that argues that female entrepreneurs are still successful but have different goals compared to their male colleagues, mainly concentrating on community welfare and outreach with the help of their new businesses (Justo et al., 2015). In the recent wake of ESG financing, businesses with such qualities are in greater demand and could attract additional funding opportunities. To further confirm this, it was found that women-led startups, compared to those founded by men, tend to create more value for society, according to Hatch and Stephen (2015).

Moreover, diversity in a team of founders can lead to better ideas and a wide range of opinions and attract investors that otherwise will not be interested in new business investments (Vanaelst et al., 2006). Female entrepreneurs are also known for bringing a new outlook at the old problems and innovative solutions which are very important, especially for new ventures.

Based on the mixed findings in the previous literature, the following hypothesis is investigated:

Hypothesis 1: *Companies that have at least one female founder attract less/more funding from investors*

Martin et al. (2013) underline that performance, including that of startups, is connected with the skills and knowledge of the individuals who founded them. Kauffman Fellows Research Center, while analyzing startups, finds the importance of a graduate degree for founders but does not distinguish between degrees in terms of it being technical, business, or something else completely, the gap that I plan to bridge is concentrating mainly on technical versus business degree importance for ventures' funding.

Regarding the second question of this paper concerning founders' education and its potential impact on funding opportunities for their respective startups, the literature also suggests two different opinions. First, it's considered that founders who graduated from technical universities might lack business acumen, which is crucial for startups' success (Muscio et al., 2022). Moreover, more introverted people tend to attend technical schools, meaning it might be harder for them to connect with potential investors and pitch their

ideas. I also witnessed that during my work in accelerator for startups in Houston. It's also confirmed by research conducted by the coaching company ActionCOACH mentions that successful entrepreneurs should be socially outgoing.

On the other hand, taking into account the fact that three out of five top industries for startups nowadays are one way or another connected with tech and more startups are emerging in this field than ever before (Subrahmanya, 2022), founders' ability to speak technical language and conduct in-depth discussions with potential investors could be a big plus and can lead to better funding outcomes. That's why the second hypothesis is as follows:

Hypothesis 2: *Founders with technical degree will lead their respective startups to worse/better funding.*

DATA

I analyze more than 1900 funded US startups founded between 2017 and 2022, including the COVID-19 pandemic period that is important for this paper.

As mentioned by Aidis (2017) there are many different entrepreneurial datasets, but it's still relatively hard to find needed information due to startups' private nature. I obtain data from a subscription version of CrunchBase – the leading analytics provider about new ventures. It's updated daily as one of their main clients is sales professionals who need all available information about startups, including even such details as the current phone number and email address of founders. Compared to other datasets found on the internet, I trust the accuracy of those professionally collected data. Still, there are some difficulties analyzing them as CrunchBase allows downloading only 1000 rows of data at a time so I utilize different merging techniques to come up with the whole dataset needed for analysis.

First, I will provide some statistics about the best states and industries for entrepreneurs in the US. Graph 1 shows the allocation of startups across the states, with California leading the nation and enjoying 39.37% of all funded startups during 6 years, New York is on second place with 17.56%, Massachusetts is the third with 5.53% while Texas and Florida are on the 4th and 5th spots with 4.57% and 3.40% respectively. Cumulatively those 5 states represent 70% of all funded startups in the US during the years of 2017-2022.

Graph 2 shows the most popular industries among newly created and funded startups: artificial intelligence, health care, analytics, biotechnology, and e-commerce. All of them require technical knowledge, making investigating the founders' educational background even more important. Those five industries represent around 30% of all startups funded in the US during 2017-2022.

I utilize the following main dependent variables: logarithmic transformation of total dollar funding amount and equity and debt financing separately. In terms of main independent variables, I include the following three: founders' diversity combining both race and gender (*Diversity*) as well as race and gender separately to understand which characteristic plays the most important role in funding. For all of them I utilize binary variables with "1" being assigned for diverse entrepreneurs, female founders, and those who do not identify as white in terms of race. To account for the educational background of founders, I use binary variable *tech* to indicate the type of school they attended – "1" being assigned for those who graduated from any technical university.

The following controls from previous literature have also been utilized to make sure that diversity and education effects are pure and do not pick up effects from other variables previously proved to be impacting startups' funding:
- Age of the startup as I anticipate that more experienced startups can secure more funding due to better products and connections with VCs (*age*);
- The number of funding rounds as total funding is increasing with each additional round (*NumberofFundingRounds*);
- Number of investors as investors' syndicates have more funding power (*NumberofInvestors*);
- Number of founders because their increased combined expertise can bring more capital for startups (*NumberofFounders*);

- S&P 500 index performance as to control for overall economic health in the current period (*sp500*).

Considering all the above, the regression equation (1) is outlined in the following way:

$$TotalFunding = \beta 0 + \beta 1 * Diversity + \beta 2 * Tech + \beta 3 * Controls + \varepsilon \qquad (1)$$

I utilize different modifications of regression (1) including without fixed effects as well as only with year fixed effects and another with year and industry fixed effects.

RESULTS

Table 1 shows summary statistics with a number of founders in a sample of startups utilized in this paper ranging from 1 to 5 while the number of investors fluctuates from 1 to 34. That confirms the importance of a collaborative effort from the investors' side to fund startups.

Tables 2-4 include the main dependent variable of total funding (*logfund*) and three different independent variables of interest ranging from founders' diversity as a whole to their respective race and gender investigated separately. A negative connection between all three independent variables and total funding has been found but with different magnitude and significance. When including both industry and year-fixed effects, founders' diversity as a whole leads to 53.28% less funding compared to startups that are not diverse while using specification (3) from Table 2. The gender of the founder also has a negative impact on funding with -50.07% in specification (3) from Table 3 while variable *race* is less significant but still leads to a 28.16% decrease in funding overall while using specification (3) from Table 4. I find similar results while utilizing *logequity* and *logdebt* instead of *logfund* as main dependent variable showing that founders' diversity harms all types of funding.

I also investigate whether a founder's prior education can help secure more funding for a startup. Founders who graduated from technical universities enjoy higher funding compared to entrepreneurs with other educational backgrounds, though the effect is less pronounced compared to previously analyzed diversity characteristic. Table 5 shows that startups founded by people with technical degrees can enjoy up to 42.22% more equity funding compared to those who do not have technical education, as shown by variable *tech* significance at 5% level in the specification (2). On the other hand, graduating from an Ivy League school doesn't give founders such an advantage as the coefficient of *ivy-league* is insignificant. This finding is especially important because 85% of startups utilize equity financing as their main financial resource. Debt financing, on the other hand, is much riskier for a startup and comes with the possibility of going bankrupt if not paying off the loan on time.

After obtaining those results, I show why startups with diverse founders receive less funding and why the technical education of founders can mitigate that adverse effect.

There are a lot of potential explanations in the literature. First, in addition to startups' overall potential, VC firms have recently started to pay a lot of attention to the reputational effects of their portfolios. However, the possibility that female entrepreneurs tend to start less ethical businesses seems implausible. According to Hatch and Stephen (2015), women more often than men create organizations that benefit the whole society, not just to founders or employees. Another potential explanation is that families don't often support females to pursue a career in business in the first place, according to Jayawarna et al. (2014). Results suggest that start-up business is more suitable for those who demonstrated higher analytical abilities in childhood. It seems that families rarely support the analytical development of girls, paying more attention to this factor in boys' education.

Moreover, the problem might also be in the school system as women have been traditionally underrepresented compared to men in science, technology, engineering, and mathematics (STEM). That could be why females are also underrepresented in tech start-ups, as someone couldn't simply become an entrepreneur without a proper educational background. Finally, according to Van de Ven et al. (1984), start-up success is correlated with certain characteristics of the founders, including the ability to control the company. It could be that female founders lack this important component and, as such, be worse managers

in their companies compared to male counterparts. Still, I can't find enough evidence that any of the above could be an explanation for female-led startups' underfunding in my sample.

The most plausible reason is that there are not many women working in VCs, which usually supply startups with funding. Research by CrunchBase indicates that only 7% of partners of the top 100 VC firms are females. Nelson et al. (2009) also find that the participation of females in the venture capital (VC) industry remained dramatically low even after the unprecedented growth years of early 2000s. It's in line with the fact that venture capital firms usually consist of less than 10 people and are male-dominated, per Brush et al. (2004). Due to a very narrow focus of VC firms and their small size, even for qualified females, it's a very hard task to begin working for a VC firm.

Surprisingly, Table 6 shows that startups funded by diverse and large investors (top accelerators) receive even less funding (-64.86%) if their founders are diverse. The Coefficient of diversity variable becomes more pronounced and highly significant, implying that diverse founders have an even more negative impact on startups' funding than when the lead investor is not diverse. But if I consider the fact that total funding (*logfund*) rarely comes only from one VC, such a result makes perfect sense. For example, as most VCs are male-led, they can negatively perceive the tendency of women-led VCs to finance female-led startups and as such, decrease valuation and funding, bringing the total volume of funds available for such a startup down.

Table 7 answers the question of why technical education helps startups' founders to secure more funding. When comparing the coefficient of *tech* in Table 6 and Table 7, it's evident that significant and positive impact is found only when startups are funded by non-diverse VCs. In other words, I find that male investors are much more demanding in terms of technical knowledge from startups' founders compared to female investors.

MODERATORS AND ROBUSTNESS

In this section, I investigate how external events such as the COVID-19 pandemic and the enaction of Californian law SB826 in 2020/2021 impacted funding opportunities for startups, especially those with diverse founders.

I find that for diverse startups founded during the COVID-19 period of 2020-2022 it's even harder to receive funding compared to those founded during the normal time period. Table 8 shows that during COVID-19, startups founded by females received 9.49% less funding compared to startups founded during the period of 2017-2019. It means those startups lack financial resources even more when they especially need them.

Californian law SB826, stating that public companies in that state need to have at least one female representative on their board of directors by the end of 2019 has an important implication through a spillover effect for privately held startups. Table 9 shows that the negative effect of founders' diversity on funding was mitigated for private companies until the law was ruled unconstitutional in 2022. During the years 2020 and 2021, when the law was enacted, there was no negative impact of the founders' gender on funding, which reached as much as -45.61% in terms of underfunding during the period before the law was in effect in 2017-2019 as well as after 2022.

After uncovering the moderating effect of external events, I also conducted the following robustness tests to show that results found before hold across different settings. Endogeneity due to reverse causality is of lesser concern in this paper as there is usually a big time gap between the founding date and actual funding round. So, I don't anticipate that lack of funding opportunities somehow can influence diverse founders not to start their businesses altogether. Regarding omission bias, in all regressions, I also control for industry and year-fixed effects that should mitigate those concerns.

For the first robustness test, I exclude top-5 states and top-5 industries from the sample to show that the negative impact of founders' diversity is not driven only by them. Table 10 shows that *gender* independent variable is still significant at 0.1% level and hurts total startups' funding. With industry and year-fixed effects included into consideration female-led startups enjoy 57.64% less in funding compared to startups with male founders. Table 11 shows a negative association between the gender of the founder and the

startups' funding. Depending on the specification being with or without fixed effect, the magnitude of this impact varies from -52.39%. to -52.71%.

Next, in Table 12, I also utilize another proxy for founders' diversity: the ratio of female founders to total number of founders of a startup instead of a binary variable for gender utilized before. Results still hold with the *proportionfem* variable being highly significant at 0.1% level and showing that a one standard deviation increase in the ratio of female co-founders of a startup can negatively affect startups' funding as large as 26.26%.

CONCLUSION

I find a negative impact of founders' diversity on the startups' funding opportunities. This effect still holds if I utilize equity or debt financing as the main dependent variable of interest instead of total funding. This negative connection stems mostly from the fact that diverse VCs tend to finance diverse startups, which sends a negative signal for the rest of VCs, making the whole funding volume less than it could otherwise be.

I also find that the technical education of founders plays an essential role in funding success, even more than Ivy League school degrees, for that matter, especially in funding through equity financing. It could be explained by the fact that male-dominating VCs prefer to see startup founders as someone with technical skills.

Moreover, I uncover that during COVID-19 pandemic startups with diverse founders see even worse results in terms of funding meaning that it was harder for them to secure financing during those unprecedented times. I also find that the law SB826 requiring public companies in California to have at least one female representative on the board of directors has a positive spillover effect on private startups, decreasing the negative impact of founders' diversity on funding.

Those findings are confirmed during the series of robustness tests, including using another proxy of diversity, being the female founders' ratio to the total number of startup founders as well as excluding top-5 states and top-5 industries from consideration to show that found effects are widespread and not driven just by the handful of states or industries.

This paper sheds light on the important topic of systematic underfunding experienced by startups with diverse founders and uncovering the reasons behind such findings. It also increases awareness of STEM education's importance for founders who would like to be successful in the current high-tech environment. Finally, it underlines the importance of laws that can increase diversity among founders and help secure more funding.
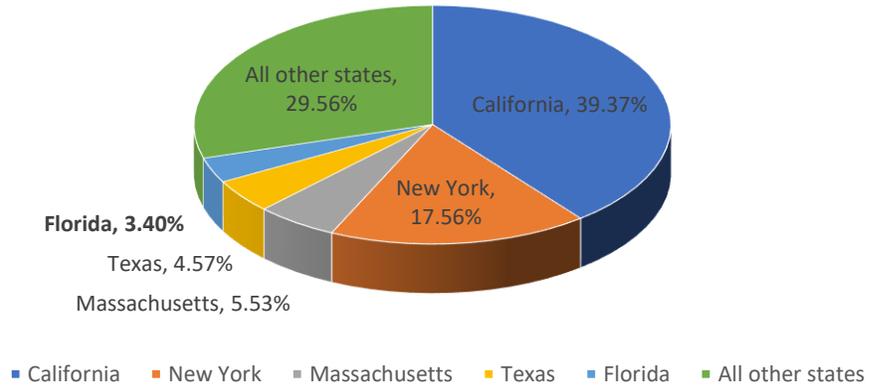
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FIGURE 1
STARTUPS' ALLOCATION BY INDUSTRY

TOP 5 states (70%)

- California
- New York
- Massachusetts
- Texas
- Florida
- All other states

California, 39.37%
New York, 17.56%
All other states, 29.56%
Florida, 3.40%
Texas, 4.57%
Massachusetts, 5.53%

FIGURE 2
STARTUPS' ALLOCATION BY STATE

TOP 5 industries (30%)

E-Commerce, 3.84%
Biotechnology, 4.06%
Analytics, 4.97%
Artificial Intelligence, 9.71%
Health Care, 6.47%

- Artificial Intelligence
- Health Care
- Analytics
- Biotechnology
- E-Commerce
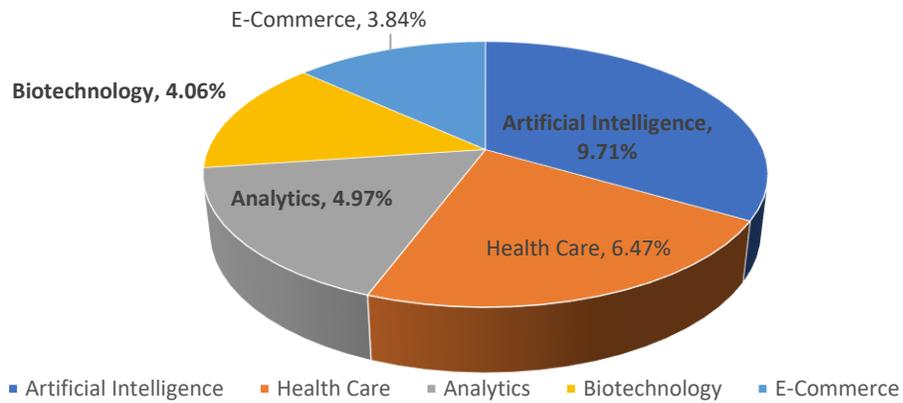
TABLE 1
SUMMARY STATISTICS

Variable	Obs	Mean	Std. dev.	Min	Max
logfund	2,324	15.05984	2.130693	9.925493	19.84379
logequity	2,212	15.12883	2.083822	10.12663	19.84379
logdebt	268	13.53608	2.342348	8.294049	19.66282
age	2,720	3.171691	1.425716	0	5
NumberofFundingRounds	2,720	2.540809	1.659445	1	8
NumberofInvestors	2,312	6.352941	6.32175	1	34
NumberofFounders	2,720	2.016176	.9629564	1	5
sp500	2,720	17.10079	14.31654	-18.11	31.49

TABLE 2
REGRESSION WITH LOGFUND AS MAIN DEPENDENT VARIABLE AND FOUNDERS' DIVERSITY AS MAIN INDEPENDENT VARIABLE

	(1) logfund	(2) logfund	(3) logfund
age	0.0400	0.0104	0.0091
	(0.029)	(0.034)	(0.034)
tech	0.2901	0.3115*	0.2298
	(0.157)	(0.158)	(0.158)
NumberofFundingRounds	0.2720***	0.2706***	0.2406***
	(0.027)	(0.027)	(0.027)
NumberofInvestors	0.1402***	0.1399***	0.1443***
	(0.007)	(0.007)	(0.007)
NumberofFounders	0.2058***	0.2100***	0.1943***
	(0.040)	(0.040)	(0.041)
sp500	0.0069**	0.0154**	0.0136**
	(0.003)	(0.005)	(0.005)
diversity	-0.6891***	-0.7056***	-0.7610***
	(0.090)	(0.091)	(0.092)
_cons	13.0002***	12.8405***	12.9780***
	(0.134)	(0.157)	(0.159)
N	1973	1973	1973
R^2	0.359	0.362	0.357
Year FE	No	Yes	Yes
Industry FE	No	No	Yes

Standard errors in parentheses
$^{*} p < 0.05$, $^{**} p < 0.01$, $^{***} p < 0.001$

TABLE 3
REGRESSION WITH LOGFUND AS MAIN DEPENDENT VARIABLE AND FOUNDERS'
GENDER AS MAIN INDEPENDENT VARIABLE

	(1) logfund	(2) logfund	(3) logfund
age	0.0234	0.0004	-0.0013
	(0.029)	(0.034)	(0.034)
tech	0.2611	0.2792	0.1953
	(0.158)	(0.158)	(0.159)
NumberofFundingRounds	0.2558***	0.2541***	0.2242***
	(0.027)	(0.027)	(0.027)
NumberofInvestors	0.1396***	0.1393***	0.1436***
	(0.007)	(0.007)	(0.007)
NumberofFounders	0.1704***	0.1737***	0.1580***
	(0.041)	(0.041)	(0.041)
sp500	0.0070**	0.0144**	0.0126*
	(0.003)	(0.005)	(0.005)
gender	-0.6701***	-0.6765***	-0.6946***
	(0.101)	(0.101)	(0.103)
_cons	13.1280***	12.9712***	13.1009***
	(0.136)	(0.159)	(0.161)
N	1973	1973	1973
R^2	0.355	0.357	0.350
Year FE	No	Yes	Yes
Industry FE	No	No	Yes

Standard errors in parentheses
$^{*}p < 0.05$, $^{**}p < 0.01$, $^{***}p < 0.001$

TABLE 4
**REGRESSION WITH LOGFUND AS MAIN DEPENDENT VARIABLE AND FOUNDERS'
RACE AS MAIN INDEPENDENT VARIABLE**

	(1) logfund	(2) logfund	(3) logfund
age	0.1175 (0.064)	0.1011 (0.081)	0.1444 (0.086)
tech	0.2627 (0.326)	0.2657 (0.326)	0.2028 (0.331)
NumberofFundingRounds	0.1286** (0.048)	0.1335** (0.048)	0.0955 (0.049)
NumberofInvestors	0.1673*** (0.014)	0.1662*** (0.014)	0.1756*** (0.014)
NumberofFounders	0.2977*** (0.080)	0.3057*** (0.080)	0.3001*** (0.082)
sp500	0.0044 (0.006)	0.0250 (0.025)	0.0358 (0.029)
race	-0.3617* (0.159)	-0.3794* (0.159)	-0.3308* (0.163)
_cons	12.3080*** (0.320)	11.8098*** (0.767)	11.4891*** (0.881)
N	485	485	485
R²	0.385	0.390	0.396
Year FE	No	Yes	Yes
Industry FE	No	No	Yes

Standard errors in parentheses
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

TABLE 5
IVY LEAGUE EDUCATION VS TECHNICAL EDUCATION IMPORTANCE WHEN LOGEQUITY IS USED AS MAIN DEPENDENT VARIABLE

	(1) Logequity		(2) Logequity	
	ivyleague	tech	ivyleague	tech
age	0.0772**	0.0751*	0.0475	0.0424
	(0.030)	(0.030)	(0.035)	(0.035)
tech	0.3047	0.3323*	0.3167	0.3522*
	(0.162)	(0.162)	(0.162)	(0.162)
NumberofFundingRounds	0.2075***	0.2058***	0.2075***	0.2058***
	(0.027)	(0.027)	(0.027)	(0.027)
NumberofInvestors	0.1379***	0.1394***	0.1374***	0.1390***
	(0.007)	(0.007)	(0.007)	(0.007)
NumberofFounders	0.1771***	0.1836***	0.1811***	0.1880***
	(0.042)	(0.041)	(0.042)	(0.041)
sp500	0.0062*	0.0061*	0.0152**	0.0154**
	(0.003)	(0.003)	(0.005)	(0.005)
diversity	-0.6455***	-0.6494***	-0.6596***	-0.6638***
	(0.093)	(0.093)	(0.093)	(0.093)
_cons	13.1738***	13.1626***	13.0277***	13.0228***
	(0.136)	(0.137)	(0.160)	(0.160)
N	1880	1880	1880	1880
R^2	0.334	0.334	0.336	0.336
Year FE	No	No	Yes	Yes
Industry FE	No	No	No	No

Standard errors in parentheses
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

TABLE 6
REGRESSION OF LOGFUND ON DIVERSITY WHEN ONLY DIVERSE VC INVESTORS LEAD THE FUNDING EFFORT HELPS TO EXPLAIN THE UNDERFUNDING OF DIVERSE FOUNDERS' STARTUPS

	(1) logfund	(2) logfund	(3) logfund
age	0.0818	0.0575	0.0807
	(0.055)	(0.064)	(0.067)
tech	0.0341	0.0436	0.0908
	(0.292)	(0.293)	(0.302)
NumberofFundingRounds	0.2082***	0.2010***	0.1791**
	(0.057)	(0.057)	(0.059)
NumberofInvestors	0.1775***	0.1778***	0.1837***
	(0.014)	(0.014)	(0.015)
NumberofFounders	0.2920***	0.2989***	0.2673**
	(0.083)	(0.084)	(0.089)
sp500	-0.0011	0.0008	-0.0032
	(0.005)	(0.007)	(0.008)
diversity	-0.9614***	-0.9617***	-1.0458***
	(0.165)	(0.165)	(0.173)
_cons	12.5768***	12.4998***	12.6222***
	(0.244)	(0.257)	(0.266)
N	515	515	515
R^2	0.438	0.441	0.435
Year FE	No	Yes	Yes
Industry FE	No	No	Yes

Standard errors in parentheses
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

TABLE 7
REGRESSION OF LOGFUND ON DIVERSITY WHEN ONLY NON-DIVERSE VC INVESTORS LEAD THE FUNDING EFFORT HELPS TO EXPLAIN THE IMPORTANCE OF FOUNDERS' TECHNICAL EDUCATION

	(1) logfund	(2) logfund	(3) logfund
age	0.0013	-0.0309	-0.0378
	(0.035)	(0.041)	(0.041)
tech	0.4049*	0.4199*	0.3182
	(0.185)	(0.185)	(0.186)
NumberofFundingRounds	0.2955***	0.2963***	0.2679***
	(0.030)	(0.030)	(0.031)
NumberofInvestors	0.1298***	0.1300***	0.1339***
	(0.007)	(0.007)	(0.008)
NumberofFounders	0.1946***	0.1966***	0.1837***
	(0.046)	(0.046)	(0.046)
sp500	0.0088**	0.0232**	0.0203**
	(0.003)	(0.007)	(0.007)
diversity	-0.5231***	-0.5386***	-0.5935***
	(0.108)	(0.108)	(0.110)
_cons	13.1665***	12.9129***	13.0857***
	(0.163)	(0.220)	(0.222)
N	1458	1458	1458
R^2	0.342	0.345	0.338
Year FE	No	Yes	Yes
Industry FE	No	No	Yes

Standard errors in parentheses
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

TABLE 8
COVID-19 AND PRE-COVID ANALYSIS TO UNCOVER DIFFERENCE BETWEEN FOUNDERS' GENDER IMPORTANCE FOR STARTUPS' FUNDING DURING THOSE TIMES

	(1)		(2)	
	Before	During	Before	During
age	-0.0783	0.0149	-0.0719	0.0225
	(0.060)	(0.115)	(0.061)	(0.117)
tech	0.2923	0.2412	0.2268	0.2078
	(0.195)	(0.272)	(0.198)	(0.275)
NumberofFundingRounds	0.2249***	0.3487***	0.1979***	0.2980***
	(0.031)	(0.058)	(0.031)	(0.059)
NumberofInvestors	0.1467***	0.1253***	0.1517***	0.1291***
	(0.008)	(0.011)	(0.008)	(0.011)
NumberofFounders	0.2122***	0.0930	0.2031***	0.0769
	(0.051)	(0.070)	(0.051)	(0.071)
sp500	0.0023	0.0140*	0.0012	0.0121*
	(0.003)	(0.006)	(0.003)	(0.006)
gender	-0.6281***	-0.7966***	-0.6399***	-0.8383***
	(0.124)	(0.177)	(0.127)	(0.179)
_cons	13.5827***	13.0679***	13.6543***	13.2143***
	(0.280)	(0.213)	(0.286)	(0.217)
N	1309	664	1309	664
R²	0.360	0.326	0.349	0.327
Year FE	No	No	Yes	Yes
Industry FE	No	No	Yes	Yes

Standard errors in parentheses
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

TABLE 9
IMPORTANCE OF CALIFORNIAN LAW SB826 DURING THE TIME PERIOD OF 2020/2021 WHEN IT WAS ENACTED AND OTHER TIMES SUCH AS 2017-2019 AND 2022 WHEN IT WAS NOT

	(1) Logfund		(2) Logfund		(3) Logfund	
	enacted	not	enacted	not	enacted	not
age		0.1450*	-0.1972	0.1036	-0.1194	0.1401*
		(0.059)	(0.220)	(0.065)	(0.247)	(0.067)
gender	-0.5754	-0.5702**	-0.5754	-0.5838**	-0.4234	-0.6090**
	(0.293)	(0.179)	(0.293)	(0.179)	(0.336)	(0.187)
tech	0.6475	0.2883	0.6475	0.3116	0.7118	0.3414
	(0.471)	(0.241)	(0.471)	(0.241)	(0.524)	(0.247)
NumberofFundingRounds	0.5495***	0.2738***	0.5495***	0.2727***	0.4962***	0.2278***
	(0.104)	(0.048)	(0.104)	(0.048)	(0.123)	(0.048)
NumberofInvestors	0.0805***	0.1193***	0.0805***	0.1190***	0.0883***	0.1317***
	(0.016)	(0.011)	(0.016)	(0.011)	(0.018)	(0.012)
NumberofFounders	0.1043	0.0864	0.1043	0.0928	0.0348	0.0933
	(0.113)	(0.072)	(0.113)	(0.072)	(0.126)	(0.074)
sp500	0.0191	0.0024		0.0107		0.0047
	(0.021)	(0.004)		(0.007)		(0.007)
_cons	12.9138***	13.2275***	13.6603***	13.1420***	13.7147***	13.1862***
	(0.574)	(0.257)	(0.453)	(0.262)	(0.494)	(0.271)
N	238	576	238	576	238	576
R^2	0.308	0.398	0.308	0.400	0.289	0.396

Standard errors in parentheses
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

TABLE 10
ROBUSTNESS

Delete top-5 states where the most startups are founded to confirm that connection between founders' gender and funding amount still holds.

	(1) logfund	(2) logfund	(3) logfund
age	0.0539	0.0730	0.0572
	(0.059)	(0.069)	(0.069)
tech	-0.0659	-0.0861	-0.2663
	(0.337)	(0.339)	(0.345)
NumberofFundingRounds	0.1881***	0.1870***	0.1833***
	(0.049)	(0.049)	(0.050)
NumberofInvestors	0.1868***	0.1876***	0.1850***
	(0.016)	(0.016)	(0.016)
NumberofFounders	0.1283	0.1240	0.1257
	(0.076)	(0.076)	(0.077)
sp500	0.0046	0.0054	0.0071
	(0.006)	(0.011)	(0.012)
gender	-0.9121***	-0.9239***	-0.8590***
	(0.197)	(0.198)	(0.203)
_cons	12.8195***	12.6567***	12.6910***
	(0.273)	(0.340)	(0.346)
N	557	557	557
R^2	0.321	0.322	0.317
Year FE	No	Yes	Yes
Industry FE	No	No	Yes

Standard errors in parentheses
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

TABLE 11
ROBUSTNESS

Delete top-5 industries in which the most startups are working to confirm that connection between founders' gender and funding amount still holds.

	(1) logfund	(2) logfund	(3) logfund
age	0.0253	-0.0032	-0.0020
	(0.036)	(0.043)	(0.044)
tech	-0.0088	0.0459	0.0047
	(0.217)	(0.218)	(0.220)
NumberofFundingRounds	0.3215***	0.3192***	0.2922***
	(0.031)	(0.031)	(0.032)
NumberofInvestors	0.0945***	0.0944***	0.0971***
	(0.006)	(0.006)	(0.007)
NumberofFounders	0.1820***	0.1848***	0.1661**
	(0.050)	(0.050)	(0.051)
sp500	0.0107**	0.0200**	0.0184**
	(0.003)	(0.006)	(0.007)
gender	-0.7425***	-0.7489***	-0.7421***
	(0.128)	(0.128)	(0.131)
_cons	13.0560***	12.8482***	12.9565***
	(0.170)	(0.199)	(0.204)
N	1401	1401	1401
R^2	0.324	0.327	0.316
Year FE	No	Yes	Yes
Industry FE	No	No	Yes

Standard errors in parentheses
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

TABLE 12
ROBUSTNESS

Utilize different proxy for founders' diversity being ratio of female founders to total number of founders in a startup (proportionfem)

	(1) logfund	(2) logfund	(3) logfund
age	0.0242	0.0024	0.0008
	(0.029)	(0.034)	(0.034)
tech	0.2551	0.2730	0.1910
	(0.158)	(0.158)	(0.159)
NumberofFundingRounds	0.2556***	0.2539***	0.2246***
	(0.027)	(0.027)	(0.027)
NumberofInvestors	0.1396***	0.1393***	0.1435***
	(0.007)	(0.007)	(0.007)
NumberofFounders	0.1291**	0.1319**	0.1169**
	(0.042)	(0.042)	(0.042)
sp500	0.0070**	0.0144**	0.0126*
	(0.003)	(0.005)	(0.005)
proportionfem	-1.0187***	-1.0276***	-1.0414***
	(0.143)	(0.143)	(0.145)
_cons	13.2124***	13.0510***	13.1774***
	(0.138)	(0.160)	(0.163)
N	1973	1973	1973
R^2	0.357	0.359	0.352
Year FE	No	Yes	Yes
Industry FE	No	No	Yes

Standard errors in parentheses
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$