Financing The Next VC-Backed Startup: The Role of Gender

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Abstract

Is there a gender gap in the serial founding of VC-backed startups? We address this question by introducing a new empirical design that exploits differences in future funding outcomes for men and women who co-founded the *same* startup. We document substantial gender gaps, both on average and following failure or success of the current startup. Following failure, our estimates imply that women are 22.5% less likely to found another VC-backed startup compared to their cofounders who are men. Among those who do found another VC-backed firm, women raise 24.6% less capital. We investigate potential demand- and supply-side drivers of the gap. We rule out lack of interest by women in founding new firms and we do not find evidence of gender differences in founder quality. In fact, the results of an outcome test show no gender difference in the success probabilities of subsequent startups, despite the large funding gap that we document. The gender gaps that we observe appear to be driven by unequal treatment by investors. Our analysis of potential supply-side channels reveals striking negative spillovers following investors' experiences with *other* women-founded startups, but no positive spillovers following success of women-founded portfolio firms.

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1. Introduction

We begin with two facts from the entrepreneurial finance literature. First, there is robust evidence linking serial entrepreneurship and startup success (e.g., Hsu, 2007; Gompers et al., 2010; Lafontaine and Shaw, 2016; Shaw and Sørensen, 2019). Second, women are underrepresented among venture capital (VC)-backed entrepreneurs and those who achieve success (e.g., Ewens and Townsend, 2020; Raina, 2020; Hebert, 2020). These observations raise important questions about whether entrepreneurial experience shapes future venture outcomes differently for men and women.[1] Valuable experience from a previous startup should increase the likelihood of a positive outcome in subsequent ventures. At the same time, if investors interpret past failure as a negative signal about an entrepreneur's ability, then the probability of receiving funding for a future startup might decrease with experience.

In this paper, we study the roles of gender and prior entrepreneurial outcomes in determining the ability of startup founders to start another VC-backed startup in the future. We introduce a new empirical design that compares future funding outcomes for men and women who are co-founders of the same startup, controlling for potential differences in the quality of businesses they found and their unobservable abilities as entrepreneurs. Our analysis reveals a large gender gap in VC-backed financing for the next startup. When we explore alternative mechanisms such as lower interest from women in launching a new startup, lower quality of women entrepreneurs, and investors' lack of familiarity with women entrepreneurs, the evidence points to unequal treatment of women founders by investors.

Our empirical design directly addresses a fundamental challenge in understanding gender gaps in entrepreneurial financing: accounting for unobserved differences in the abilities of men and women as entrepreneurs and the resulting qualities of their startups.[2] By using startup fixed effects, we compare funding outcomes between men and women co-founders of the same startup, ensuring that any identified gender gaps are not influenced by variations in the quality of the initial co-founded startup. This approach, akin to twin studies, goes beyond simply matching entrepreneurs on observable

[1] In their recent literature review, Ibáñez and Guerrero (2022) highlight the relative absence of scholarly attention to the role of gender in serial entrepreneurship.

[2] For example, startups led by men and women often differ in industry focus, with men more likely to start technology firms and women more represented in consumer products. See Ewens (2023) for a review of the literature.

characteristics. It provides a unique opportunity to control for the inherent network differences between men and women entrepreneurs, as well as potential differences in unobserved abilities across co-founder teams. Our empirical design is, to our knowledge, new to the entrepreneurial finance literature and helps to ensure that any results are not driven by unobservable differences in the businesses that men and women start.[3]

Starting with aggregate PitchBook data on VC-backed US startups, we find that 13.3% of founders are women. Hidden beneath the 13.3% figure is meaningful variation in gender balance across serial entrepreneurship, failure, and success outcomes. Women founders comprise 16% of first-time VC-backed entrepreneurs. However, the representation of women declines to only 9% among those entrepreneurs who have founded two VC-backed startups and further down to 4% among those who have founded three or more VC-backed startups. Women are not only underrepresented among VC-backed entrepreneurs but also among serial entrepreneurs.

Our main empirical analysis reveals substantial gender gaps in VC-backed financing for the next startup, both generally and after a startup succeeds or fails.[4] Relative to the men with whom they co-founded the current VC-backed startup, women are 28.1% less likely to be VC-backed for the next startup. When women do obtain VC funding for their next startup, they raise 53.3% less funding compared to their male co-founders. This result is surprising, especially assuming that investors' future funding decisions are based on founders' abilities, skills, and the experience gained from launching a previous startup.

Given the strong relationship between serial entrepreneurship and future success, we repeat the same exercise for the subsamples of founders who have experienced failure or success with the current startup since recent exits (due to success or failure) are times when entrepreneurs are especially likely to attempt to raise more capital.[5] Following the failure of the current startup, our estimates imply that women are 22.5% less likely to found

[3]Closest to our approach, Sorkin (2023) identifies pairs of high-tenure workers at the same firm to quantify racial disparities in workers' earnings.

[4]The literature suggests that the returns to entrepreneurship are low (Hamilton, 2000; Moskowitz and Vissing-Jørgensen, 2002), unless we consider the option to re-enter the workforce (Manso, 2016; Catherine, 2022). Amornsiripanitch et al. (2022) find that former VC-backed entrepreneurs re-entered the workforce without any penalty. However, Botelho et al. (2023) shows that women get lower-ranked positions than men upon reentry.

[5]Following the literature (e.g., Yimfor and Garfinkel (2023); Ewens and Farre-Mensa (2020); Bernstein et al. (2016); Hochberg et al. (2007)), we categorize a startup as a success if it went public via an IPO or was acquired by December 2023. Failure is a business closure without such an exit. In addition, closure is associated with (i) an inactive website, (ii) a founder who left the company, and (iii) a company that did not raise a new round following the exit of its founder.

another VC-backed startup compared to their co-founders who are men. Even following success, we find that women are 26.9% less likely to found another VC-backed startup compared to their co-founders who are men (i.e., a gap that is similar to what we observe following failure).

We examine potential drivers of the funding gap results, both on the founder demand side and on the investor supply side: (1) differences in founder preferences (i.e., founder demand and desire to start another VC-backed firm), (2) differences in quality across men and women, and (3) potential unequal treatment of women. Unequal treatment could be due to incorrect initial priors about women entrepreneurs or due to investor preferences. We conduct tests to disentangle these potential drivers.

We begin with the founder demand channel. One possible explanation for the finding that women are less likely to receive VC in a subsequent startup is because they have less interest in pursuing subsequent ventures more generally (VC-backed or not). This could be due to risk tolerance, family, or other considerations.[6] To test this hypothesis, we use founders' LinkedIn profiles to identify their newly-launched firms that are not necessarily VC-backed. We proceed in two steps. First, we test for gender differences in the likelihood of founding a subsequent firm. Second, within the sample of entrepreneurs who launch a new firm, we test for a gender gap in obtaining VC funding. Following both failure and success of the current VC-backed startup, women are indeed less likely to start a new business compared to their male co-founders. However, conditional on founding another business (based on the LinkedIn data), they are still 30% less likely to raise VC for the next firm following failure of the current startup and 18% less likely following success. Thus, the VC funding gap cannot be explained by men's and womens' propensities to start new businesses.

A second way to shed light on the possibility that women entrepreneurs have less interest in pursuing subsequent ventures is to examine the intensive margin of VC funding. If the gap is driven by womens' lack of interest in a subsequent VC-backed business, we would expect significant gender differences at the extensive margin only. At the intensive margin, it is reasonable to assume that both men and women entrepreneurs would seek a similar amount of capital. Conditional on raising VC funding for a new startup, we find economically significant disparities between men and women co-founders, particularly following startup failure. Women founders of VC-backed startups

[6]The perception of failure and access to finance are important considerations in the choice to enter or reenter entrepreneurship (e.g., Puri and Robinson, 2013; Hvide and Panos, 2014).

raise 53.3% less capital than men following failure. Following success, that gap is smaller but still meaningful, at 24.6 percent. The evidence from both of the demand-side tests as inconsistent with a founder-demand side explanation for the gender gaps.

Given that our findings are not driven by the founder-demand channel, we turn to potential supply-side explanations for funding gap in subsequent startups. Even within the stringent within-startup design, gender differences in ability could reflect investors' correct beliefs that women are worse entrepreneurs than men. If there are quality differences between men and women, we would expect suppliers of capital to respond accordingly.

We begin with an outcomes test comparing the exit outcomes of the subsequent startups that men and women launch (Becker, 1993; Hebert, 2020; Cook et al., 2022). We do not find any differences in the next startups' probability of a successful exit, despite the fact that women raise less money for the next startup compared to men.

We then exploit a plausibly exogenous driver of startup success and failure: the supply of capital from local pension funds. State pension funds are among the most important limited partners in the venture capital industry. Moreover, they exhibit local biases in their venture capital portfolios (Hochberg and Rauh, 2013; González-Uribe, 2020), which arguably can influence the success or failure of local startups that benefit from more available capital.[7] We use favorable supply of capital conditions to help identify failures of firms that are likely to be of particularly low quality (Ljungqvist and Wilhelm Jr, 2003; Janeway et al., 2021). The idea is that the penalty to poor quality founders of failed startups should be particularly severe when they fail following abundant capital supply conditions. If startups founded by women are systematically of worse quality than those of men, we would observe a larger gender gap among founders who failed following periods of robust capital supply. Conversely, we can examine successes. If the (assumed) lower-quality startups founded by women succeed because of abundant capital, we would expect the market to correct this when successful women founders raise VC for the next startup. We fail to find empirical support for either of these hypotheses. The evidence is inconsistent with the idea that women founders who fail or succeed following periods of strong capital supply are of worse quality compared to the men exposed to the same favorable conditions. Since quality differences are not driving the gender gaps, we turn to investor bias or stereotyping as potential mechanisms.

[7] In first stage regressions, we confirm that the local supply of capital proxied by the natural log of the four-year average pension fund assets in the state in which the startup is located is positively related to follow-on rounds, successful exits, and negatively related to failures.

Current investors are a useful starting point for investigating potential supply-side drivers that are not due to founder quality. However, the data reveal that these investors are not the primary source of funding for subsequent ventures, with only 1% of investors backing the same founders following failure and only 4% following success.[8] Moreover, for investors who continue to back the same founders after failure events, we do not find evidence of a gender gap in new startup funding. Thus, serial entrepreneurs rely mainly on new VC investors for their subsequent startups and the gender gaps that we observe following failure are driven primarily by new outside investors.

Because new investors are the main source of capital for subsequent startups, we turn to the possibility that unequal funding from this group stems from bias or stereotyping. To do so, we exploit our dynamic setting. The fact that we observe VC investors' investment portfolios over time provides a useful lens for evaluating the source of the funding gaps. Bohren et al. (2019) demonstrate that dynamics can help researchers identify sources of systematic differences between groups. In their framework, when initial gaps are due to incorrect beliefs, they will decrease over time. Preference-based gaps, by contrast, are predicted to persist over time. In our setting, VC-backed startups produce observable outcomes that future investors can use to evaluate founders. If initial disparities decline with similar outcomes across groups, then disparities are likely due to incorrect beliefs. Instead, if they persist with similar performance, preferences are a more likely driver of gaps. We use this intuition to motivate a set of spillover tests. Specifically, we examine the relationship between the plausibly exogenous recent experience with founders in their portfolios and the funding outcomes for unrelated founders of the same gender (Sarsons, 2017a). Without directly observing investors' decision-making processes, looking into their portfolios and analyzing their history of failures and successes is useful for isolating potential supply-side channels of the gender gap. Our analysis reveals striking negative spillovers following investors' experiences with failures by *other* unrelated women-founded startups.[9] Within investors' portfolios, we find a funding gap of 14% for all startups with women founders and an additional gap of 7.8% when the investor has experienced a failure of at least one startup with a different woman founder in the last five years.

[8] This is consistent with Bengtsson (2005) and Gompers et al. (2010).

[9] In a very different setting, Sarsons (2017a) presents evidence that physicians penalize women surgeons by offering fewer referrals after experiencing a negative patient outcome associated with another woman surgeon. There is no evidence of these negative spillovers to other men after a poor patient outcome of a surgery performed by a man.

If startups led by women founders are penalized following the failure of another woman-founded startup, do the negative spillovers turn positive following success? On the contrary, we find that women founders still receive less funding following a successful exit in an investor's portfolio of another startup with women founders. In our initial tests, we define success as an IPO or acquisition, as is common in the literature. When we narrow the definition of success to include only IPOs and any acquisitions where the ratio of exit valuation to all funding raised prior to the exit price (TVPI) exceeds the 90th percentile value.[10] Under this narrow definition of success, we find that investors still allocate lower amounts to their women-founded startups, this is unrelated to their previous experience with successful women founders. In other words, investors who experienced success with women-founded startups do not allocate more capital to new women-founded startups, whereas they do allocate larger amounts to men-founded startups after experiencing the success of other men's teams in the past. Taken together, our results show negative spillovers following failure of other women-founded firms but no positive spillovers following success of other firms founded by women. The asymmetric results of the spillover analysis are inconsistent with a pure Bayesian updating explanation in which investors attempt to learn about the success probabilities of women-founded startups based on the outcomes of other startups founded by women. The results are not symmetric and imply that anything less than the significant success of a startup founded by women results in negative spillovers to other women-founded firms. This one-way updating, along with the persistent and negative direct effect of gender for women-founded firms, suggests that both preferences and stereotyping play meaningful roles in the gaps that we observe in the data.

This paper contributes to the literature in two important ways. First, it is well-known that women are underrepresented at different stages of the entrepreneurship pipeline (Guzman and Kacperczyk, 2019; Ewens, 2023); however, large-scale analyses that control for potential differences in entrepreneurial abilities and the quality of businesses that men and women found are less common in the literature. Our empirical approach, in which we compare funding outcomes for men and women co-founders of the same firm, allows us to make substantial progress toward identifying true differences in outcomes for men and women. Our paper builds on previous research which has documented the existence of a gender gap in VC funding by comparing men and women within the same sector and

[10]This approach ensures that the right tail of acquisition does not include not fire sales (e.g., Yimfor and Garfinkel, 2023).

geography and controlling on observable characteristics (e.g., Brush et al., 2003; Gompers and Wang, 2017; Ewens and Townsend, 2020; Raina, 2020; Hebert, 2020). Second, our paper uncovers potential mechanisms related to the supply of capital that drive the gap. Existing studies have primarily focused on factors such as investor homophily and network effects to explain disparities in VC funding (Ewens and Townsend, 2020; Howell and Nanda, 2022; Gornall and Strebulaev, 2022).[11]

Our focus on serial entrepreneurship, which is linked to startup success (e.g., Hsu, 2007; Gompers et al., 2010; Nahata, 2019; Shaw and Sørensen, 2019; Genc, 2023) reveals important gaps in women founders' ability to secure VC funding for their next startup and is new to the literature.[12] Overall, the results suggest that the observed gender gaps are not driven by the quality of businesses women entrepreneurs launch or their interest in serial entrepreneurship. The evidence of unequal treatment in serial entrepreneurship suggests room for increased efficiency that might be achieved through initiatives to reduce frictions faced by experienced women founders of VC-backed businesses (i.e., later in the pipeline).

This paper proceeds as follows: Section 2 details the data that we use for the analysis. Section 3 presents the results of the main empirical tests for evidence of a funding gap. Section 4 shows analyses of potential mechanisms driving the main results. Section 5 concludes.

2. Data and Methodology

PitchBook is the main source of data for the analysis. We analyze all VC deals from 2010 through 2023.[13] VC deals are those deals classified in PitchBook as "Early Stage VC," "Later Stage VC," "Seed Round," "Angel (individual)," and "Accelerator/Incubator." We maintain information on the amount of funding raised for each deal, as well as the identities of the

[11] Ewens and Townsend (2020) find that investors who are men are less likely to target women-led firms, whereas women investors are not. Even if the presence of homophily seems to help women, Ewens and Townsend (2020) conclude on the existence of investors' biases. Hebert (2020) is able to rule out motivations and selection into entrepreneurial strategies as explanations of the gender gap in sectors dominated by men, suggesting the existence of context-dependent stereotypes (Bordalo et al., 2016).

[12] Among the very few papers that consider the intersection between gender and serial entrepreneurship, Shaw and Sørensen (2019) use administrative data from Denmark and find that men and serial entrepreneurs who start several small businesses have higher sales than women and novice entrepreneurs. However, they find that the productivity gains of women who start a series of businesses are higher than men. Using French administrative data Hebert (2020) shows that serial entrepreneurs are more likely to be VC-backed. However, women who are serial founders have the same probability of being VC-backed as men who are first-timers.

[13] The sample period begins in January 2010 and extends through December 2022. We end one year prior to the end of the data (December 2023) to capture at least one year of post-event funding outcomes.

VC investors participating in each deal. Throughout the paper, we refer to a startup as a VC-backed company (i.e., a company in PitchBook).

The startup and founder-level data are also from PitchBook. For each startup, PitchBook provides information on the identities and gender of cofounders. PitchBook also provides flags to indicate startup outcomes, including whether a given company is out of business, bankrupt, acquired, or went public. We use this information to construct the failure and success datasets. Following the literature (e.g., Yimfor and Garfinkel (2023); Ewens and Farre-Mensa (2020); Bernstein et al. (2016); Hochberg et al. (2007)), we categorize a startup as a success if it went public via an IPO or was acquired by December 2023. Because failures are notoriously challenging to measure (Pollman (2023)), we use additional information from PitchBook, LinkedIn, and internet searches of company websites to help identify failed startups. We classify a startup as a failure if PitchBook flags the startup as closed or bankrupt by December 2023. If there is no flag in PitchBook, we classify a startup as a failure if all of the following conditions hold: (i) a founder left the company; (ii) the company did not raise another round of financing following the founder's departure; (iii) the company did not exit via an IPO or acquisition; and (iv) the startup's website is inactive.

2.1. Gender and Serial Founding of VC-Backed Startups

In our dataset of VC-backed startup founders, 13.3% are women. This value is roughly in line with the literature. Hidden beneath the 13.3% figure is a meaningful variation in gender balance across serial entrepreneurship, failure, and success outcomes.

Figure 1 shows gender differences in serial entrepreneurship and startup success. We begin by sorting founders according to the number of VC-backed companies they have founded. We then calculate the proportion of women founders within each bin. Figure 1, Panel A shows that women account for 16% of all single VC-backed company founders, but they represent only 4% of founders of 3 or more companies. Figure 1, Panel B shows startup founder success (defined as an IPO or acquisition by December 2023) as a function of the number of VC-backed companies founded.[14] There are two important observations. First, success probabilities increase substantially with founder experience

[14]IPOs alone are another measure of success, but since these exits are uncommon, this definition would cause us to miss a large number of successful exits. This is especially true in recent years, with the increasing importance of acquisitions as an exit in PE and VC. Gompers et al. (2010) define success as going public or filing to go public; however, they find similar results when they use our preferred definition as an alternative success measure.

for both men and women. For men, 17% of one-time startup founders experience success within five years and 35% of men who are founders of two startups experience success within five years. For women, 12% of one-time startup founders experience success, and 32% of founders of two startups experience success. Second, although success probabilities are lower for one-startup women founders, the probabilities converge as the number of startups founded increases. Among both men and women, nearly half of all founders of 3 or more VC-backed firms experience success during the sample period. The sharp increase in success probabilities for women occurs along with sharp declines in representation across experience bins.

[INSERT FIGURE 1 ABOUT HERE.]

In Figure 1, Panel B, conditional on founding a second firm, the success gap between men and women is only 10 percent (0.32/0.35) and is nearly zero upon founding three or more firms. Still, there is a decline of more than 100 percent in the proportion of women founders among those who have founded three or more startups.

What can explain the differences in the data? There are several explanations. It could be that women are less interested in serial entrepreneurship due to differences in risk preference or other personal considerations; it could be that women are less talented entrepreneurs; it could be that suppliers of VC capital treat women differently and impose a higher bar for women entrepreneurs (due to stereotypes or to discrimination).

The follows analysis aims to uncover some of the mechanisms underlying this result. Our main empirical approach compares the funding outcomes of men and women founders. Our most stringent tests compare outcomes of men and women cofounders of the same firm (i.e., within firm tests, where identification comes from mixed-gender teams with at least one man and one woman cofounder). Figure 2a shows the number of deals by founder team type during the sample period. Although founding teams comprised of all men are most common, the number of mixed teams that experience a failure or a success in every year of the sample is substantial (see Figures 2b and 2c).

[INSERT FIGURE 2 ABOUT HERE.]

In addition to analysis at the extensive margin (i.e., whether founders receive VC funding for a new startup), we examine potential gender gaps at the intensive margin, especially following failure. Figure 3a shows that men raise substantially more funding than women, suggesting shorter runways for women-founded firms.

[INSERT FIGURE 3 ABOUT HERE.]

It is well-known that failure is ubiquitous among venture-backed startups. This observation is important, given that lack of funding and running out of cash are common reasons startups fail.[15] Consistent with shorter runways, Figure 3b shows that most startup failures (closures) happen between years 4 and 6 relative to founding, with women-founded firms closing 6-12 months earlier than men. Interestingly, Figure 3d shows that, except in the early years, the path to success is shorter for women than for men, suggesting that they put their capital (smaller than that allocated to men, as shown in Figure 3c) to work quickly to generate faster exits.

2.2. Summary Statistics

Table 1 shows the sample of failure and success events for VC-backed startups by year. There are 11,062 startups that failed and 12,028 unique startups with successful exits during the sample period.[16] VC-backed startups are approximately two years old before they receive their first round of funding. In our data, they are 7.1 years old at failure and only 4 to 6 years from receiving their first round of VC funding to failure (Figure 2b).

[INSERT TABLE 1 ABOUT HERE.]

Table 1 also decomposes the data according to whether the startup's founders are all men (*Men*), there is at least one woman and at least one man on the founder team (*Mixed*), and all founders are women (*Women*). *Year* is the year in which the startup failed or succeeded. Consistent with prior work and with Figure 3, women founders are underrepresented in the failure and success samples. Startups with founder teams that are all-men comprise 78 percent of failure events and 89 percent of success events. Mixed-gender teams account for 15 percent of failures and 13 percent of successes.

Table 2 reports summary statistics for the sample of VC-backed startups and founders. The level of observation for the data in Panels A through C is the startup-founder level. Panel A shows all VC-backed startups. On average, 6.4 percent of founders successfully raise funding for a new startup within 5 years of the last round for the current startup

[15] See e.g., www.cbinsights.com/research/report/startup-failure-reasons-top/.

[16] The number of failures in our sample may appear small relative to the conventional wisdom that most startups fail; however, our analysis conditions on VC funding, which might be considered a measure of early success. Moreover, the definition of failure that we use is rather strict. If there is no closure or bankruptcy flag in PitchBook, we require several conditions to hold, including an inactive website and no other funding rounds following a founder's departure.

I(Invested); however, this value masks important gender differences. Among founders who are men, 6.9 percent receive financing for a new startup within five years, compared to 3.2 percent of women founders. This difference is statistically significant.

[INSERT TABLE 2 ABOUT HERE.]

On average, startups with women on their founding teams receive about half of the VC funding relative to those founded by all men ($28.3 million versus $56.0 million). This difference is unlikely to reflect startup maturity, as the age at the last funding round of startups founded by all men is only 5 months older than those with women founders. Panel A also shows that men and women are equally likely to serve as founder-CEOs. Still, women in the sample are considerably less likely to be serial founders than men, consistent with Figure 1.

Table 2 Panel B shows data for the subsample of failed startups.[17] Panel C shows the subsample of successes, defined as startups that exited via an IPO or acquisition. As noted earlier, these failure and success subsamples will be important for our empirical tests because these are times when founders are likely to begin to seek capital for new startups. Consistent with this, Panel B shows that 7.7% of founders of VC-backed firms that fail successfully raise capital for another VC-backed startup within 5 years following failure (this is higher than the base rate of 6.4% in Panel A). Panel C shows that 14.1% raise VC funding for a new firm following a successful exit event.

These values vary significantly across men and women, with only 4% of women raising VC funding for a new startup following failure, compared to 8.2% of men. Not surprisingly, the likelihood of receiving VC funding for a new startup following success is 14.1 percent, nearly twice that following failure. However, the probability that women founders of successful startups receive VC funding for a new startup is just 7.8% , which is lower than it is for men following failure.

When they do raise capital, women founders raise substantially less capital than men following both failures and successes. Specifically, startups founded by women raised $18.5 million on average during the 5 years following failure, while new startups founded by men raised $61.5 million. The gap is even larger following success, where women raise

[17]Note that the number of observations is much larger in Panel B of Table 2 than the failures listed in Table 1 because Table 1 shows data at the startup level, while Table 2 Panel B is at the startup-founder level. There are often multiple founders for a given startup.

$32 million for their new startups, while men raise $102.8 million.[18]

The data in Panel D of Table 2 are used in the spillover tests, where we examine the role of investors' experiences with the gender of founders of firms they previously funded. These data are at the venture capital investor-startup level and are further disaggregated according to the gender of the startup team. We find deal sizes are larger when founder teams consist of all men. We also observe some specialization according to founder's gender. Investors in deals where founder teams are all men have approximately 17% of deals in their portfolios allocated to firms founded by at least a woman (*P(Investments in Women)*). Investors in deals with all-women founders have 27.1% of the deals in their portfolios allocated to teams where at least one founder is a woman. We also observe that most of the investors in our sample have experienced the failure of a startup in their portfolios at some point in the past. This is not surprising, given the risk of investing in startups and the number of years it takes for new investors to experience the failure or the success of their portfolio companies.

These descriptive statistics do not tell the whole story, but they provide a useful backdrop for the analysis that follows.

2.3. Methodology

We report the main tests in Table 3. The unit of observation is a founder-startup pair. We examine the role of gender in VC financing outcomes of new startups. We specify the regressions as follows:

$$\begin{aligned}\textbf{I(Invested)} = \quad & \beta_1 \text{I(Woman)} + \beta_2 \text{Serial Founder} \\ & + \beta_3 \text{I(CEO)} + \beta_4 \ln \text{(Funding Current Startup)} \\ & + \beta_4 ln\text{(Age)} \\ & + \lambda_j + \eta_t.\end{aligned} \tag{1}$$

The dependent variable, *I(Invested)*, is an indicator equal to one if the founder receives VC funding for a new startup within five years after the last round of funding for the

[18] Average deal sizes are driven by very large deals in the right tail of the distribution and uncover substantial variations. The median deal size raised by new startups founded by men is $7.2 million, whereas the median deal size for women is $4.7 million. Also note that PitchBook's deal sizes reflect the commitments of all venture capitalists participating in a given deal instead of the individual venture capitalist's commitment (Hochberg et al., 2007).

current startup. The main explanatory variable of interest is *I(Woman)*, an indicator equal to one if the founder is a woman. We include controls for founder experience in a previous startup (*Serial Founder*), the founder's role as CEO in the current startup (*I(CEO)*), total funding the current startup has raised to date (*Ln(Funding Current Startup)*), and the current startup age (*Ln(Age)*). We also include year, state (where the start is headquartered), and industry fixed effects for the cross-sectional analysis. In our most stringent specifications, we conduct a within-current startup analysis including startup fixed effects. This allows us to compare fundraising outcomes for men and women cofounders of the same current startup for the next startup.

This empirical design tackles a fundamental challenge in understanding gender gaps in entrepreneurial financing by addressing unobserved differences in the abilities of men and women as entrepreneurs and the resulting quality of their startups. This approach is akin to twin studies and goes beyond simply matching entrepreneurs on observable characteristics and provides a unique opportunity to hold constant the inherent network differences between men and women entrepreneurs, or unobserved abilities in cofounders' team formation (e.g., Bloom et al., 2020; Cullen and Perez-Truglia, 2023). Hence, as opposed to cross-sectional studies, we rely on founders' endogenous matching to define the control group for women founders.[19] This empirical design is, to our knowledge, new to the entrepreneurial finance literature and helps to ensure that any results are not driven by unobservable differences in the businesses that men and women start.

Moreover, our empirical setting allows us to control for complementarities of skills within teams, by controlling for the founders role and previous startup experience. Specifically, we add a dummy capturing the CEO role, that typically involves fundraising responsibilities within entrepreneurial teams. We also control for serial founders in a former VC-backed company to account for pre-existing differences in access to VCs and startup experience. Note that we aim to remain parsimonious in the number of control variables we use in our analysis and only address the most obvious alternative explanations.

[19] Prior research shows that teams do not form randomly (Bloom et al., 2020). In academia, men and women coauthors tend to sort on quality (Sarsons et al., 2021). Homophily seems to explain the team formation process (e.g., Boisjoly et al., 2006; Ductor et al., 2023; Gompers et al., 2022; Cullen and Perez-Truglia, 2023).

3. Main Results

3.1. Financing the next startup

We begin with an analysis of the extensive margin. We estimate Equation 1 to test for potential gender differences in the likelihood that a founder will raise VC funding for a new startup within five years. The baseline percentage of founders who do so is 6.34%. In other words, 6.34% of VC-backed startup founders will raise funding for a new startup in the next five years from the last recorded funding round of their current startup.

The results are in Table 3 and imply large differences between men and women. The estimated coefficient on *I(Woman)* in Column 1, where we include only founding year fixed effects as controls, is -3.394. This implies a gender gap of 53.5% in serial entrepreneurship in VC-backed firms. In Column 2, we add controls for founder experience, whether the founder also serves as a CEO, the amount of funding raised by the current startup, and the startup's age. The specification in Column 3 is identical to Column 2 except that we add primary industry and state fixed effects to control for potential industry clustering and regional differences in startups founded by women. When we add these controls, the estimated gender gaps are smaller but still economically meaningful and statistically different from zero. The estimated coefficients of -1.619 (Column 2) and -1.784 (Column 3) imply a gender gap of between 25.5 and 28.1 percent.

[INSERT TABLE 3 ABOUT HERE.]

It is also useful to note that the estimated coefficients on the control variables shown in Columns 2 and 3 line up with what one might expect: serial founders and those associated with startups that have raised more funding to date are more likely to launch another VC-backed startup within five years; founders who are CEOs (likely involved with running the current startup) and those founders associated with older startups are less likely to do so.

The specifications in Columns 1 through 3 provide results from cross-sectional tests, in which we compare all founders of startups founded in the same year. We use variation from all startups, including those that are founded by single founders, and by founder teams that are all men and all women. The control variables, including the state and industry fixed effects, are included to capture potentially important variations in the types of startups that men and women found, as well as potential regional differences in access to capital. Our results are consistent with the existing literature: women are less likely to raise VC funding for their current startup and future startups.

In Columns 4 and 5, we remove single-founder startups from the sample and conduct within-startup tests. In these specifications, *I(Woman)* is identified based on differences between men and women co-founders of the *same startup*. Under the assumption that execution, performance, and skills gained from launching a given startup are major observables that potential investors use when making future funding decisions, the null hypothesis is that men and women on the same cofounder team are equally likely to secure VC-backed funding for a future startup. The startup fixed effects also ensure that any results are distinct from potential investor effects (e.g., Snellman and Solal (2023)). In Column 5, we add founder experience variables to address potential concerns about important gender differences in experience within a startup (e.g., CEO-founders may have more valuable experience than other co-founders.).

Our results imply economically large gender gaps that are similar in magnitude to what we observe in the between-firm tests. The estimated coefficient of -2.926 on *I(Woman)* in Column 4 implies a gender gap of 46.2% and the coefficient of -1.891 in Column 5 implies a gender gap of 28.1%. Overall, the results in Table 3 reveal a large gender gap in the likelihood of receiving VC funding for a new startup. Women are less likely to raise VC funding for a new startup even relative to men with whom they co-founded a startup.

The large differences in R-square between the cross-sectional and within-startup specifications are notable. The R-squares increase more than three-fold from the between-startup to the within-startup and highlight the importance of controlling for startup quality through co-founder matching.

3.2. Financing the next startup following failure and success

Given the strong relationship between serial entrepreneurship and future success (e.g., Gompers et al., 2010; Lafontaine and Shaw, 2016), we present results of regressions that are identical to those in Table 3, but we condition on failure and success events. Not only are these times when founders are more likely to need capital for a new startup, but the fate of the last startup is also salient to investors making funding decisions. Table 4 presents the results.

[INSERT TABLE 4 ABOUT HERE.]

One immediate observation from Table 4 is that the mean *I(Invested)* is larger than the unconditional full-sample mean of 6.34% following both failure and success events. From the table, 7.66% of founders go on to found another VC-backed startup following failure, and 14.13% of founders do so following success of the previous startup. Both of these values are higher than the mean of 6.34% when we do not condition on these events, consistent with the assumption that the years following success and failure are times when founders are likely to search for funding for new startups. The fact that the likelihood of receiving funding for a new startup is 84% higher following success compared to failure is expected since one would expect success to be correlated with founders' ability. This increases our confidence that we are capturing true successes, given the empirical challenge associated with observing both success and failure outcomes (Yimfor and Garfinkel, 2023).

Table 4 Panel A shows results from the analysis of failure events. As in Table 3, we find significant gender gaps across all specifications. Focusing on the between-firm results in Columns 1 through 3, the estimated coefficients imply a gender gap in the likelihood of securing funding for another startup between 29.4% and 49.8% relative to the mean. The within-firm specifications with the full set of controls in (Column 5), imply a gender gap of 22.5%. Thus, following the failure of a previous startup, women are less likely to successfully raise VC again for a new startup compared to men with whom they started the failed startup. This unequal funding following startup failure can limit innovation, employment, and growth in the economy.[20]

In Table 4 Panel B, we examine success events, defined as an exit via an IPO or acquisition. Consistent with the raw summary statistics in Table 2, we find that the reward for success is lower for women. The between-firm estimates imply a gap between 26.7 and 42.7 percent. Within startup, the estimate in Column 5 implies a gap of 26.9 percent. Thus, even following success, women founders of firms are less likely to receive VC funding for a subsequent startup relative to men in the same industry geography, and also relative to their cofounders with whom they successfully exited a previous startup.

4. Potential Mechanisms

What might drive the funding gaps that we observe in Tables 3 and 4? The patterns we observe could come from founder demand, investor supply, or both. On the demand side, it is possible that women founders experience entrepreneurship differently from men and have weaker desires to start another VC-backed firm. On the supply side, it is possible that

[20]As Pollman (2023) writes: "[T]he ability of startups, and their participants, to fail efficiently and "with honor" helps sustain the system out of which also grows some of the largest successes in the history of US business." For venture capital firms, the investment strategy is often to identify a few portfolio firms that deliver out-sized returns. Failure of at least some startups is expected.

VC investors rationally provide less capital to women entrepreneurs due to quality differences between men and women. Alternatively, the funding gap could be due to investors' incorrect beliefs about women entrepreneurs or to their preferences for startups founded by men. We examine each of these potential explanations in turn.

4.1. Founder Demand

4.1.1. Gender differences in the propensity to launch another startup

It is possible that women have less interest in pursuing subsequent ventures (VC-backed or not) following both failure and success. If so, the VC funding gap could reflect the lower propensity of women to launch new businesses more generally. This difference in demand could stem from risk tolerance, family, or other considerations. To examine this hypothesis that the gender gaps in subsequent VC-backed businesses that we observe are driven by differences in the propensity of women to launch new firms, we depart from Pitchbook data and use founders' LinkedIn profiles to collect information on newly launched firms, including those that are not VC-backed. In Panel A of Table 5, we test for gender differences in the propensity of women to found new firms after failure and success of the current startup. The specifications are the same as those in Panel B of Table 5 except we replace the dependent variable (indicator for launching a new VC-backed startup) with an indicator equal to one if the founder reports being the founder of a new firm in their LinkedIn profile. Panel A of Table 5 reveals that, following both the failure and success of the current VC-backed startup, women are indeed less likely to start a new business compared to their male co-founders. Focusing on the within-startup specifications in Columns (2) and (4), the estimates imply that women are 9.4% and 8.9% less likely to found another firm relative to their male co-founders. These gaps are both significant statistically but much smaller in magnitude than what we find for VC-backed businesses.

[INSERT TABLE 5 ABOUT HERE.]

To test formally whether the VC funding gap is due to women starting fewer businesses, we repeat the Table 5 Panel A analysis using only the subsample of founders who actually start new firms. Results are in Panel B of Table 5. Again focusing on the most stringent tests in Columns (2) and (4), the estimates imply that, conditional on founding another business women are still 30% less likely (compared to their cofounders who are men) to raise VC for the next firm following failure and 18% less likely following success. Thus, the VC funding gap following failure and success cannot be explained soley by differences in men and womens' propensities to start new businesses.

4.1.2. Understanding differences at the intensive margin

The intensive margin provides another way to shed light on the possibility that the VC funding gaps that we observe are due to founder demand. If gender differences in demand are important, we would expect significant gender differences at the extensive margin. However, a founder demand-side explanation would not imply meaningful gender differences in funding at the intensive margin. That is, conditional on founding a VC-backed business, it is unlikely that women would systematically demand less (or more) capital compared to men.

In Table 6, the dependent variable is the natural log of total funding raised in a new startup in the 5 years following an exit event (*Ln(Funding Amount)*). The number of observations is smaller than in the previous tables because the analysis conditions on a founder raising VC funding for a new startup (and in Columns 4 and 5, the regressions require more than one co-founder of the same startup to raise VC funding for the next startup).

[INSERT TABLE 6 ABOUT HERE.]

Panel A shows the analysis of VC funding for a new startup post-failure. The estimated coefficients on *Woman* are negative and significant, both statistically and economically, across all specifications. The cross-sectional tests in Columns 1 through 3 imply a gender gap of between 37.6% and 51.8% following failure. The most stringent within-firm tests (Column 5), which capture gender differences in funding for cofounders of the same firm, imply a gender funding gap of 53.3% for the subsample of startups that fail. The average woman raises $31.03 million less over the next five years than men who exited the same failed startup (sample mean = $58.56 million). We view the within-startup specification in Column 5 to provide the most powerful test. It is, therefore, useful to note that this test results in the largest estimated gender gap.

Following success, the magnitude of the gap is still significant statistically, but it is smaller. The estimated coefficient of -0.283 on *I(Woman)* in Column 5 implies a funding gap of 24.6%. Thus, even successful women founders who manage to attract VC funding for their next startup appear to face headwinds in the amount of capital that they raise.Given the larger amounts raised following success, the average successful woman raises $28.08 million less over the next five years than men who exited the same successful startup (sample mean = \$99.22 million).[21]

We interpret the evidence as inconsistent with a founder-demand side explanation for the gender gap that we observe at the extensive margin. The results in Column 5 of Table 6 bolster this interpretation since one might expect co-founders to have similar aspirations and entrepreneurial interests.

Taken together, the results in Table 6 and 6 show that the demand channel is unlikely to drive our results. In the next section, we consider the supply side. We begin with the hypothesis that VC investors are less likely to supply capital to women entrepreneurs because of quality differences between men and women.

4.2. Supply from Investors

4.2.1. Lower Quality Startups? Comparing Startup Outcomes

If men are more likely to launch high-quality ventures, we might expect less VC investment both at the extensive and intensive margins. To examine potential gender differences in founder quality, we begin with descriptive analysis of gender differences in observables. In Figure 4, we plot the estimated relationship between various work experience and educational background on the likelihood that a founder is a woman. All variables are standardized so that comparisons across variables are straightforward. Men have slightly more technology and work experience, while women are slightly more likely to hold professional degrees and degrees from elite schools. Importantly, any differences in experience between men and women are small. Outside of prior tech experience, all between-startup differences are within 0.25 standard deviations of the mean. And we obtain even more shrinkage once we conduct within-startup tests.

Although Figure 4 suggests that men and women founders and cofounders of VC-backed businesses are very similar, the analysis is purely descriptive. For a formal test of gender differences in founder quality, we conduct an outcomes test where we examine potential differences in the outcomes of the subsequent VC-backed startups that men and women launch following success or failure (Becker, 1993; Hebert, 2020; Cook et al., 2022).

Results are in Table 7, The unit of observation in these tests is a person-startup for the startup-person pairs from Tables 3 and 4 that started a new VC-backed startup following an exit. The outcome variable in Columns 1 and 2 is an indicator equal to one if the next

[21] In Appendix Figure A.1, we show results of regressions that capture the cumulative funding differences between men and women founders during each year following success and failure events. The funding gap begins immediately at Year 1, and it becomes statistically significant during the following years.

VC-backed startup went public or was acquired. In Columns 3 and 4, we focus on IPOs only. This within-startup test has limited power since it relies on a restricted sample due to the requirement that both men and women founders must have launched at least two VC-backed firms during the 2010-2023 sample period. In addition, in order to observe the outcome of the next VC-backed startup, we require an exit by December 2023. Still, the sample of 588 founders provides a useful lens for analysis.

[INSERT TABLE 7 ABOUT HERE.]

Across all columns, the estimated coefficients on *I(Woman)* are positive (suggesting better outcomes for subsequent startups founded by women), and they are significant statistically in all columns except Column (1) where we do not control for pre-exit funding. Thus, we do not find any evidence to support the hypothesis that women start lower-quality startups compared to their male cofounders following their exit from the current startup. If anything, the evidence suggests that subsequent startups founded by serial women enjoy higher rates of success, consistent with a higher bar for women entrepreneurs (Card et al. (2022)).

4.2.2. Lower Quality Startups? Exogenous Contributors to Startup Outcomes

Given limitations due to the small sample in the outcomes tests analysis, we conduct a second test for potential quality differences as a driver of the gender gaps following both failure and success. To do so, we exploit a plausibly exogenous driver of success and failure: the supply of capital from local pension funds. State pension funds are among the most important limited partners in the venture capital industry.[22] Moreover, pension funds exhibit local biases in their venture capital portfolios (Hochberg and Rauh, 2013; González-Uribe, 2020).[23] Thus, the availability of local capital for financially constrained startups is an important and arguably exogenous determinant of success and failure.

We measure local capital supply conditions as *Ln(Capital Supply)*, the natural log of the four-year average pension fund assets in the state in which the startup is located, and the year of the last VC deal. Before adding *Ln(Capital Supply)* as an exogenous supply

[22]According to González-Uribe (2020), in 2011, they accounted for 28% of new funds committed to venture capital, almost twice the 13% accounted for by the industry's second most important capital provider, fund of fund managers.

[23]For example, González-Uribe (2020) estimates that after the adoption of "Prudent Investment Rules", local state pension funds' capital commitments to the local venture capital firms increased by 175 million USD (relative to pension funds located elsewhere), possibly because of home bias in state pension funds' venture capital investments.

shift variable, we first confirm the hypothesized relationship between local capital supply and startup outcomes. Table 8 Panel A shows that the funding supply proxy *Ln(Capital Supply)* predicts follow-on investments in the current startup (*I(Follow-on*), eventual startup failure *I(Failure)*, and eventual success, where success is captured by whether the startup goes public (*I(IPO)*) or is acquired (*I(Acquired)*). For example, in Column 1 of Panel A we show that a 10% increase in the supply of local capital increases the likelihood that a founder startup will receive follow-on funding by 0.0837. This is a 15.9% increase relative to the unconditional mean of raising a new round of funding (the sample mean is 52.35%). The estimated coefficients on failure and success likelihoods in Columns 2, 3, and 4 imply that increases in local funding supply from state pension funds are associated with decreased failure probabilities and increases in the likelihood of exit via IPO or acquisition, respectively.

[INSERT TABLE 8 ABOUT HERE.]

In Table 8 Panel B, we repeat the analysis of funding following failure shown in Table 4 Panel A, but we use supply of capital conditions to help identify failures of firms that are likely to be of particularly low-quality startups, as opposed to financial constraint. When firms fail following periods of abundant capital, poor ideas or execution are more likely (see e.g., Ljungqvist and Wilhelm Jr, 2003; Janeway et al., 2021). Thus, if the *I(Woman)* variable captures poor quality, then the penalty to women founders of failed startups should be particularly severe when they fail following abundant capital supply conditions. In other words, we would expect the marginal entrepreneur to be of lower quality and we would expect a significant and negative interaction between *I(Woman)* and *Ln(Capital Supply)* under the assumption that women are over-represented among low-quality entrepreneurs. We do not observe this. Women are still less likely to raise VC funding for a new startup relative to men after a failure event. More importantly, we do not find that women who failed following periods of abundant capital are penalized more than men exposed to the same conditions or other women.

In Table 8 Panel C, we use the supply of capital conditions to help identify "lucky successes." When startups succeed following periods of abundant capital, chances are greater that the observed successes include firms that are of lower quality ("lucky"). Thus, if the *I(Woman)* variable captures poor quality, then the penalty to poor-quality founders of successful startups should be particularly severe when they succeed following abundant capital supply conditions (i.e., as in Panel B, we would expect a negative and significant interaction between *I(Woman)* and *Ln(Capital Supply)*). We fail to find any significance. The evidence suggests that women are not of worse quality than men exposed to the same favorable conditions nor are they worse than other women who do not benefit from the supply of capital from the state's pension funds.

We fail to find empirical support for explanations based on differential demand from women or to differences in the quality of women founders. In the analysis that follows, we turn our attention to an investigation at the investor level and we use the dynamic setting to help us determine whether the gap is due to initial bias due to lack of familiarity with women founders or to unequal treatment of women.

4.3. Supply-side and Potential Role of Investors

In this section, we continue the investigation of potential supply-side frictions, but we distinguish between current investors and outside investors (i.e., those not invested in the current startup). Given the importance of networks and relationships in venture capital (Gompers et al., 2020; Howell and Nanda, 2022), one might expect current investors to be especially likely to invest in subsequent startups. These are also the investors that have more information about the individual founders of startups currently in their portfolios. Outside investors, by contrast, might be more likely to rely on heuristics to evaluate unfamiliar startups and their founders.

4.3.1. Investment in New Startups by Current Investors

In Table 9, we repeat the Table 4 regressions, but we focus only on investments by current investors after a failure (Panel A) or successful exit event (Panel B).

[INSERT TABLE 9 ABOUT HERE.]

One important observation from Table 9 is that while there is some evidence of repeat investing in multiple startups with the same founder, the practice is not common (Bengtsson, 2005; Gompers et al., 2010). On average, 1.13% of founders who fail receive future funding in new startups from the same VC investors. This value is much higher following success, but it is still relatively modest, with 4.06% of successful founders receiving funding from repeat investors for their new VC-backed startups. Following failure (Panel A), we fail to find evidence of a gender gap in new startup funding from current investors. Thus, nearly all of the gender gap that we observe following failure appears to come from outside investors. This finding suggests that the initial disparity in VC funding for experienced women-founded startups decreases over time within the subset of current investors, as they learn from their experience with individuals (Bohren et al., 2019; Cook et al., 2022). However, this is not enough to close the gender gap because current investors are not the primary sources of funding for subsequent ventures. Interestingly, Panel B of Table 9 shows a gender gap following success that is quite similar in magnitude (relative to the mean) to what we observe in Table 4. Taken together, the results suggest that women founders receive less credit for success from both current investors and outsiders (consistent with Sarsons (2017b)). However, failure penalties are more likely to come from outside. The latter can pose a particular challenge since outside investors account for a larger percentage of investors in new startups following failure relative to success. Moreover, failure is a ubiquitous feature of the entrepreneurial journey.

4.3.2. Investment in new Startups by Outside Investors

New investors are the main source of capital for subsequent VC-backed businesses. We therefore turn to the question of whether unequal funding from this group stems from bias or stereotyping (based on investors' incorrect beliefs about women founders). Or do investors' preferences drive the results? These are natural questions to ask in light of the findings in the prior tables that the gaps exist between same-startup founders and that neither differences in quality nor founder demand appear to be driving them.

Without observing the decision-making processes of investors directly, bias and stereotyping are difficult to identify empirically. However, spillovers in a dynamic investment setting can help distinguish effects due to potentially incorrect initial beliefs (bias and stereotyping) from gender gaps due to investor preferences. Bohren et al. (2019) demonstrate that dynamics can help researchers identify sources of systematic differences between groups. In their framework, when initial gaps are due to incorrect beliefs, they will decrease over time. Preference-based gaps, by contrast, are predicted to persist over time.

VC-backed startups produce observable outcomes that future investors can use to evaluate founders. If initial disparities (i.e., the direct *I(Women)* effect) decline with similar outcomes across groups, then disparities are likely due to incorrect beliefs. If, instead, they persist with similar performance, then preferences are a more likely driver of gaps. The startup fixed effects in Column 5 of the main regressions, where we compare men and women co-founders of the same firm, help control for unobservable differences in the types of startups that women found; however, we can use funding outcomes over time to learn more about the underlying mechanisms. Our empirical strategy is simple: We examine the relationship between the plausibly exogenous recent experience with unrelated founders and the funding outcomes for unrelated founders of the same gender.[24]

4.3.2.1 Elisabeth Holmes and Theranos

To illustrate the empirical approach that we use to test for evidence of stereotyping an unequal treatment of women, we begin with an example. Theranos, a once-promising blood test startup founded by Elizabeth Holmes, turned out to be a headlining failure. Following investigative reporting by the *Wall Street Journal* in 2015 and 2016, Theranos collapsed, and Elizabeth Holmes was convicted of fraud by the SEC in 2018.[25] How did the investors in Theranos choose their subsequent startup investments in women-founded firms after experiencing losses at Theranos? Even though Theranos is an extreme example, we can use it to explore a potential channel through which a gap in funding from outside investors could occur: failure of a startup founded by a woman might spill over into the funding outcomes for other women founders.

In Table 10, we examine the relationship between direct exposure to Theranos and the amount of VC funding secured by other women-founded startups in those same investors' portfolios following the first allegations of fraud (*Post*). We focus only on investors who invested in Theranos at some time prior to its failure to capture investor experience in a very public failure (in this case, due to fraud) of a firm founded by a woman. Unlike the prior regressions, in which the unit of observation was the founder startup, the unit of observation in Table 10 is an investor-deal. The sample includes all deals in other firms in which investors that invested in Theranos participated during the years 2013 to 2019.

The dependent variable in Table 10 is the natural log of the deal size in a given VC funding round (*Ln(Deal Size)*). In interpreting the regressions, we assume that an

[24]The results in Tables 7 and 8 help to rule out quality differences as a primary driver of our findings, but even if quality were one driver of the results, bias or stereotyping can result in further unequal treatment Bordalo et al. (2016).

[25]The first *Wall Street Journal* article raising questions about the blood test technology was published on October 15, 2015, followed by a series of articles including criminal investigations reported on April 18, 2016 and then a July 8, 2016 report that the lab's license to operate was revoked in California and a ban on Elizabeth Holmes from the blood testing business. See https://www.wsj.com/articles/elizabeth-holmes-sentencing-a-history-of-the-wsj-theranos-investigation-11668741222 and https://www.sec.gov/news/press-release/2018-41.

investor's willingness to back a given startup is proportional to deal size.[26] Explanatory variables are *I(WomenF)*, *I(Post)*, *I(Healthcare)*, and their interactions. *I(WomenF)* is an indicator equal to one if any of the startup's founders in the deal of interest are women. *I(Post)* is an indicator equal to one following news of troubles at Theranos, and *I(Healthcare)* is an indicator equal to one if the startup in the deal of interest is in the same industry as Theranos, i.e., Healthcare. We also include investor and year-fixed effects. The coefficients of interest are on the interactions of *I(WomenF)* with *Post*, which captures potential differences in deal size for women-founded startups following the Theranos debacle, and their triple interaction with *Healthcare*, which captures potential spillovers to women-founded firms in healthcare specifically.

[INSERT TABLE 10 ABOUT HERE.]

The results in Table 10 provide suggestive evidence of large negative spillovers to other women founders following the Theranos failure. In Column 1, we find that deal sizes for startups with women founders are significantly smaller post-event. The estimated coefficients imply a funding gap for startups with women founders of 60.2% following the Theranos scandal. In Column 2, we test for evidence of negative spillovers to other healthcare industry firms and do not find any significant effects. In Column 3, we test the hypothesis that the negative spillovers observed for women founders in Column 1 are driven by founders in the healthcare section (i.e., triple interaction), who might be perceived as more similar to Elizabeth Holmes. Interestingly, there is no evidence of an additional gender gap in funding for firms within the same industry as Theranos. Instead, the results imply large and broad spillovers to all other women founders.

Theranos is a specific case study, and unlike the more typical reasons for failure (e.g., poor market execution, insufficient capital, etc.), the cause of Theranos's failure was primarily fraud. Still, this case study highlights the possibility of spillovers due to a negative outcome at an unrelated startup founded by a woman. Given the importance of serial entrepreneurship in eventual success, negative spillover of this type could be an important friction serving to stifle success probabilities for many women entrepreneurs.

[26] This is because the deal-level data in PitchBook contains deal size and identifies the participating investors without information on individual investors' committed capital within a particular deal syndicate. Even if actual commitment is not proportional across deals, an individual investor is likely to participate in a syndicate and contribute to the group assessment of the startup and founder.

4.3.2.2 *Portfolio Spillovers Following Failure*

We use the basic framework from the Theranos example to test the hypothesis that at least part of the funding gap that we observe for women stems from (arguably exogenous) experiences that potential investors have had with the failures of other firms founded by women. We interpret negative spillovers of this type as evidence of bias due to stereotyping (rather than investor preferences, which would be insensitive to new information or experiences, Bohren et al. (2019)). We extend beyond Theranos to include all investors who have experienced a failure of any portfolio company in the past (defined as in the earlier tables).

Table 11 shows the relationship between investor experience with a failed startup founded by a woman and deal size for new investments in other women-founded startups in the years following the failure event. The dependent variable is *Ln(Deal Size)*, the natural log of the deal size (in millions).[27] Given that the regressions are at the investor-deal (rather than founder-deal level, as in Tables 3 through 9), the gender variables are modified to capture the gender of a given startup's founding team. *I(W. Founder)* is an indicator equal to one if at least one member of the founding team of the current investment is a woman. *I(Recent Failure)* is an indicator equal to one if the investor backed at least one startup over the previous five years that failed. *I(FW. Founder)* is an indicator equal to one if the investor backed at least one startup with at least one woman founder that also failed over the previous five years. This variable captures the potential role of a recent experience with a failed startup founded by women. The main interaction of interest for the spillover test is *I(W.Founder) X I(FW.Founder)*, which captures the potential funding gap for startups with women founders following a recent failure by another firm in the investor's portfolio that also has women founders. We include a separate control variable to capture for specialization in women-founded firms to ensure that the interaction of interest captures spillovers rather than specialization. *P(Investments Women)* is defined as the size of deals in the VC firm's portfolio that fund startups with women founders over the previous five years, divided by the total size of all deals in which the investor participated. Similarly, we include a control for investors' propensity to invest with experienced founders. *P(Serial Investments)* is the

[27] We do not observe an individual investor's allocations in a given deal. Thus, an underlying assumption of the interpretation is that an investor's willingness to participate is roughly proportional to deal size. Most VC investors target minority stakes. Even if their investments are not exactly proportional to deal size, their willingness to supply capital could impact the total amount raised.

number of serial founders in the investor's portfolio, divided by the total number of founders in the portfolio. We also control for startup age and VC firm age, and we include time, industry, and state-fixed effects in the specifications.

[INSERT TABLE 11 ABOUT HERE.]

Across all specifications, the results in Table 11 imply that, following the experience of a failure of a startup with a woman founder, the investor participates in smaller subsequent deals with women founders are smaller. The estimated coefficients on the *I(W.Founder) X I(FW.Founder)* interaction are not only significant statistically, but they are economically meaningful, implying funding gaps due to spillovers of between 5.6 and 14.2 percent. In fact, after controlling for investor fixed effects, we find that all of the deal size penalties associated with experiencing a recent failure are from deals to startups with women founders. Focusing on the Column 4 specification, which we consider to be the most powerful test, the estimated coefficients of -0.151 on *W.Founder* and -0.081 on the interaction of *I(W.Founder)* with *I(FW.Founder)* imply a funding gap of 14.0 percent (1-exp(-0.151)) for all startups with women founders and an additional gap of 7.8 percent (1-exp(-0.081)) when the investor has experienced a failure of at least one startup with a woman founder in the last five years. We interpret the results as evidence that unequal treatment of women founders of VC-backed startups is a meaningful contributor to the funding gaps observed in the founder-level analysis. This is consistent with stereotyping, where an investor uses an experience with a member of a given group to shape funding outcomes for other (unrelated) members of that group.

The evidence of negative spillovers that we observe in Table 11 shows up in funding outcomes for firms with any women founders, including mixed-gender teams. In Appendix Table B.7, we repeat the Table 11 analysis, but we change the definition of a *Women Founded* startup to include only those firms with all-women founders. The results in Table B.7 are striking in that the estimated magnitudes on the *I(W.Founder) X I(FW.Founder)* interaction in Columns 3 and 4 are twice those in the Table 11 regressions, implying much greater spillovers for startups with all-women founders.[28]

4.3.2.3 Potential Portfolio Spillovers Following Success

If startups led by women founders are penalized following the failure of another woman-founded startup, do the negative spillovers turn positive following success? The results in Table 11 could show that investors, who might have limited experience with startups founded by women, use information from both negative and positive outcomes of portfolio firms to infer success probabilities of unrelated founders who share similar characteristics. Table 12 addresses this question. In Panel A, we repeat the Table 11 analysis, but we replace the failure variables with success indicators. As before, *I(W. Founder)* is an indicator equal to one if at least one member of the founder team is a woman. *I(Recent Success)* is an indicator equal to one if the investor backed at least one startup over the previous five years that provided an exit via an IPO or acquisition. Similar to Table 11, all of the investors in the sample have experienced at least one success in the past. *I(SW. Founder)* is an indicator equal to one if the investor backed at least one startup with at least one woman founder that also succeeded over the previous five years. The main interaction of interest for the spillover test is *I(W.Founder) X I(SW.Founder)*, which captures potential funding advantage (or gap) for startups with women founders following a recent success by another firm in the investor's portfolio that also has women founders.

The main results of the success analysis are in Table 12, Panel A. Somewhat surprisingly, we still find evidence of negative spillovers across all specifications. Women founders receive less funding following a successful exit in an investor's portfolio of another startup with women founders. It is possible that this reflects rationing over the course of a fund life (i.e., a strategy to target X percent of investments in women-founded startups). Although the definition of success that we use in Panel A of Table 12 is common in the literature (e.g., Yimfor and Garfinkel (2023); Ewens and Farre-Mensa (2020); Bernstein et al. (2016); Hochberg et al. (2007)), it is also possible that some acquisitions

[28]Focusing on the Column 4 specification in Appendix Table B.7, the estimated coefficients of -0.358 on *W.Founder* and -0.151 on the interaction of *I(W.Founder)* with *I(FW.Founder)* imply a funding gap of 29.6 percent for all startups with all-women founders, and an additional gap of 14.0 percent when the investor has experienced a failure of at least one startup with all-women founders in the last five years. Unlike in Table 10, the estimated coefficients on the interactions are insignificant in the specifications in Columns 1 through 3 of Tables 11 and B.7, but these specifications capture cross-sectional differences across investors (they do not include investor fixed effects, which we consider to be our most stringent test). The evidence suggests that spillover effects are driven by the experience of failure associated with women-founded firms in which a given investor actually invested rather than by failures experienced by other investors.

are actually failures (e.g., wind-downs at unfavorable prices) or they are successful but they generate expected but unremarkable returns for investors. We therefore refine the definition of success in Panel B to include only significant successes: IPOs and any acquisitions where the ratio of exit valuation to all funding raised prior to the exit price exceeds the 90^{th} percentile value.

[INSERT TABLE 12 ABOUT HERE.]

In Panel B of Table 12, the evidence points to a more level playing field (but not additional reward, as would be the case if the results were symmetric with the failure results in Tables 10 and 11). That is, any rewards via increased deal sizes following past significant success of women-founded startups in the portfolio woman are enjoyed equally by both men- and women-founded startups.

The results of the spillover anlayses are inconsistent with a rational belief-based explanation in which investors attempt to learn about the success probabilities of women-founded startups based on the outcomes of other startups founded by women. Instead, anything less than the significant success of a startup founded by women appears to result in negative spillovers to other women-founded firms. This one-way updating, along with the persistent and negative direct effect of gender for women-founded firms, suggests that both preferences and stereotyping play a role in the gaps that we observe in the data.[29]

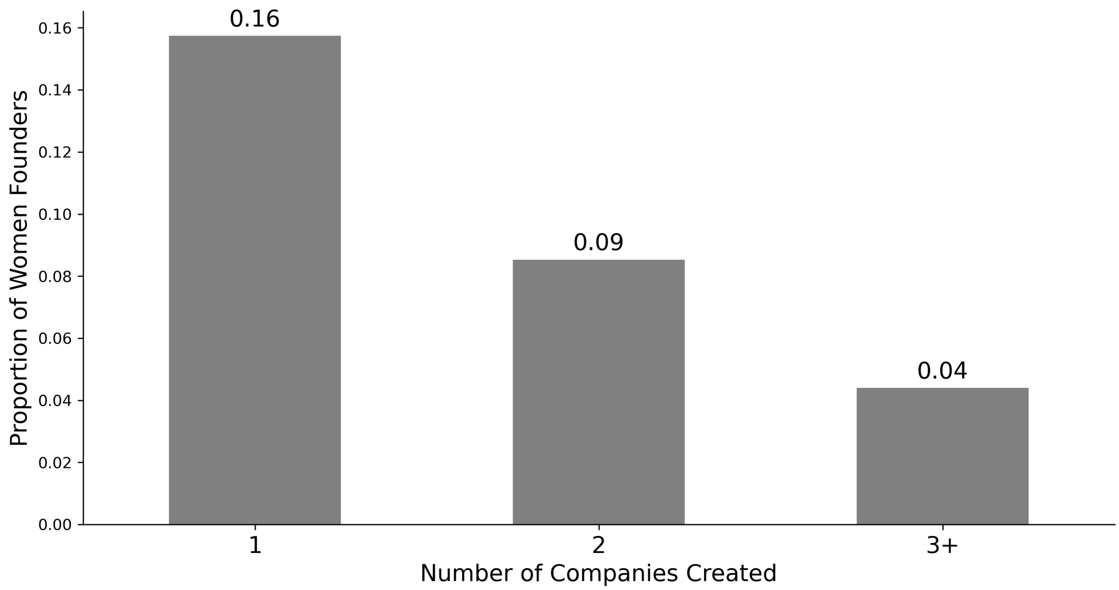
5. Conclusion

Repeat chances are an important ingredient for entrepreneurial success (e.g., Lafontaine and Shaw (2016), Gompers et al. (2010)). Founders gain valuable experience

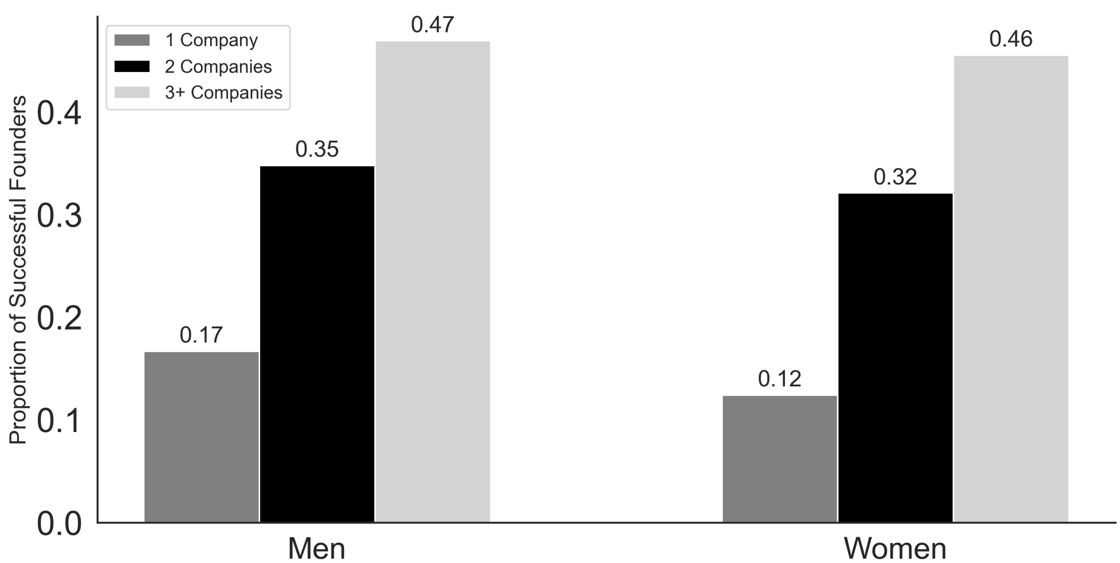
[29] Appendix Figure A.2 shows results of the spillover analyses in event time. We plot estimated coefficients of regressions where the dependent variable is the natural log of funding raised and the explanatory variable of interest is the failure or success of a same-gender founder in the investor's portfolio. We observe a decline in funding to women-founded startups starting in year two following failure of a startup founded by a woman. We do not observe a similar decline for startups founded by men following the failure of a startup founded by another man. The patterns following success are even more striking: we observe increases in the amount of funding to startups founded by men following a same-gender success event within the investor's portfolio. Similar to the regressions in Table 12, the same is not true for startups founded by women. Appendix Tables B.5 and B.6 formalize the dynamics in the figures using a difference-in-differences specification where the dependent variable is the natural log of funding raised and the key explanatory variable is the interaction of founder gender with same-gender success or failure. Results are consistent with the spillover tests in the main tables.

from their prior startups (through both their successes and failures), increasing the chances of future success.

In this paper, we find that women founders of VC-backed firms face significant headwinds in obtaining second chances. They are less likely to secure VC financing for a future startup and, when they do, they raise substantially less capital relative to men. These frictions do not appear to be driven by founder preferences or to quality differences between men and women. The results are also inconsistent with bias that is simply due to incorrect initial beliefs about women entrepreneurs. Specifically, spillover tests reveal that investors are less likely to invest in women founders after they experience failures by other women-founded firms in their portfolios but they are not more likely to invest in women-founded firms following the success of other women-founded firms. We interpret this asymmetry as evidence of unequal treatment of women and not bias due to lack of familiarity. The results suggest room for increased efficiency initiatives aimed at improving access to capital for experienced women founders of VC-backed businesses.



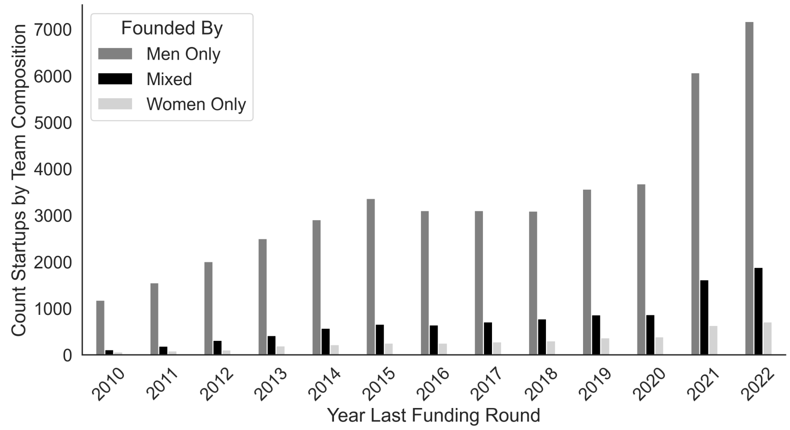
(a) Serial Entrepreneurship, by Gender of Founder



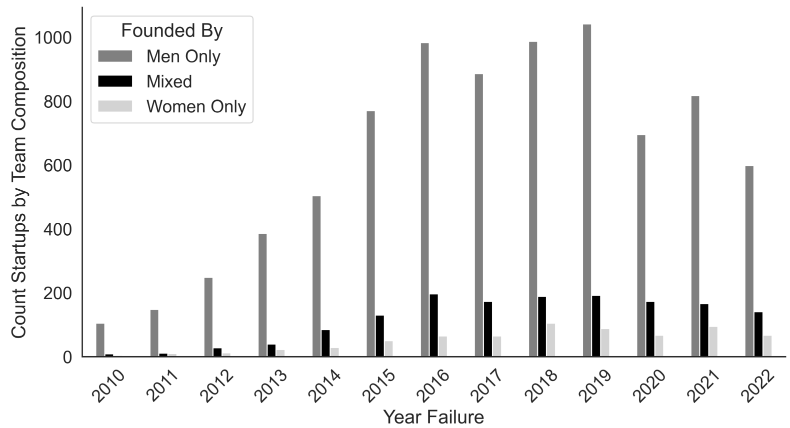
(b) Serial Entrepreneurship by Gender and Success

Figure 1: Serial Entrepreneurship, by Gender

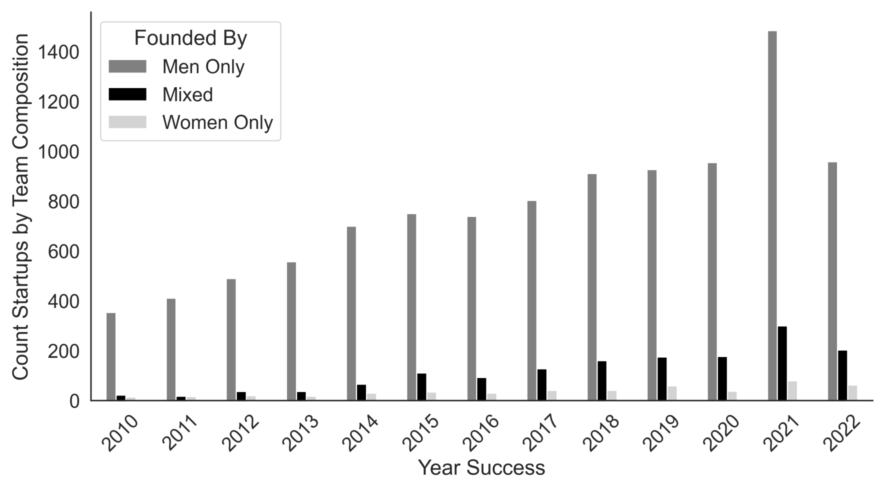
The sample includes all founders of startups that raised at least one round of VC funding between 2010 and 2022. Founders are divided according to whether they have created 1, 2, or 3 or more unique VC-backed startups during the sample period. Panel A shows the proportion of women founders in the sample. Panel B shows the success rate of startups by how many VC-backed startups the founder has created, further split by founder gender. A startup is classified as successful if PitchBook classifies the firm as having exited through an IPO or an acquisition by December 2023.



(a) Panel A: Single and Mixed Gender Teams (Full Sample)



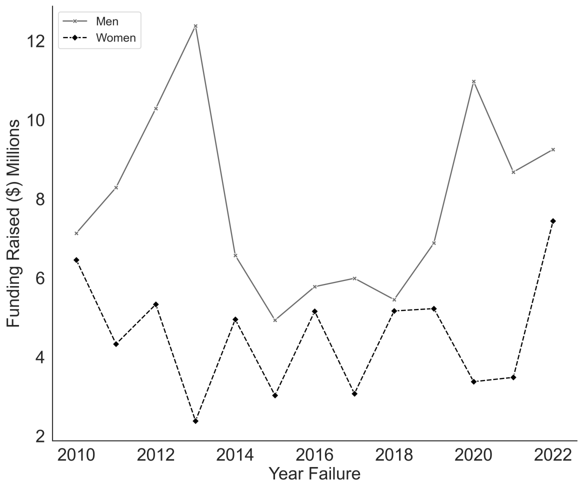
(b) Panel B: Single and Mixed Gender Teams (Failures)



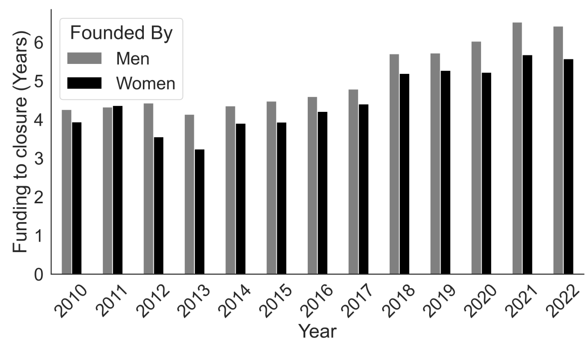
(c) Panel C: Single and Mixed Gender Teams (Success)

Figure 2: Single and Mixed Gender Teams

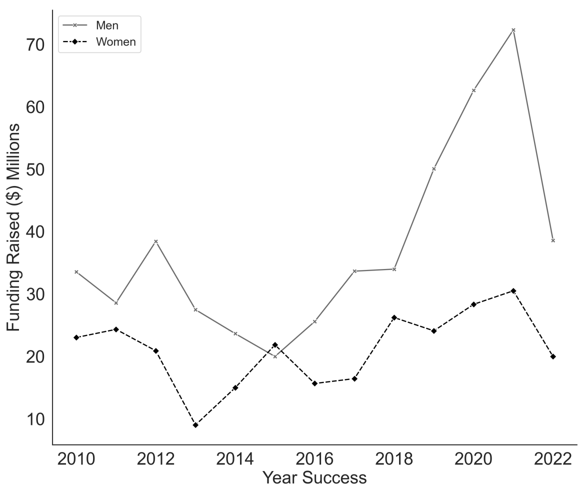
The figure plots the time series of failures, successes, and all startups by gender of the founder team (Men Only, Women Only, and Mixed Gender teams). A unit of observation is a startup.



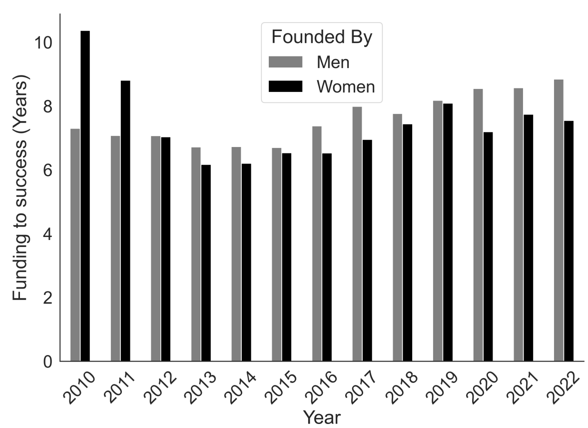
(a) Funding Raised before Failure



(b) Time between first funding round and failure



(c) Funding Raised before Success



(d) Time between first funding round and success

Figure 3: Funding and time prior to failure and success

The figures show the amount of funding raised and the time from the first funding round to failure and success events for the sample of VC-backed startups, by founder gender. The unit of observation is a startup-founder. The sample includes founders of all VC-backed startups that failed (figures 2a and 2b) or all VC-backed startups that succeeded (figures 2c and 2d). We classify a VC-backed startup as a failure if Pitchbook flags the startup as closed or bankrupt by December 2023. The company is also classified as a failure (without the Pitchbook designation) if all of the following conditions hold: (i) the founder left the company; (ii) the company did not raise another round of financing following the founder's departure; (iii) the company did not provide an exit via an IPO or acquisition; and (iv) the startup's website is inactive. A startup is considered a success if it went public in an IPO or was acquired by December 2023. Figures 2a and 2c show the amount of VC funding (in millions) raised prior to the failure and success events. Figures 2b and 2d show the time (in years) between the initial funding round and the event.

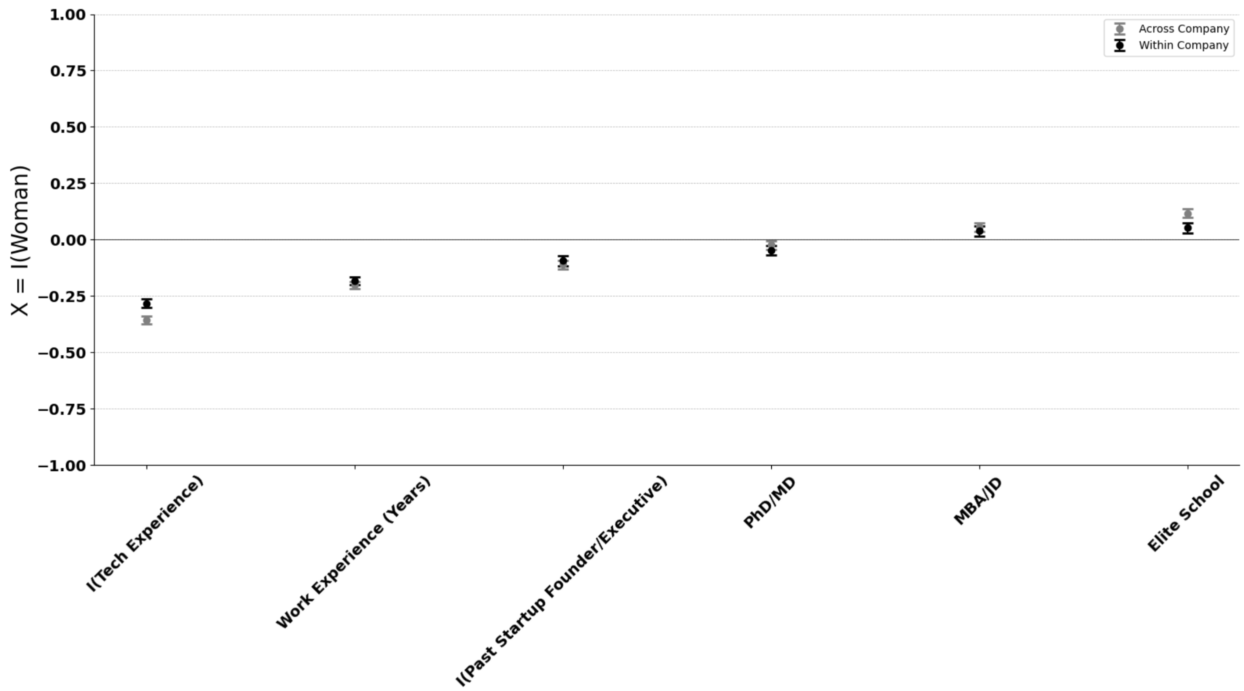


Figure 4: Founder Characteristics by Gender Across and Within Startup

This figure plots the estimated relationship between various job and education characteristics on the likelihood that a founder is a woman. *I(Woman)*. Panel A compares all men and women founders, while Panel B compares men and women founders within the same firm. The dots represent the estimated coefficients, with the lines around the dots indicating 95% confidence intervals. We estimate the likelihood that a founder j, founding a company at time t, has a given characteristic X_i as: $I(X_i)_{j,t} = \beta_i + \delta_i \times \text{I(Woman)}_j + \gamma_t + \epsilon_{i,j,t}$. Where we estimate the probability of each characteristic separately. γ_t is a fixed effect for the year the startup was formed. For the within company specification, we add a startup fixed effect. We standardize all variables to ease comparison of relative effects across rows.

Table 1: **Sample of failure and success events by year**

This table shows the number of unique VC-backed startups that experienced successes or failures in each year of the sample. The data are also sorted according to whether: the startup's founders are all men (*Men*); there is at least one woman and at least one man on the founder team (*Mixed*); all founders are women (*Women*). *Year* is the year in which the startup failed or succeeded. We classify a VC-backed startup as a failure if Pitchbook flags the startup as closed or bankrupt by December 2023. The company is also classified as a failure (without the Pitchbook designation) if all of the following conditions hold: (i) the founder left the company; (ii) the company did not raise another round of financing following the founder's departure; (iii) the company did not provide an exit via an IPO or acquisition; and (iv) the startup's website is inactive. A startup is considered a success (*Success*) if it went public in an IPO or was acquired by December 2023. All startups in the sample raised at least one round of venture capital funding before the success or failure event.

Year	Failure				Success			
	Total	Men	Mixed	Women	Total	Men	Mixed	Women
2010	103	89.3%	6.8%	3.9%	389	90.7%	5.7%	3.6%
2011	150	87.3%	5.3%	7.3%	443	92.6%	3.8%	3.6%
2012	261	87.7%	8.4%	3.8%	544	89.9%	6.6%	3.5%
2013	401	85.5%	9.0%	5.5%	609	91.3%	5.9%	2.8%
2014	549	82.1%	12.9%	4.9%	793	88.1%	8.2%	3.7%
2015	895	81.5%	13.1%	5.5%	894	83.9%	12.3%	3.8%
2016	1202	79.7%	14.9%	5.4%	862	85.7%	10.8%	3.5%
2017	1117	79.1%	15.2%	5.7%	971	82.7%	13.1%	4.2%
2018	1347	77.1%	14.9%	7.9%	1111	81.9%	14.4%	3.7%
2019	1414	78.0%	15.6%	6.4%	1160	79.8%	15.1%	5.1%
2020	1020	73.8%	19.3%	6.9%	1168	81.7%	15.2%	3.2%
2021	1294	75.2%	16.2%	8.6%	1861	79.7%	16.1%	4.2%
2022	1309	74.0%	17.8%	8.2%	1223	78.3%	16.6%	5.1%
Total	11062	78%	15%	7%	12028	89%	13%	4%

Table 2: **Summary Statistics**

This table reports summary statistics for the full sample of VC-backed startups and founders (Panel A), the subsample of startups that failed within five years of receiving their last round of VC funding (Panel B), and the sample of startups that succeeded within five years of receiving their last round of VC funding (Panel C). The unit of observation in Panels A through C is a founder-startup pair. The table shows data for men and women founders separately, with p-values of the mean differences across men and women. *I(Invested)* is an indicator equal to one if the founder receives VC funding for a new startup within 5 years after the last round of funding for the current startup. *Funding Raised* is the total VC funding the startup has raised to date. *I(Invested Same Investors)* is an indicator equal to one if the founder receives funding for new startup (within 5 years) from the current startup's investors. *I(CEO)* is an indicator equal to one if the founder is listed as the current startup's CEO during any funding round. *I(Serial Founder)* is an indicator equal to one if the founder is already experienced, defined as founding another startup prior to the founding of the current startup. *Age Startup* is the startup's age (in years). *Pre-Failure funding* (*Pre-Exit*) is the amount of funding raised in the round immediately preceding the failure (success). Panel D shows summary statistics for the dataset used for the investor-level spillover tests. The unit of observation is the investor-startup pair. *All Men* refers to startups where founder teams are all men. *Mixed* refers to startups with men and women on their founder teams. *All Women* refers to teams with only women founders. *I(Women-Founded Startup)* is an indicator equal to one if there is a woman on the startup's founder team. *I(Invested in Women Founder)* is an indicator equal to one if the investor is invested in any firm with a woman founder. *P(Investments in Women)* is the size of deals in the VC firm's portfolio over the previous five years that fund startups with women founders. Panel D shows the mean, median, and standard deviation by gender of the founding teams. It also shows p-values of the mean differences between startups with all-men and all-women founder teams. $^{***}p < 0.01$ denotes significance at the 1% level, $^{**}p < 0.05$ denotes significance at the 5% level, and $^{*}p < 0.10$ denotes significance at the 10% level.

Founder's gender	Total	Men			Women			Difference
Variables	Mean	Mean	Median	Std. Dev	Mean	Median	Std. Dev	M-W
Panel A. All Startups that raise funding for a new startup								
I(Invested)	0.063	0.068	0.000	0.252	0.031	0.000	0.173	0.04^{***}
Funding Raised ($M)	54.219	56.030	7.262	286.157	28.312	4.733	68.995	27.72^{***}
Funding Raised New Startup ($M)	27.014	28.897	3.100	148.806	14.797	1.621	50.347	14.10^{***}
I(CEO)	0.438	0.436	0.000	0.496	0.455	0.000	0.498	-0.02^{***}
I(Serial Founder)	0.121	0.130	0.000	0.336	0.059	0.000	0.236	0.07^{***}
Age Startup	5.343	5.406	4.000	4.764	4.933	4.000	4.107	0.47^{***}
Observations	122716	106330			16386			122716
Panel B. Founders from startups that failed								
I(Invested)	0.077	0.082	0.000	0.274	0.040	0.000	0.196	0.04^{***}
Funding Raised New Startup ($M)	58.558	61.491	7.600	420.282	18.530	4.475	42.690	42.96^{***}
I(Invested Same Investors)	0.011	0.012	0.000	0.109	0.007	0.000	0.083	0.01^{***}
I(CEO)	0.457	0.456	0.000	0.498	0.461	0.000	0.499	-0.01
I(Serial Founder)	0.090	0.098	0.000	0.297	0.037	0.000	0.190	0.06^{***}
Age Startup at Failure	7.139	7.213	6.000	4.663	6.644	6.000	3.580	0.57^{***}
Pre-Failure Funding ($M)	7.097	7.461	0.650	44.581	4.665	0.325	29.557	2.80^{***}
Observations	22386	19470			2916			22386
Panel C. Founders from startups that succeeded								
I(Invested)	0.141	0.148	0.000	0.355	0.078	0.000	0.268	0.07^{***}
Funding Raised New Startup ($M)	99.219	102.826	12.000	646.858	32.023	6.279	68.562	70.80^{***}
I(Invested Same Investors)	0.041	0.043	0.000	0.202	0.019	0.000	0.137	0.02^{***}
I(CEO)	0.402	0.404	0.000	0.491	0.383	0.000	0.486	0.02^{**}
I(Serial Founder)	0.123	0.128	0.000	0.335	0.065	0.000	0.247	0.06^{***}
Age Startup at Exit	8.831	8.879	8.000	5.086	8.356	7.000	5.483	0.52^{***}
Pre-Exit Funding ($M)	41.061	42.876	8.220	222.834	23.183	4.570	57.202	19.69^{***}
Observations	25710	23340			2370			25710

Table 2 **(Continued)**

Panel D. Spillover dataset											
Team's gender	Total	All Men			Mixed			All Women			Difference
Variables	Mean	Mean	Median	Std. Dev	Mean	Median	Std. Dev	Mean	Median	Std. Dev	M-W
Deal Size ($M)	31.301	35.243	8.000	127.630	20.579	5.218	45.627	11.795	3.000	27.459	16.50***
I(Women-Founded Startup)	0.239	0.000	0.000	0.000	1.000	1.000	0.000	1.000	1.000	0.000	-1.00
I(Invested in Women Founder)	0.243	0.229	0.000	0.420	0.278	0.000	0.448	0.318	0.000	0.466	-0.06***
I(Recent Failure)	0.604	0.598	1.000	0.490	0.626	1.000	0.484	0.622	1.000	0.485	-0.03***
Age VC Investor	15.393	15.714	10.000	17.747	14.526	10.000	16.548	13.784	9.000	15.059	1.34***
Age Startup	5.081	5.207	4.000	3.740	4.683	4.000	3.103	4.658	4.000	3.164	0.53***
P(Investments in Women)	0.189	0.175	0.142	0.155	0.224	0.181	0.195	0.271	0.211	0.236	-0.06***
Observations	183042	139320			34562			9160			183042

Table 3: **Financing the next startup: Likelihood of VC funding for a new startup within five years**

This table examines the relationship between the founder's gender and the probability of securing funding for a new startup within five years after the last funding round for the current startup. The unit of observation is a startup-founder pair. The sample includes all startups that received their last funding between 2010 and 2022. This period allows all founders at least one year to raise funding as part of a new company by the end of our sample in December 2023. The dependent variable is *I(Invested)*, an indicator equal to one if the founder receives VC funding for a new startup within 5 years after the last round of funding for the current startup. *I(Woman)* is an indicator equal to one if the founder is a woman. *I(Serial Founder)* is an indicator equal to one if the founder is already experienced, defined as founding another startup prior to the founding of the current startup. *I(CEO)* is an indicator equal to one if the founder is also listed as the current startup's CEO during any funding round. *Ln(Funding Current Startup)* is the total amount of VC funding the startup has raised to date. *Ln(Age)* is the natural log of the startup's age (in years) when it received its last round of funding. The dependent variable in Panel B is the natural log of the amount of funding raised. The number of observations is lower in Columns (4) and (5) because we only use startups with at least two founders to ensure variation within the startup. We estimate all coefficients via OLS regressions with standard errors clustered by startup. $^{***}p < 0.01$ denotes significance at the 1% level, $^{**}p < 0.05$ denotes significance at the 5% level, and $^{*}p < 0.10$ denotes significance at the 10% level.

	I(Invested); Mean = 6.34%				
	(1)	(2)	(3)	(4)	(5)
I(Woman)	-3.394***	-1.619***	-1.784***	-2.926***	-1.891***
	(0.157)	(0.155)	(0.158)	(0.243)	(0.239)
I(Serial Founder)		14.110***	13.953***		13.443***
		(0.349)	(0.347)		(0.423)
I(CEO)		-0.326**	-0.224*		0.050
		(0.131)	(0.131)		(0.148)
Ln(Funding Current Startup)		1.028***	0.902***		
		(0.039)	(0.040)		
Ln(Age)		-0.783***	-0.699***		
		(0.110)	(0.112)		
Observations	122716	122716	122716	105749	105749
Adjusted R^2	0.018	0.065	0.068	0.189	0.215
Year Founded FE?	YES	YES	YES	YES	YES
Industry FE?	NO	NO	YES	NO	NO
State FE?	NO	NO	YES	NO	NO
Startup FE?	NO	NO	NO	YES	YES

Table 4: **Likelihood of VC funding for a new startup following success or failure**

This table shows results from regressions that estimate the relationship between a startup founder's gender and the likelihood that the founder raises a future round of funding for a new VC-backed startup following the current startup's failure (Panel A) or success (Panel B). The dependent variable is *I(Invested)*, an indicator equal to one if the founder receives VC funding for a new startup within 5 years after the failure or success event. The unit of observation is a startup-founder pair. *I(Woman)* is an indicator equal to one if the founder is a woman. *I(Serial Founder)* is an indicator equal to one if the founder is already experienced, defined as founding another startup prior to the founding of the current startup. *I(CEO)* is an indicator equal to one if the founder is also listed as the current startup's CEO during any funding round. *Ln(Age)* is the natural log of the startup's age (in years) when it failed or succeeded. *Ln(Pre-Exit Funding)* is the natural log of the amount of VC funding the startup raised before it failed or succeeded. We classify a VC-backed startup as a failure if Pitchbook flags that the startup has closed or gone bankrupt within five years of its last funding round. The company is also classified as a failure (without the Pitchbook designation) if, within five years of its last funding round, all of the following conditions hold: (i) the founder left the company; (ii) the company did not raise another round of financing following the founder's departure; (iii) the company did not provide an exit via an IPO or acquisition, and (iv) the startup's website is inactive. A startup is considered a success (*Success*) if it went public in an IPO or was acquired within five years of the last funding round. We estimate all coefficients via OLS regressions with standard errors clustered by startup. $^{***}p < 0.01$ denotes significance at the 1% level, $^{**}p < 0.05$ denotes significance at the 5% level, and $^{*}p < 0.10$ denotes significance at the 10% level.

Panel A:	I(Invested); Mean = 7.66%				
	(1)	(2)	(3)	(4)	(5)
I(Woman)	-3.812***	-2.254***	-2.394***	-3.031***	-1.724***
	(0.416)	(0.410)	(0.417)	(0.653)	(0.634)
I(Serial Founder)		18.316***	18.078***		18.235***
		(1.047)	(1.043)		(1.303)
Ln(Age)		-2.383***	-2.326***		
		(0.415)	(0.416)		
Ln(Pre-Exit Funding)		1.038***	0.887***		
		(0.094)	(0.096)		
I(CEO)		1.630***	1.727***		2.135***
		(0.338)	(0.338)		(0.401)
Observations	22386	22386	22386	18537	18537
Adjusted R^2	0.012	0.063	0.066	0.176	0.211
Year Failure FE?	YES	YES	YES	YES	YES
Industry FE?	NO	NO	YES	NO	NO
State FE?	NO	NO	YES	NO	NO
Startup FE?	NO	NO	NO	YES	YES

Panel B:	I(Invested); Mean = 14.13%				
	(1)	(2)	(3)	(4)	(5)
I(Woman)	-6.029***	-3.778***	-4.177***	-6.140***	-3.808***
	(0.600)	(0.591)	(0.601)	(0.879)	(0.849)
I(Serial Founder)		24.259***	24.023***		24.392***
		(0.938)	(0.932)		(1.149)
Ln(Age)		-6.069***	-5.713***		
		(0.466)	(0.475)		
Ln(Pre-Exit Funding)		1.845***	1.631***		
		(0.121)	(0.122)		
I(CEO)		3.747***	3.906***		4.312***
		(0.416)	(0.415)		(0.483)
Observations	25710	25710	25710	21920	21920
Adjusted R^2	0.024	0.101	0.105	0.201	0.254
Year Exit FE?	YES	YES	YES	YES	YES
Industry FE?	NO	NO	YES	NO	NO
State FE?	NO	NO	YES	NO	NO
Startup FE?	NO	NO	NO	YES	YES

Table 5: **Starting the next firm: Likelihood of starting the next firm after failure or success according to LinkedIn**

This table examines the relationship between the founder's gender and the probability of starting a new startup within five years after the last funding round for the current startup. We identify new firms using founders' LinkedIn profiles. The unit of observation is a startup-founder pair. The sample includes founders of all startups that received their last funding between 2010 and 2022. This period allows all founders at least one year to start a new firm by the end of our sample in December 2023. In Panel A, the dependent variable is *I(New Firm)*, an indicator equal to one if the founder reports in their LinkedIn profile being the founder of new startup. In Panel B, the dependent variable is *I(Invested)*, an indicator equal to one if the founder receives VC funding for a new startup within five years after the last round of funding for the previous startup. *I(Woman)* is an indicator equal to one if the founder is a woman. *I(Serial Founder LinkedIn)* is an indicator equal to one if the founder is already experienced, defined as founding another startup prior to the founding of the current startup according to information reported in LinkedIn Profiles. *I(CEO)* is an indicator equal to one if the founder is also listed as the current startup's CEO during any funding round. *Ln(Funding Current Startup)* is the total amount of VC funding the startup has raised to date. *Ln(Age)* is the natural log of the startup's age (in years) when it received its last round of funding. In columns 1 and 2, we focus on new firms after the failure of the current startup and in columns 3 and 4, we we focus on new firms after the exit through IPO or M&A of the current startup. We estimate all coefficients via OLS regressions with standard errors clustered by startup. $^{***}p < 0.01$ denotes significance at the 1% level, $^{**}p < 0.05$ denotes significance at the 5% level, and $^{*}p < 0.10$ denotes significance at the 10% level.

Panel A	I(Next Firm in LinkedIn)			
	After First Startup Failure Mean = 26.39%		After First Startup Success Mean = 35.11%	
	(1)	(2)	(3)	(4)
I(Woman)	-2.600***	-2.490**	-4.873***	-3.216***
	(0.944)	(1.136)	(1.060)	(1.199)
I(Serial Founder LinkedIn)	26.776***	21.363***	28.881***	23.394***
	(0.765)	(0.878)	(0.709)	(0.824)
I(CEO)	9.649***	7.131***	10.634***	8.465***
	(0.691)	(0.636)	(0.659)	(0.641)
Ln(Age)	-8.446***		-10.891***	
	(0.791)		(0.745)	
Ln(Pre-Exit Funding)	1.411***		1.714***	
	(0.178)		(0.188)	
Observations	20107	20107	24855	24855
Adjusted R^2	0.194	0.379	0.244	0.431
Year Exit FE?	YES	YES	YES	YES
Industry FE?	YES	NO	YES	NO
State FE?	YES	NO	YES	NO
Startup FE?	NO	YES	NO	YES

Panel B	I(Next VC-backed Startup | Next Firm in LinkedIn)			
	After Current Startup Failure Mean = 37.01%		After Current Startup Success Mean = 53.46%	
	(1)	(2)	(3)	(4)
I(Woman)	-14.162***	-11.287**	-10.715***	-9.600**
	(3.420)	(5.275)	(3.500)	(4.421)
I(Serial Founder LinkedIn)	9.460***	4.061	15.702***	14.155***
	(2.546)	(3.551)	(1.912)	(2.681)
I(CEO)	0.825	2.073	2.863*	5.188***
	(2.210)	(2.376)	(1.734)	(1.886)
Ln(Age)	-5.139*		-8.851***	
	(3.078)		(2.195)	
Ln(Pre-Exit Funding)	2.867***		4.257***	
	(0.628)		(0.540)	
Observations	3518	3518	6130	6130
Adjusted R^2	0.085	0.666	0.088	0.631
Year Exit FE?	YES	YES	YES	YES
Industry FE?	YES	NO	YES	NO
State FE?	YES	NO	YES	NO
Startup FE?	NO	YES	NO	YES

Table 6: **Amount raised following startup success or failure**

This table examines the relationship between a startup founder's gender and the amount of funding raised at the next startup following the failure or success of the current startup. The unit of observation is a startup-founder pair. The dependent variable, *Ln(Funding Raised)*, is the natural log of the amount of VC funding raised by the new startup in the five years following the failure or success of the current startup. *I(Woman)* an indicator equal to one of the founders is a woman. *I(Serial)* is an indicator for founders who started another company before the current startup. *I(CEO)* is an indicator of whether the founder was also listed as the CEO during a funding round. *Ln(Age)* is the startup's age when it failed or succeeded. *Ln(Pre-Exit Funding)* is the log amount of VC funding the startup raised before it failed or succeeded. We classify a VC-backed startup as a failure if Pitchbook flags that the startup has closed or gone bankrupt within five years of its last funding round. The company is also classified as a failure (without the Pitchbook designation) if, within five years of its last funding round, all of the following conditions hold: (i) the founder left the company; (ii) the company did not raise another round of financing following the founder's departure; (iii) the company did not provide an exit via an IPO or acquisition, and (iv) the startup's website is inactive. A startup is considered a success (*Success*) if it went public in an IPO or was acquired within five years of the last funding round. We estimate all coefficients via OLS regressions with standard errors clustered by startup. $^{***}p < 0.01$ denotes significance at the 1% level, $^{**}p < 0.05$ denotes significance at the 5% level, and $^{*}p < 0.10$ denotes significance at the 10% level.

Panel A:	Ln(Funding Raised)				
	(1)	(2)	(3)	(4)	(5)
I(Woman)	-0.729***	-0.471**	-0.526***	-0.840**	-0.759**
	(0.209)	(0.200)	(0.199)	(0.357)	(0.368)
I(Serial Founder)		0.358***	0.361***		0.637**
		(0.116)	(0.116)		(0.300)
Ln(Age)		-0.197*	-0.216*		
		(0.119)	(0.121)		
Ln(Pre-Exit Funding)		0.242***	0.210***		
		(0.028)	(0.028)		
I(CEO)		-0.166*	-0.134		0.064
		(0.096)	(0.097)		(0.147)
Observations	1711	1711	1711	513	513
Adjusted R^2	0.014	0.090	0.117	0.534	0.542
Year Failure FE?	YES	YES	YES	YES	YES
Industry FE?	NO	NO	YES	NO	NO
State FE?	NO	NO	YES	NO	NO
Startup FE?	NO	NO	NO	YES	YES

Panel B:	Ln(Funding Raised)				
	(1)	(2)	(3)	(4)	(5)
I(Woman)	-0.623***	-0.395***	-0.479***	-0.348***	-0.283**
	(0.151)	(0.139)	(0.140)	(0.131)	(0.129)
I(Serial Founder)		0.509***	0.470***		0.450***
		(0.075)	(0.073)		(0.135)
Ln(Age)		-0.463***	-0.387***		
		(0.076)	(0.076)		
Ln(Pre-Exit Funding)		0.372***	0.311***		
		(0.021)	(0.021)		
I(CEO)		-0.192***	-0.143**		0.118
		(0.058)	(0.057)		(0.073)
Observations	3631	3631	3631	1382	1382
Adjusted R^2	0.024	0.169	0.199	0.562	0.571
Year Exit FE?	YES	YES	YES	YES	YES
Industry FE?	NO	NO	YES	NO	NO
State FE?	NO	NO	YES	NO	NO
Startup FE?	NO	NO	NO	YES	YES

Table 7: **Differences in performance of the subsequent startup**

This table examines the relationship between the founder's gender and the probability of a successful exit. The unit of observation is a person-startup for the startup-person pairs from Tables 3 and 4. The sample includes startups that either succeeded or failed between 2010 and 2022, and future outcomes are measured as of the end of our sample period, December 2023. In the first two columns, the dependent variable is *I(All IPOs & M&As)*, an indicator equal to one if the founder received VC funding for a new startup that exited via an IPO or an acquisition by the end of our sample period, and zero otherwise. In the last two columns, a startup is successful if the startup exits via an IPO, and zero otherwise. *I(Woman)* is an indicator equal to one if the founder is a woman. *I(Serial Founder)* is an indicator equal to one if the founder is already experienced, defined as founding another startup prior to the founding of the current startup. *I(CEO)* is an indicator equal to one if the founder is also listed as the current startup's CEO during any funding round. *Ln(Pre-Exit Funding)* is the logarithm of all funding raised with the new startup before the exit. *Year Exit FE* is the exit year for the current startup. We estimate all coefficients via OLS regressions with standard errors clustered by startup. $^{***}p < 0.01$ denotes significance at the 1% level, $^{**}p < 0.05$ denotes significance at the 5% level, and $^{*}p < 0.10$ denotes significance at the 10% level.

	I(All IPOs & M&As)		I(IPOs Only)	
	(1)	(2)	(3)	(4)
I(Woman)	0.118	0.124*	0.152**	0.156**
	(0.082)	(0.069)	(0.076)	(0.072)
I(CEO)	0.087**	0.065*	0.009	-0.004
	(0.035)	(0.033)	(0.019)	(0.017)
I(Serial Founder)	0.042	0.051	0.060	0.066
	(0.063)	(0.052)	(0.046)	(0.042)
Ln(Pre-Exit Funding)		0.103***		0.064***
		(0.017)		(0.014)
Observations	588	588	588	588
Adjusted R^2	0.461	0.547	0.433	0.488
Year Exit FE?	YES	YES	YES	YES
Previous Startup FE?	YES	YES	YES	YES

Table 8: **Likelihood of new funding following startup failure (Supply of Capital)**

This table examines the relationship between the gender of a failed startup founder and the likelihood that the founder raises a future round of funding following the startup failure. In Panel A, the unit of observation is a startup year for startups that raised VC funding between 2010 and 2022. *I(Follow-on)* is an indicator of whether the startup raised a new round of funding in the five years following the current funding round. *I(Failure)* and *I(Success)* are indicators for startups that failed following the current round of funding. *Ln(Funding Supply)* is the log of the average pension fund assets in the state where the startup is headquartered in the four years preceding a deal. We cluster standard errors in Panel A at the state level. In Panel B, the unit of observation is a failed startup-founder pair, while Panel C is for successful founders. *I(Woman)* is an indicator equal to one if the founder is a woman. *I(Serial)* is an indicator for founders who started another company before the current startup. *I(CEO)* is an indicator of whether the founder was also listed as the CEO during a funding round. *Ln(Age)* is the startup's age when it failed or succeeded. *Ln(Pre-Exit Funding)* is the log amount of VC funding the startup raised before it failed or succeeded. We classify a startup as failed if it closes within five years of its last funding round or if a founder left the company, the company did not raise another round of funding following the founder's departure, the company did not successfully exit via an IPO or an acquisition, and the startup's website is inactive in the five years following their last funding round. We calculate *Ln(Funding Supply)* in Panels B and C as of the year of the startup's last funding round before success or failure. $^{***}p < 0.01$ denotes significance at the 1% level, $^{**}p < 0.05$ denotes significance at the 5% level, and $^{*}p < 0.10$ denotes significance at the 10% level.

Panel A: Outcomes and Supply of Capital	I(Follow-on)	I(Failure)	I(IPO)	I(Acquired)
	(1)	(2)	(3)	(4)
Ln(Funding Supply)	0.837**	-1.263***	0.319***	1.350***
	(0.369)	(0.375)	(0.089)	(0.339)
Observations	92189	92189	92189	92189
Adjusted R^2	0.029	0.057	0.021	0.074
Year FE?	YES	YES	YES	YES
Industry FE?	YES	YES	YES	YES

Panel B: Failures and Supply	I(Invested); Mean = 7.68%				
	(1)	(2)	(3)	(4)	(5)
I(Woman) X Ln(Funding Supply)	-0.519	-0.358	-0.318	-0.023	0.108
	(0.389)	(0.385)	(0.391)	(0.597)	(0.588)
I(Woman)	-3.870***	-2.283***	-2.372***	-3.087***	-1.795***
	(0.414)	(0.409)	(0.414)	(0.645)	(0.627)
Ln(Funding Supply)	1.443***	0.810***	1.809		
	(0.205)	(0.199)	(1.642)		
Observations	22119	22119	22119	18337	18337
Adjusted R^2	0.014	0.064	0.066	0.177	0.212
Year Exit FE?	YES	YES	YES	YES	YES
Industry FE?	NO	NO	YES	NO	NO
State FE?	NO	NO	YES	NO	NO
Startup FE?	NO	NO	NO	YES	YES
Other Controls?	NO	YES	YES	NO	YES

Panel C: Success and Supply	I(Invested); Mean = 14.19%				
	(1)	(2)	(3)	(4)	(5)
I(Woman) X Ln(Funding Supply)	-0.346	0.008	0.013	-0.244	-0.045
	(0.510)	(0.516)	(0.514)	(0.777)	(0.742)
I(Woman)	-6.064***	-3.739***	-4.121***	-6.225***	-3.896***
	(0.604)	(0.597)	(0.608)	(0.879)	(0.849)
Ln(Funding Supply)	1.790***	0.563**	-1.069		
	(0.244)	(0.237)	(1.486)		
Observations	25196	25196	25196	21500	21500
Adjusted R^2	0.027	0.102	0.105	0.202	0.256
Year Exit FE?	YES	YES	YES	YES	YES
Industry FE?	NO	NO	YES	NO	NO
State FE?	NO	NO	YES	NO	NO
Startup FE?	NO	NO	NO	YES	YES
Other Controls?	NO	YES	YES	NO	YES

Table 9: **Likelihood of investment by the same investor following startup failure by founder gender**

This table examines the relationship between a startup founder's gender and the likelihood that the founder raises a future round of funding from the same investors following the startup's failure (Panel A) or success (Panel B). The unit of observation is a startup-founder pair. We present coefficients from OLS regressions and cluster standard errors by startup. The dependent variable, *I(Invested Same Investors)*, is an indicator that equals one if any investor in the current startup that failed (Panel A) or succeeded (Panel B) also backed the new startup involving the same founder in the five years following the failure or success of the current startup. *I(Woman)* is an indicator for a woman founder. *I(Serial)* is an indicator for founders who started another company before the current startup. *I(CEO)* is an indicator of whether the founder was also listed as the CEO during a funding round. *Ln(Age)* is the startup's age when it failed or succeeded. *Ln(Pre-Exit Funding)* is the log amount of VC funding the startup raised before it failed or succeeded. We classify a startup as failed if it closes within five years of its last funding round or if a founder left the company, the company did not raise another round of funding following the founder's departure, the company did not successfully exit via an IPO or an acquisition, and the startup's website is inactive in the five years following their last funding round. A startup is successful if the startup exits via an IPO or an Acquisition within five years of their last funding round. $^{***}p < 0.01$ denotes significance at the 1% level, $^{**}p < 0.05$ denotes significance at the 5% level, and $^{*}p < 0.10$ denotes significance at the 10% level.

Panel A:	I(Invested Same Investors); Mean = 1.13%				
	(1)	(2)	(3)	(4)	(5)
I(Woman)	-0.442***	-0.087	-0.152	-0.283	-0.146
	(0.167)	(0.165)	(0.168)	(0.207)	(0.207)
I(Serial Founder)		2.637***	2.604***		2.076***
		(0.476)	(0.475)		(0.508)
Ln(Age)		-1.169***	-1.224***		
		(0.199)	(0.198)		
Ln(Pre-Exit Funding)		0.478***	0.463***		
		(0.048)	(0.048)		
Observations	22386	22386	22386	18537	18537
Adjusted R^2	0.002	0.018	0.019	0.272	0.275
Year Failure FE?	YES	YES	YES	YES	YES
Industry FE?	NO	NO	YES	NO	NO
State FE?	NO	NO	YES	NO	NO
Startup FE?	NO	NO	NO	YES	YES

Panel B:	I(Invested Same Investors); Mean = 4.06%				
	(1)	(2)	(3)	(4)	(5)
I(Woman)	-1.996***	-1.323***	-1.428***	-1.358***	-1.012**
	(0.304)	(0.303)	(0.312)	(0.456)	(0.453)
I(Serial Founder)		4.892***	4.816***		4.171***
		(0.543)	(0.541)		(0.620)
Ln(Age)		-3.715***	-3.581***		
		(0.309)	(0.315)		
Ln(Pre-Exit Funding)		1.142***	1.049***		
		(0.079)	(0.078)		
Observations	25710	25710	25710	21920	21920
Adjusted R^2	0.013	0.038	0.040	0.265	0.269
Year Exit FE?	YES	YES	YES	YES	YES
Industry FE?	NO	NO	YES	NO	NO
State FE?	NO	NO	YES	NO	NO
Startup FE?	NO	NO	NO	YES	YES

Table 10: **Spillovers following startup failures (Theranos case study)**

This table examines the relationship between the startup founder's gender and the amount of funding investors allocate to their startup after experiencing the failure of Theranos. The unit of observation is an investor deal during the 2013 to 2019 sample period (three years before through three years following the Wall Street Journal's article highlighting fraud at Theranos). All investors in this analysis directly invested in Theranos prior to its failure. The test excludes Theranos from the sample. *Healthcare* is an indicator equal to one if the startup is in the same sector as Theranos (Healthcare sector). *Post* is an indicator for the years following the Wall Street Journal investigative articles about Theranos. I(Women) is an indicator of whether any of the founders of the startup in the deal are women. $^{***}p < 0.01$ denotes significance at the 1% level, $^{**}p < 0.05$ denotes significance at the 5% level, and $^{*}p < 0.10$ denotes significance at the 10% level.

Dependent Variable:	Ln(Deal Size)		
	(1)	(2)	(3)
I(Women)	0.408**	-0.119	0.306
	(0.190)	(0.223)	(0.221)
I(Women) X I(Post)	-0.923**		-0.922*
	(0.342)		(0.489)
I(Healthcare)		-0.022	-0.134
		(0.341)	(0.374)
I(Healthcare) X I(Post)		0.058	0.152
		(0.318)	(0.348)
I(Healthcare) X I(Women)			0.404
			(0.396)
I(Healthcare) X I(Post) X I(Women)			-0.169
			(0.582)
Observations	580	580	580
Adjusted R^2	0.314	0.302	0.311
Year FE?	YES	YES	YES
Investor FE?	YES	YES	YES

Table 11: **Potential spillovers following startup failures**

This table examines the relationship between the gender of a failed startup founder and the sizes of deals for women-founded startups in the years following the failure event. The unit of observation is an investor-deal pair. *I(W. Founder)* is an indicator equal to one if at least one member of the founder team is a woman. *I(Recent Failure)* is an indicator equal to one if the investor backed at least one startup over the previous five years that failed. *I(FW. Founder)* is an indicator equal to one if the investor backed at least one startup that failed over the previous five years and that also had at least one woman founder. *Ln(Age Startup)* is the natural log of the age of the startup, and *Ln(Age VC)* is the natural log of the age of the VC firm (investor). *P(Investments Women)* is the size of deals in the VC firm's portfolio that fund startups with women founders over the previous five years, divided by the total size of all deals in which the investor participated. *P(Serial Investments)* is the number of serial founders in the investor's portfolio, divided by the total number of founders in the portfolio. The dependent variable is *Ln(Deal Size)*, the natural log of deal size (in millions). We classify a startup as failed if it closes within five years of its last funding round or if a founder left the company, the company did not raise another round of funding following the founder's departure, the company did not successfully exit via an IPO or an acquisition, and the startup's website is inactive in the five years following their last funding round. A startup is successful if the startup exits via an IPO or an Acquisition within five years of its last funding round. The sample includes all investors in Pitchbook that experienced at least one failure between 2010 and 2022. We present coefficients from OLS regressions and cluster standard errors by investor. $^{***}p < 0.01$ denotes significance at the 1% level, $^{**}p < 0.05$ denotes significance at the 5% level, and $^{*}p < 0.10$ denotes significance at the 10% level.

Dependent Variable:	Ln(Deal Size)			
	(1)	(2)	(3)	(4)
I(FW. Founder) X I(W. Founder)	-0.130*	-0.153**	-0.058***	-0.081***
	(0.068)	(0.062)	(0.023)	(0.021)
I(W. Founder)	-0.543***	-0.307***	-0.235***	-0.151***
	(0.017)	(0.015)	(0.011)	(0.010)
I(FW. Founder)	-0.694***	-0.518***	0.020	0.005
	(0.213)	(0.179)	(0.020)	(0.019)
P(Investments Women)		-0.170***		-0.018
		(0.025)		(0.013)
Ln(Age Startup)		0.283***		0.109***
		(0.030)		(0.031)
Ln(Age VC)		1.086***		0.806***
		(0.052)		(0.017)
I(Recent Failure)	0.244***	-0.066*	0.098***	0.050*
	(0.047)	(0.038)	(0.026)	(0.026)
P(Serial Founder)		0.909***		0.496***
		(0.050)		(0.015)
Observations	183027	183027	183042	183042
Adjusted R^2	0.145	0.310	0.536	0.594
Year FE?	YES	YES	YES	YES
Investor FE?	NO	NO	YES	YES
State FE?	YES	YES	NO	NO
Industry FE?	YES	YES	NO	NO

Table 12: **Spillovers following startup success**

This table examines the relationship between the gender of a successful startup founder and the amount of funding the investor allocates to other women-founded startups in the years following success. The unit of observation is an investor-deal pair. In Panel A, a startup is successful if the startup exits via an IPO or an Acquisition by December 2022. In Panel B, a startup is successful if the startup exits via an IPO or acquisition where the ratio of exit valuation to funding raised pre-exit is in the $90th$ percentile of all startup exits. We present coefficients from OLS regressions and cluster standard errors by investors. *I(W. Founder)* is an indicator for a Woman founder at the startup receiving VC funding. *I(Recent Success)* is an indicator of whether the investor backed at least one startup over the previous five years that was successful (extremely successful in Panel B). *I(SW. Founder)* is an indicator of whether the investor backed at least one startup with a woman over the previous five years that was successful. *Ln(Age Startup)* is the startup and *Ln(Age VC)* is the age of the VC firm. *P(Investments Women)* is the proportion of investments in women over the previous five years. *P(Serial Investments)* is the number of serial founders in the investor's portfolio, divided by the total number of founders in the portfolio. *Ln(Deal Size)* is the log of the deal size. Panel A only includes investors who have experienced at least one success, and Panel B only includes investors who have experienced at least one extreme success. $^{***}p < 0.01$ denotes significance at the 1% level, $^{**}p < 0.05$ denotes significance at the 5% level, and $^{*}p < 0.10$ denotes significance at the 10% level.

Panel A: All IPOs & M&As	Ln(Deal Size)			
	(1)	(2)	(3)	(4)
I(SW. Founder) X I(W. Founder)	-0.107 (0.068)	-0.112* (0.064)	-0.043** (0.020)	-0.052*** (0.019)
I(W. Founder)	-0.483*** (0.018)	-0.287*** (0.015)	-0.214*** (0.011)	-0.146*** (0.010)
I(SW. Founder)	-0.335* (0.176)	-0.216 (0.145)	0.014 (0.019)	0.019 (0.017)
I(Recent Success)	0.479*** (0.042)	0.201*** (0.039)	0.089*** (0.022)	0.026 (0.020)
P(Investments Women)		-0.172*** (0.025)		-0.014 (0.012)
Ln(Age Startup)		0.119*** (0.030)		0.090*** (0.034)
Ln(Age VC)		1.124*** (0.057)		0.787*** (0.016)
P(Serial Founder)		0.977*** (0.057)		0.526*** (0.015)
Observations	177282	177282	177282	177282
Adjusted R^2	0.192	0.334	0.573	0.623
Year FE?	YES	YES	YES	YES
Investor FE?	NO	NO	YES	YES
State FE?	YES	YES	NO	NO
Industry FE?	YES	YES	NO	NO

Panel B: All IPOs & Select M&As:	Ln(Deal Size)			
	(1)	(2)	(3)	(4)
I(SW. Founder) X I(W. Founder)	0.010 (0.052)	0.009 (0.049)	-0.005 (0.024)	0.006 (0.023)
I(W. Founder)	-0.523*** (0.041)	-0.322*** (0.027)	-0.232*** (0.011)	-0.159*** (0.010)
I(SW. Founder)	0.035 (0.113)	0.076 (0.091)	-0.005 (0.028)	0.019 (0.026)
I(Recent Success)	0.275* (0.157)	0.102 (0.132)	0.055** (0.022)	0.021 (0.022)
P(Investments Women)		-0.148*** (0.032)		-0.014 (0.015)
Ln(Age Startup)		0.116*** (0.030)		0.083** (0.037)
Ln(Age VC)		1.157*** (0.086)		0.800*** (0.018)
P(Serial Founder)		0.906*** (0.082)		0.516*** (0.017)
Observations	160864	160864	160864	160864
Adjusted R^2	0.154	0.316	0.540	0.598
Year FE?	YES	YES	YES	YES
Investor FE?	NO	NO	YES	YES
State FE?	YES	YES	NO	NO
Industry FE?	YES	YES	NO	NO

References

Amornsiripanitch, N., P. Gompers, G. Hu, W. Levinson, and V. Mukharlyamov (2022). Failing just fine: Assessing careers of venture capital-backed entrepreneurs via a non-wage measure. Technical Report W30365, National Bureau of Economic Research.

Becker, G. S. (1993). Nobel lecture: The economic way of looking at behavior. *Journal of Political Economy 101*(3), 385–409.

Bengtsson, L. O. (2005). Repeated relationships between venture capitalists and entrepreneurs. Technical report, Working Paper.

Bernstein, S., X. Giroud, and R. R. Townsend (2016). The impact of venture capital monitoring. *The Journal of Finance 71*(4), 1591–1622.

Bloom, N., C. I. Jones, J. Van Reenen, and M. Webb (2020). Are ideas getting harder to find? *American Economic Review 110*(4), 1104–1144.

Bohren, J. A., A. Imas, and M. Rosenberg (2019). The dynamics of discrimination: Theory and evidence. *American Economic Review 109*(10), 3395–3436.

Boisjoly, J., G. J. Duncan, M. Kremer, D. M. Levy, and J. Eccles (2006). Empathy or Antipathy? The Impact of Diversity. *American Economic Review 96*(5), 1890–1905.

Bordalo, P., K. Coffman, N. Gennaioli, and A. Shleifer (2016). Stereotypes. *The Quarterly Journal of Economics 131*(4), 1753–1794.

Botelho, T. L., D. C. Fehder, and M. Miric (2023). Moving forward or falling back: Gender differences in career advancement for former entrepreneurs re-entering the workforce. Technical report.

Brush, C. G., N. M. Carter, E. Gatewood, P. G. Greene, and M. Hart (2003). Venture capital access: Is gender an issue. *The emergence of entrepreneurship policy: Governance, start-ups, and growth in the US knowledge economy*, 141–154.

Card, D., S. DellaVigna, P. Funk, and N. Iriberri (2022). Gender differences in peer recognition by economists. *Econometrica 90*(5), 1937–1971.

Catherine, S. (2022). Keeping options open: What motivates entrepreneurs? *Journal of Financial Economics 144*(1), 1–21.

Cook, L. D., M. Marx, and E. Yimfor (2022). Funding black high-growth startups. Technical Report W30682, National Bureau of Economic Research.

Cullen, Z. and R. Perez-Truglia (2023). The Old Boys' Club: Schmoozing and the Gender Gap. *American Economic Review 113*(7), 1703–1740.

Ductor, L., S. Goyal, and A. Prummer (2023). Gender and collaboration. *Review of Economics and Statistics 105*(6), 1366–1378.

Ewens, M. (2023). Race and gender in entrepreneurial finance. Technical Report W30444.

Ewens, M. and J. Farre-Mensa (2020). The deregulation of the private equity markets and the decline in IPOs. *The Review of Financial Studies 33*(12), 5463–5509.

Ewens, M. and R. R. Townsend (2020). Are early stage investors biased against women? *Journal of Financial Economics 135*(3), 653–677.

Genc, C. (2023). *Essays on Entrepreneurial Finance*. Ph. D. thesis, Université Paris Sciences et Lettres.

Gompers, P., A. Kovner, J. Lerner, and D. Scharfstein (2010). Performance persistence in entrepreneurship. *Journal of Financial Economics 96*(1), 18–32.

Gompers, P. A., W. Gornall, S. N. Kaplan, and I. A. Strebulaev (2020). How do venture capitalists make decisions? *Journal of Financial Economics 135*(1), 169–190.

Gompers, P. A., K. Huang, and S. Q. Wang (2022). Homophily in entrepreneurial team formation. *Working Paper*.

Gompers, P. A. and S. Q. Wang (2017). Diversity in innovation. *Working Paper*.

González-Uribe, J. (2020). Exchanges of innovation resources inside venture capital portfolios. *Journal of Financial Economics 135*(1), 144–168.

Gornall, W. and I. A. Strebulaev (2022). Gender, race, and entrepreneurship: A randomized field experiment on venture capitalists and angels. *Management Science*.

Guzman, J. and A. O. Kacperczyk (2019). Gender gap in entrepreneurship. *Research Policy 48*(7), 1666–1680.

Hamilton, B. H. (2000). Does entrepreneurship pay? an empirical analysis of the returns to self-employment. *Journal of Political Economy 108*(3), 604–631.

Hebert, C. (2020). Gender stereotypes and entrepreneur financing. Technical report, SSRN.

Hochberg, Y. V., A. Ljungqvist, and Y. Lu (2007). Whom you know matters: Venture capital networks and investment performance. *The Journal of Finance 62*(1), 251–301.

Hochberg, Y. V. and J. D. Rauh (2013). Local overweighting and underperformance: Evidence from limited partner private equity investments. *The Review of Financial Studies 26*(2), 403–451.

Howell, S. T. and R. Nanda (2022). Networking frictions in venture capital, and the gender gap in entrepreneurship. *Journal of Financial and Quantitative Analysis*, 1–56.

Hsu, D. H. (2007). Experienced entrepreneurial founders, organizational capital, and venture capital funding. *Research policy 36*(5), 722–741.

Hvide, H. K. and G. A. Panos (2014). Risk tolerance and entrepreneurship. *Journal of Financial Economics 111*(1), 200–223.

Ibáñez, M. J. and M. Guerrero (2022). Women serial high-tech entrepreneurs: a literature review and research agenda. *Developments in Entrepreneurial Finance and Technology*, 39.

Janeway, W. H., R. Nanda, and M. Rhodes-Kropf (2021). Venture capital booms and start-up financing. *Annual Review of Financial Economics 13*, 111–127.

Lafontaine, F. and K. Shaw (2016). Serial Entrepreurship : Learning by doing? *Journal of Labor Economics 34*(S2), 101–147.

Ljungqvist, A. and W. J. Wilhelm Jr (2003). IPO Pricing in the Dot-Com Bubble. *The Journal of Finance 58*(2), 723–752.

Manso, G. (2016). Experimentation and the returns to entrepreneurship. *Review of Financial Studies 29*(9), 2319–2340.

Moskowitz, T. J. and A. Vissing-Jørgensen (2002). The returns to entrepreneurial investment: A private equity premium puzzle? *American Economic Review 92*(4), 745–778.

Nahata, R. (2019). Success is good but failure is not so bad either: Serial entrepreneurs and venture capital contracting. *Journal of Corporate Finance 58*, 624–649.

Pollman, E. (2023). Startup failure. *Duke Law Journal 73*, 327.

Puri, M. and D. T. Robinson (2013). The economic psychology of entrepreneurship and family business. *Journal of Economics & Management Strategy 22*(2), 423–444.

Raina, S. (2020). VCs, Founders, and the Performance Gender Gap. Technical report.

Sarsons, H. (2017a). Interpreting signals in the labor market: Evidence from medical referrals. Technical report, Yale University.

Sarsons, H. (2017b). Recognition for group work: Gender differences in academia. *American Economic Review 107*(5), 141–145.

Sarsons, H., K. Gërxhani, E. Reuben, and A. Schram (2021). Gender differences in recognition for group work. *Journal of Political economy 129*(1), 101–147.

Shaw, K. and A. Sørensen (2019). The productivity advantage of serial entrepreneurs. *ILR Review 72*(5), 1225–1261.

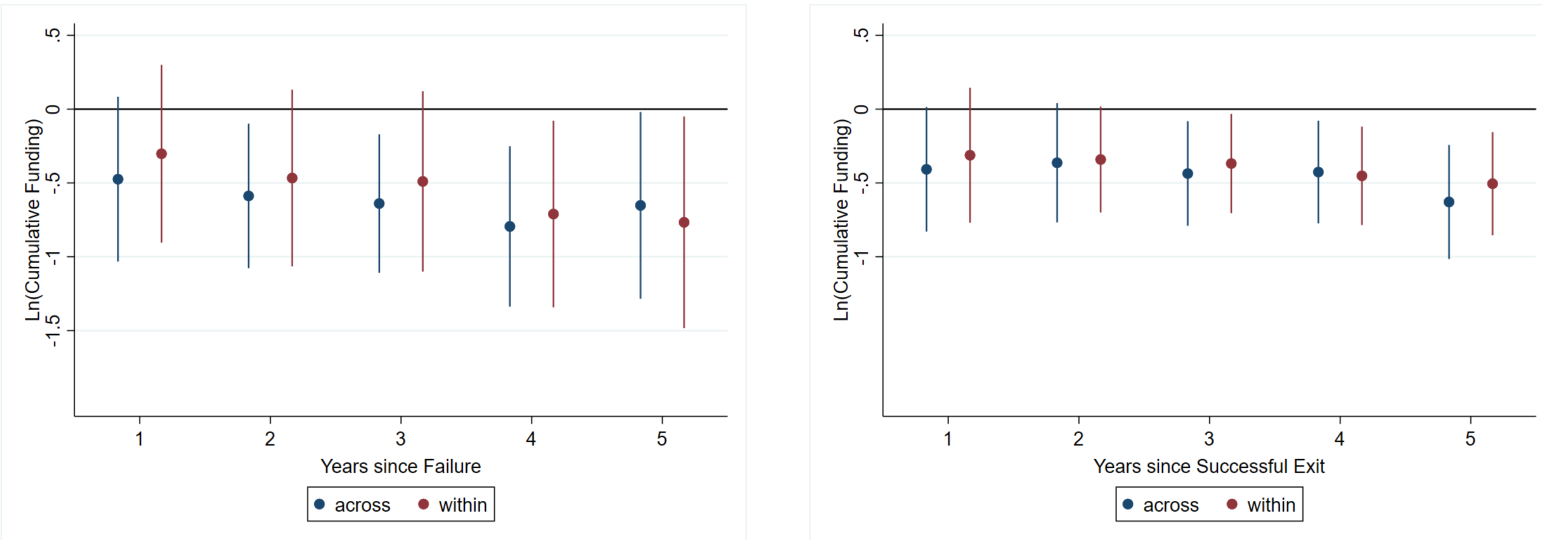
Snellman, K. and I. Solal (2023). Does investor gender matter for the success of female entrepreneurs? gender homophily and the stigma of incompetence in entrepreneurial finance. *Organization Science 34*(32), 680–699.

Sorkin, I. (2023). Quantifying racial disparities using consecutive employment epells. *Working Paper*.

Yimfor, E. and J. A. Garfinkel (2023). Predicting success in entrepreneurial finance research. *Journal of Corporate Finance,* 102359.

Supplementary Material

Appendix A. Supplementary Figures

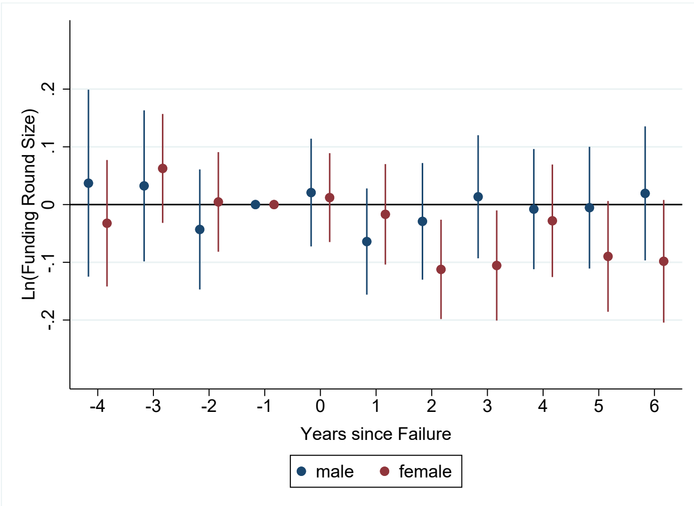


(a) Panel A: After Failure - Cumulative Funding differences

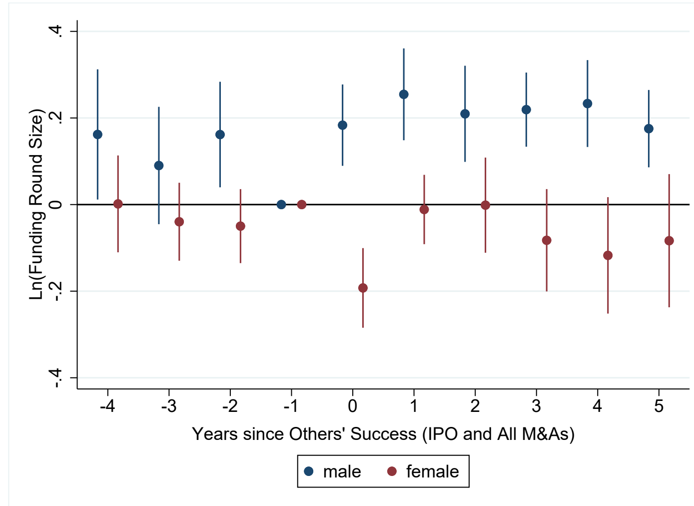
(b) Panel B: After Success - Cumulative funding differences

Figure A.1: Cumulative VC Funding Differences after the Exit from the Current Startup

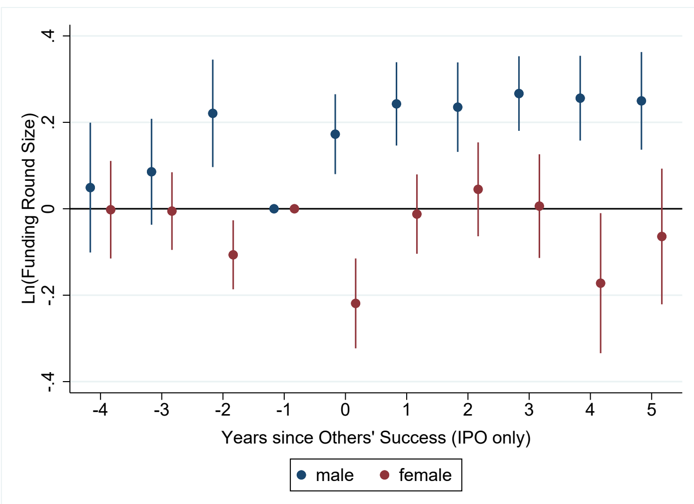
This figure plots the regression coefficients and 95% confidence intervals from estimating the following equation: $\text{Ln(Cumulative Funding)}_{ijk} = \sum_{k=1}^{5} \beta_k \text{I(Woman)}_i + \beta' \text{Other Controls}_{ij} + \lambda_j + \lambda_{ind} + \lambda_k + \eta_{ijk}$. The "across" estimates use the sample of matched men and women founders who started the current startup in the same industry in the same state (λ_{ind}) and exited the current startup during the same year ($k = 0$). The "within" startup estimates compare the fundraising success of cofounders of the same current startup (λ_j). The outcome variable is the logarithm of the cumulative total amount of funding raised over the years after the exit of the current startup. In Panel A, the exit corresponds to the failure of the current startup, and in Panel B, it corresponds to the success of the current startup. Standard errors are clustered at the current startup level.



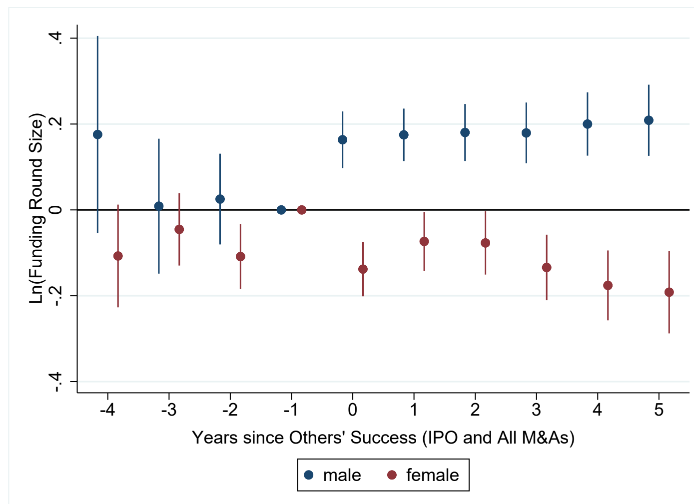
(a) After Failure



(b) After Success (IPO & Select M&As)



(c) After Success (IPO Only)



(d) After Success (IPO & All M&As)

Figure A.2: Spillover Effects to Same-Gender Founders

This figure shows how investors change their investments in women-founded startups following a failure (figure a) or a success (figures b, c, and d use alternative definitions of success) in their portfolios. The outcome variable is the natural logarithm of the funding amount raised by women- or men-founded startups. The blue circles are estimated from a regression using the funding amount going to men-founded startups after the failure or success of a startup founded by a man and the red circles are estimated from a regression using the funding amount going to women-founded startups as the outcome. We estimate the following equation: $\text{Ln(Funding)}_{mnk} = \sum_{k=-4}^{6} \beta_k \text{I(Woman-founded startup)}_m * \text{I(Women-Exit)}_k + \beta' \text{Other Controls}_{mn} + \lambda_n + \delta_{WomanExit} + \delta_{ManExit} + \lambda_{ind} + \eta_{mnk}$. In figure a, the coefficients are plotted relative to the first failure of a startup in the investor's portfolio and normalized in year $k = -1$. In figure b, the coefficients are plotted relative to the first IPO in the investor's portfolio and normalized in year $k = -b$. We control for the success or the failure of founders of the other gender group and also include investors' fixed effects (λ_n) and year-relative to the first exit by gender group fixed effects ($\delta_{Woman-Exit}$ and $\delta_{Man-Exit}$). Standard errors are clustered at the investors level.

Appendix B. Supplementary Tables

Table B.1: **Financing the next startup: Amount of VC funding for a new startup**

This table examines the relationship between the founder's gender and the probability of securing funding for a new startup within five years after the last funding round for the current startup. The unit of observation is a startup-founder pair. The sample includes all startups that received their last funding between 2010 and 2022. This period allows all founders at least one year to raise funding as part of a new company by the end of our sample in December 2023. In panel A, dependent variable is *I(Invested)*, an indicator equal to one if the founder receives VC funding for a new startup within five years after the last round of funding for the current startup. *I(Woman)* is an indicator equal to one if the founder is a woman. *I(Serial Founder)* is an indicator equal to one if the founder is already experienced, defined as founding another startup prior to the founding of the current startup. *I(CEO)* is an indicator equal to one if the founder is also listed as current startup's CEO during any funding round. *Ln(Funding Current Startup)* is the total amount of VC funding the startup has raised to date. *Ln(Age)* is the natural log of the startup's age (in years) when it received its last round of funding. The dependent variable in Panel B is the natural log of the amount of funding raised. For the Panel B regressions, the sample includes only founders who received funding for a new startup. The dependent variable in Panel A focuses on the likelihood of securing funding for a new startup (extensive margin), while Panel B focuses on the amount of VC funding raised by the new startup (intensive margin). The number of observations is lower in Columns (4) and (5) because we only use startups with at least two founders to ensure variation within startup. We estimate all coefficients via OLS regressions with standard errors clustered by startup. $^{***}p < 0.01$ denotes significance at the 1% level, $^{**}p < 0.05$ denotes significance at the 5% level, and $^{*}p < 0.10$ denotes significance at the 10% level.

	Ln(Funding Raised)				
	(1)	(2)	(3)	(4)	(5)
I(Woman)	-0.500***	-0.223**	-0.278***	-0.347***	-0.254***
	(0.095)	(0.087)	(0.087)	(0.096)	(0.097)
I(Serial Founder)		0.815***	0.782***		0.505***
		(0.052)	(0.052)		(0.099)
I(CEO)		-0.169***	-0.127***		0.110*
		(0.043)	(0.043)		(0.057)
Ln(Funding Current Startup)		0.353***	0.312***		
		(0.013)	(0.013)		
Ln(Age)		-0.244***	-0.195***		
		(0.041)	(0.041)		
Observations	7772	7772	7772	2610	2610
Adjusted R^2	0.057	0.213	0.231	0.681	0.691
Year Founded FE?	YES	YES	YES	YES	YES
Industry FE?	NO	NO	YES	NO	NO
State FE?	NO	NO	YES	NO	NO
Startup FE?	NO	NO	NO	YES	YES

Table B.2: **Financing the next startup: Likelihood of VC funding for a new startup within five years**

This table examines the relationship between the founder's race and the probability of securing funding for a new startup within five years after the last funding round for the current startup. The unit of observation is a startup-founder pair. The sample includes all startups that received their last funding between 2010 and 2022. This period allows all founders at least one year to raise funding as part of a new company by the end of our sample in December 2023. In panel A, the dependent variable is *I(Invested)*, an indicator equal to one if the founder receives VC funding for a new startup within five years after the last round of funding for the current startup. *I(Woman)* is an indicator equal to one if the founder is a woman. *I(Black)* is an indicator equal to one if the founder is Black. *I(Serial Founder)* is an indicator equal to one if the founder is already experienced, defined as founding another startup prior to the founding of the current startup. *I(CEO)* is an indicator equal to one if the founder is also listed as the current startup's CEO during any funding round. *Ln(Funding Current Startup)* is the total amount of VC funding the startup has raised to date. *Ln(Age)* is the natural log of the startup's age (in years) when it received its last round of funding. The dependent variable in Panel B is the natural log of the amount of funding raised. For the Panel B regressions, the sample includes only founders who received funding for a new startup. The dependent variable in Panel A focuses on the likelihood of securing funding for a new startup (extensive margin), while Panel B focuses on the amount of VC funding raised by the new startup (intensive margin). The number of observations is lower in Columns (4) and (5) because we only use startups with at least two founders to ensure variation within the startup. We estimate all coefficients via OLS regressions with standard errors clustered by startup. $^{***}p < 0.01$ denotes significance at the 1% level, $^{**}p < 0.05$ denotes significance at the 5% level, and $^{*}p < 0.10$ denotes significance at the 10% level.

	I(Invested); Mean = 7.02%				
	(1)	(2)	(3)	(4)	(5)
I(Black)	-1.114***	0.948**	1.098**	0.394	0.618
	(0.431)	(0.428)	(0.430)	(0.849)	(0.836)
I(Woman)	-3.600***	-1.742***	-1.946***	-3.113***	-2.086***
	(0.192)	(0.190)	(0.194)	(0.307)	(0.302)
I(Serial Founder)		13.875***	13.716***		13.120***
		(0.381)	(0.378)		(0.509)
I(CEO)		-0.458***	-0.330**		0.078
		(0.157)	(0.157)		(0.187)
Ln(Funding Current Startup)		1.109***	0.983***		
		(0.048)	(0.049)		
Ln(Age)		-0.658***	-0.584***		
		(0.149)	(0.151)		
Observations	94027	94027	94027	74324	74324
Adjusted R^2	0.017	0.061	0.065	0.197	0.221
Year Founded FE?	YES	YES	YES	YES	YES
Industry FE?	NO	NO	YES	NO	NO
State FE?	NO	NO	YES	NO	NO
Startup FE?	NO	NO	NO	YES	YES

Table B.3: **Likelihood of VC funding for a new startup following success or failure**

This table shows results from regressions that estimate the relationship between a startup founder's race and gender and the likelihood that the founder raises a future round of funding for a new VC-backed startup following the current startup's failure (Panel A) or success (Panel B). The dependent variable is *I(Invested)*, an indicator equal to one if the founder receives VC funding for a new startup within five years after the failure or success event. The unit of observation is a startup-founder pair. *I(Woman)* is an indicator equal to one if the founder is a woman. *I(Black)* is an indicator equal to one if the founder is Black. *I(Serial Founder)* is an indicator equal to one if the founder is already experienced, defined as founding another startup prior to the founding of the current startup. *I(CEO)* is an indicator equal to one if the founder is also listed as the current startup's CEO during any funding round. *Ln(Age)* is the natural log of the startup's age (in years) when it failed or succeeded. *Ln(Pre-Exit Funding)* is the natural log of the amount of VC funding the startup raised before it failed or succeeded. We classify a VC-backed startup as a failure if Pitchbook flags that the startup has closed or gone bankrupt within five years of its last funding round. The company is also classified as a failure (without the Pitchbook designation) if, within five years of its last funding round, all of the following conditions hold: (i) the founder left the company; (ii) the company did not raise another round of financing following the founder's departure; (iii) the company did not provide an exit via an IPO or acquisition, and (iv) the startup's website is inactive. A startup is considered a success (*Success*) if it went public in an IPO or was acquired within five years of the last funding round. We estimate all coefficients via OLS regressions with standard errors clustered by startup. $^{***}p < 0.01$ denotes significance at the 1% level, $^{**}p < 0.05$ denotes significance at the 5% level, and $^{*}p < 0.10$ denotes significance at the 10% level.

Panel A:	I(Invested); Mean = 8.18%				
	(1)	(2)	(3)	(4)	(5)
I(Black)	0.254	1.487	1.782*	1.080	0.352
	(1.104)	(1.064)	(1.065)	(2.059)	(1.977)
I(Woman)	-4.242***	-2.607***	-2.738***	-3.428***	-2.160***
	(0.469)	(0.463)	(0.473)	(0.787)	(0.760)
I(Serial Founder)		17.537***	17.286***		17.496***
		(1.102)	(1.096)		(1.474)
Ln(Age)		-2.257***	-2.218***		
		(0.523)	(0.524)		
Ln(Pre-Exit Funding)		1.131***	0.979***		
		(0.107)	(0.109)		
I(CEO)		1.391***	1.512***		2.369***
		(0.384)	(0.384)		(0.467)
Observations	18303	18303	18303	14175	14175
Adjusted R^2	0.014	0.061	0.065	0.176	0.208
Year Failure FE?	YES	YES	YES	YES	YES
Industry FE?	NO	NO	YES	NO	NO
State FE?	NO	NO	YES	NO	NO
Startup FE?	NO	NO	NO	YES	YES

Panel B:	I(Invested); Mean = 14.60%				
	(1)	(2)	(3)	(4)	(5)
I(Black)	0.302	2.109	2.541	1.092	1.524
	(2.185)	(2.168)	(2.178)	(3.131)	(3.072)
I(Woman)	-5.954***	-3.622***	-3.976***	-5.666***	-3.471***
	(0.662)	(0.653)	(0.664)	(0.982)	(0.945)
I(Serial Founder)		24.156***	23.887***		23.774***
		(1.007)	(1.002)		(1.306)
Ln(Age)		-4.791***	-4.450***		
		(0.574)	(0.587)		
Ln(Pre-Exit Funding)		1.879***	1.666***		
		(0.130)	(0.134)		
I(CEO)		3.507***	3.689***		4.530***
		(0.462)	(0.462)		(0.551)
Observations	21376	21376	21376	17285	17285
Adjusted R^2	0.028	0.100	0.104	0.199	0.251
Year Exit FE?	YES	YES	YES	YES	YES
Industry FE?	NO	NO	YES	NO	NO
State FE?	NO	NO	YES	NO	NO
Startup FE?	NO	NO	NO	YES	YES

Table B.4: **Potential spillovers following startup failures**

This table examines the relationship between the race of a failed startup founder and the sizes of deals for Black-founded startups in the years following the failure event. The unit of observation is an investor-deal pair. *I(Black Founder)* is an indicator equal to one if at least one member of the founder team is Black. *I(Recent Failure)* is an indicator equal to one if the investor backed at least one startup over the previous five years that failed. *I(FB. Founder)* is an indicator equal to one if the investor backed at least one startup that failed over the previous five years and that also had at least one Black founder. *Ln(Age Startup)* is the natural log of the age of the startup, and *Ln(Age VC)* is the natural log of the age of the VC firm (investor). *P(Investments Women)* is the size of deals in the VC firm's portfolio that fund startups with women founders over the previous five years, divided by the total size of all deals in which the investor participated. The dependent variable is *Ln(Deal Size)*, the natural log of deal size (in millions). We classify a startup as failed if it closes within five years of its last funding round or if a founder left the company, the company did not raise another round of funding following the founder's departure, the company did not successfully exit via an IPO or an acquisition, and the startup's website is inactive in the five years following their last funding round. A startup is successful if the startup exits via an IPO or an Acquisition within five years of its last funding round. The sample includes all investors in Pitchbook that experienced at least one failure between 2010 and 2022. We present coefficients from OLS regressions and cluster standard errors by investors. $^{***}p < 0.01$ denotes significance at the 1% level, $^{**}p < 0.05$ denotes significance at the 5% level, and $^{*}p < 0.10$ denotes significance at the 10% level.

Dependent Variable:	Ln(Deal Size)			
	(1)	(2)	(3)	(4)
I(Black Founder) X I(FB. Founder)	-0.332	-0.425*	-0.233***	-0.295***
	(0.262)	(0.245)	(0.056)	(0.056)
I(Black Founder)	-0.694***	-0.423***	-0.276***	-0.209***
	(0.035)	(0.030)	(0.024)	(0.024)
I(FB. Founder)	-2.276***	-1.921***	-0.219	-0.271*
	(0.424)	(0.384)	(0.157)	(0.163)
P(Black Investments)		-0.138***		-0.005
		(0.019)		(0.008)
Ln(Age Startup)		0.293***		0.117***
		(0.028)		(0.031)
Ln(Age VC)		1.064***		0.826***
		(0.029)		(0.017)
I(Recent Failure)	0.128**	-0.127**	0.101***	0.041**
	(0.063)	(0.053)	(0.022)	(0.020)
P(Women)		-0.796***		-0.429***
		(0.027)		(0.017)
P(Serial Founder)		0.846***		0.482***
		(0.031)		(0.015)
Observations	167137	167137	167138	167138
Adjusted R^2	0.177	0.347	0.530	0.592
Year FE?	YES	YES	YES	YES
Investor FE?	NO	NO	YES	YES
State FE?	YES	YES	YES	NO
Industry FE?	YES	YES	YES	NO

Table B.5: **Potential Spillovers Following Startup Failures (Diff-in-Diff Specification)**

This table shows how investors change their investments in women-founded startups following a failure in their portfolio. It examines the relationship between the gender of a failed startup founder and the sizes of deals for women-founded startups in the years following the failure event. The unit of observation is an investor-deal pair. *I(Woman-Founded)* is an indicator equal to one if at least one member of the founder team is a woman. *I(Post Woman Failure)* is an indicator equal to one for years after the first failure of a woman-founded startup experienced by an investor. *I(Post Man Failure)* is an indicator equal to one for years after the first failure of a man-founded startup experienced by an investor. *Ln(Age Startup)* is the natural log of the age of the startup, and *Ln(Age VC)* is the natural log of the age of the VC firm (investor). *P(Investments Women)* is the size of deals in the VC firm's portfolio that fund startups with women founders over the previous five years, divided by the total size of all deals in which the investor participated. The dependent variable is *Ln(Deal Size)*, the natural log of deal size (in millions). We classify a startup as failed if it closes within five years of its last funding round or if a founder left the company, the company did not raise another round of funding following the founder's departure, the company did not successfully exit via an IPO or an acquisition, and the startup's website is inactive in the five years following their last funding round. A startup is successful if the startup exits via an IPO or an Acquisition within five years of its last funding round. The sample includes all investors in Pitchbook that experienced at least one failure between 2010 and 2022. We present coefficients from OLS regressions and cluster standard errors by investors. $^{***}p < 0.01$ denotes significance at the 1% level, $^{**}p < 0.05$ denotes significance at the 5% level, and $^{*}p < 0.10$ denotes significance at the 10% level.

	Ln(Deal Size)			
	(1)	(2)	(3)	(4)
I(Woman-Founded)	-0.538***	-0.331***	-0.232***	-0.179***
	(0.026)	(0.027)	(0.014)	(0.014)
I(Post Woman Failure)	-0.411***	-0.364***	0.085***	0.054***
	(0.145)	(0.122)	(0.022)	(0.021)
I(Woman-Founded) X I(Post Woman Failure)	-0.105**	-0.132***	-0.054**	-0.073***
	(0.053)	(0.049)	(0.022)	(0.021)
I(Post Man Failure)	0.156*	-0.207***	0.080**	0.036
	(0.085)	(0.080)	(0.034)	(0.034)
I(Man-Founded) X I(Post Man Failure)	0.019	0.053	0.021	0.015
	(0.037)	(0.039)	(0.020)	(0.019)
Ln(Age VC)		0.323***		0.111***
		(0.033)		(0.030)
Ln(Age Startup)		1.027***		0.773***
		(0.056)		(0.017)
P(Investments Women)		-0.185***		-0.017
		(0.026)		(0.013)
Observations	183256	183210	183256	183210
Adjusted R^2	0.135	0.289	0.544	0.596
Year FE?	YES	YES	YES	YES
Investor FE?	NO	NO	YES	YES
State FE?	YES	YES	NO	NO
Industry FE?	YES	YES	NO	NO

Table B.6: **Potential Spillovers Following Startup Success (Diff-in-Diff Specification)**

This table shows how investors change their investments in women-founded startups following a success in their portfolio. We examine the relationship between the gender of a successful startup founder and the sizes of deals for women-founded startups in the years following the successful event. The unit of observation is an investor-deal pair. A startup is successful if the startup exits via an IPO or acquisition where the ratio of exit valuation to funding raised pre-exit is in the 90*th* percentile of all startup exits. *I(Woman-Founded)* is an indicator equal to one if at least one member of the founder team is a woman. *I(Post Woman Failure)* is an indicator equal to one for years after the first failure of a woman-founded startup experienced by an investor. *I(Post Man Failure)* is an indicator equal to one for years after the first failure of a man-founded startup experienced by an investor. *Ln(Age Startup)* is the natural log of the age of the startup, and *Ln(Age VC)* is the natural log of the age of the VC firm (investor). *P(Investments Women)* is the size of deals in the VC firm's portfolio that fund startups with women founders over the previous five years, divided by the total size of all deals in which the investor participated. The dependent variable is *Ln(Deal Size)*, the natural log of deal size (in millions). We classify a startup as failed if it closes within five years of its last funding round or if a founder left the company, the company did not raise another round of funding following the founder's departure, the company did not successfully exit via an IPO or an acquisition, and the startup's website is inactive in the five years following their last funding round. A startup is successful if the startup exits via an IPO or an Acquisition within five years of its last funding round. The sample includes all investors in Pitchbook that experienced at least one failure between 2010 and 2022. We present coefficients from OLS regressions and cluster standard errors by investors. $^{***}p < 0.01$ denotes significance at the 1% level, $^{**}p < 0.05$ denotes significance at the 5% level, and $^{*}p < 0.10$ denotes significance at the 10% level.

	Ln(Deal Size)			
	(1)	(2)	(3)	(4)
I(Women-Founded)	-0.436***	-0.315***	-0.195***	-0.164***
	(0.030)	(0.026)	(0.015)	(0.014)
I(Post Woman Success)	0.146	0.147	-0.005	0.027
	(0.124)	(0.113)	(0.034)	(0.031)
I(Women-Founded) X I(Post Woman Success)	0.089**	0.080*	0.018	0.032
	(0.045)	(0.043)	(0.024)	(0.024)
I(Post Man Success)	0.206	0.052	-0.003	-0.026
	(0.214)	(0.190)	(0.038)	(0.038)
I(Men-Founded) X I(Post Man Success)	0.170**	0.143*	0.091***	0.077***
	(0.079)	(0.076)	(0.020)	(0.019)
Ln(Age VC)		0.088***		0.087**
		(0.032)		(0.038)
Ln(Age Startup)		1.098***		0.764***
		(0.086)		(0.018)
P(Investments Women)		-0.147***		-0.015
		(0.033)		(0.015)
Observations	160730	160691	160730	160691
Adjusted R^2	0.158	0.301	0.548	0.600
Year FE?	YES	YES	YES	YES
Investor FE?	NO	NO	YES	YES
State FE?	YES	YES	NO	NO
Industry FE?	YES	YES	NO	NO

Table B.7: **Spillovers following startup failures (All Women Founders)**

This table examines the relationship between the gender of a failed startup founder and the amount of funding the investor allocates to other women-founded startups in the years following failure. The unit of observation is an investor-deal pair. We present coefficients from OLS regressions and cluster standard errors by investors. *I(W. Founder)* is an indicator for a woman founder. *I(Recent Failure)* is an indicator of whether the investor backed at least one startup over the previous five years that failed. *I(FW. Founder)* is an indicator for whether the investor backed at least one woman startup (startup with all women founders) over the previous five years that failed. *Ln(Age Startup)* is the startup and *Ln(Age VC)* is the age of the VC firm. *P(Investments Women)* is the proportion of investments in women over the previous five years. *P(Serial Investments)* is the number of serial founders in the investor's portfolio, divided by the total number of founders in the portfolio. *Ln(Deal Size)*, the dependent variable, is the log of the deal size. We classify a startup as failed if it closes within five years of its last funding round or if a founder left the company, the company did not raise another round of funding following the founder's departure, the company did not successfully exit via an IPO or an acquisition, and the startup's website is inactive in the five years following their last funding round. Our sample only comprises investors who experienced at least one failure between 2010 and 2022. $^{***}p < 0.01$ denotes significance at the 1% level, $^{**}p < 0.05$ denotes significance at the 5% level, and $^{*}p < 0.10$ denotes significance at the 10% level.

Dependent Variable:	Ln(Deal Size)			
	(1)	(2)	(3)	(4)
I(FW. Founder) X I(W. Founder)	-0.020	-0.063	-0.113**	-0.151***
	(0.207)	(0.215)	(0.052)	(0.054)
I(W. Founder)	-0.865***	-0.589***	-0.436***	-0.358***
	(0.035)	(0.031)	(0.019)	(0.018)
I(FW. Founder)	-0.884**	-0.710**	-0.053	-0.047
	(0.398)	(0.344)	(0.064)	(0.065)
I(Recent Failure)	-0.172**	-0.268***	0.097***	0.057***
	(0.081)	(0.063)	(0.023)	(0.022)
P(Investments Women)		-0.186***		-0.009
		(0.024)		(0.013)
Ln(Age Startup)		0.287***		0.118***
		(0.029)		(0.032)
Ln(Age VC)		1.091***		0.815***
		(0.047)		(0.017)
P(Serial Founder)		0.927***		0.507***
		(0.043)		(0.016)
Observations	179344	179344	179344	179344
Adjusted R^2	0.144	0.318	0.534	0.593
Year FE?	YES	YES	YES	YES
Investor FE?	NO	NO	YES	YES
State FE?	YES	YES	NO	NO
Industry FE?	YES	YES	YES	NO