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

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Abstract

What is the role of gender in the serial founding of VC-backed startups? Using a novel design comparing cofounders of the same startup, we estimate substantial gender gaps in subsequent funding outcomes at both the extensive and intensive margins. For example, following failure, women are 22.5% less likely to found another VC-backed startup. When they do, they raise 53.3% less capital. Lower interest of women in founding new firms only partially explain our findings. We find no evidence of gender differences in founder quality or of statistical updating by investors. Instead, evidence points to unequal treatment of women by investors.

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I have nothing to disclose.

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I have nothing to disclose.

1. Introduction

What is the role of gender in founders' ability to secure VC financing for a subsequent startup? We begin with three facts. First, the venture capital funding gap between men and women founders is well-established in the literature (e.g., Brush, Carter, Gatewood, Greene and Hart, 2003; Gompers and Wang, 2017; Ewens and Townsend, 2020; Ewens, 2023; Hebert, 2024) and in the popular press. In our sample of Pitchbook data on VC-backed US startups, women founders raise approximately fifty cents for every one dollar raised by a man. This maps to a funding difference of around $9.5 million in our sample. Second, the dollar funding gap is even larger among serial entrepreneurs, who raise more than double the venture-backed capital on average compared to first-time entrepreneurs. It is not surprising that serial entrepreneurs raise more capital, since valuable experience is developed over time and serial entrepreneurship predicts future startup success (e.g., Hsu, 2007; Gompers, Kovner, Lerner and Scharfstein, 2010; Lafontaine and Shaw, 2016; Shaw and Sørensen, 2019). However, the third (and perhaps most important) fact is that women are underrepresented among serial entrepreneurs. Women account for 16 percent of first-time founders, 9 percent of second-time founders, and only 4 percent of entrepreneurs who found three or more firms. Thus, gender differences in serial entrepreneurship can explain part of the well-documented funding gap. In our data, the gap at the extensive margin of serial entrepreneurship accounts for more than one third of the dollar VC funding gap between men and women founders.

Understanding gaps in serial founding, both at the intensive and extensive margins, seems crucial to understanding the well-documented dollar funding gap between men and women.[1] Yet, a variety of potential confounding factors pose challenges to estimating the true size of the gap. For example: men and women do not found businesses in the same industries[2]; within industries, men and women may choose to target different markets; and the quality of businesses that men and women start may vary in ways that are important to potential VCs evaluating founders' next ventures. The existing entrepreneurship literature examines gender gaps by conducting cross-sectional tests in

[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, men are more likely to start technology firms and women are more represented in consumer products. See Ewens (2023) for a review of the literature.

which they compare observationally similar men and women founders. We take a different approach.

This paper introduces a novel within-startup empirical design, in which we compare men and women cofounders of the same startup. The intuition is simple: co-founders that develop and execute on the same startups share the same outcomes. The within-startup design allows us to estimate the funding gap while controlling perfectly for unobservable differences in quality that potential investors infer through observation of the current business. Our empirical design is, to our knowledge, new to the entrepreneurial finance literature.[3]

Our analysis reveals large gender gaps in VC-backed financing for the next startup at both the extensive and intensive margins. For example, relative to the men with whom they co-founded the current VC-backed startup, we find that women are 22.5% less likely to launch another VC backed business within 5 years following the failure of the current startup. When they do start subsequent VC-backed firms, they raise 53.3% less capital. Even following a successful exit, these gaps are 26.9% and 24.6%, respectively.[4] These gaps cannot be explained by the types or outcomes of the businesses that men and women start and point to potential differences in how men and women experience and benefit from co-founding roles, even within the same startup.

What drives these gaps? We examine four potential mechanisms: (1) gender differences in founders' preferences for launching another venture, (2) differential accumulation of experience within the same startup, (3) differences in quality between men and women cofounders and (4) statistical discrimination or biased preferences of investors. The first two channels impact founder demand for capital and the second two relate to investor supply.

On the founder demand side, the funding gap could reflect women's different preferences for serial entrepreneurship. These preferences could be shaped by factors such

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

[4]Following the literature (e.g., Yimfor and Garfinkel (2023); Ewens and Farre-Mensa (2020); Bernstein, Giroud and Townsend (2016); Hochberg, Ljungqvist and Lu (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.

as risk tolerance, family considerations, alternative career opportunities in the entrepreneurial ecosystem (e.g., venture capital or board roles), or subjective perceptions of failure (Puri and Robinson, 2013; Hvide and Panos, 2014). To test for evidence of different propensities to start new businesses, we collect data from founders' LinkedIn profiles to identify all of their newly launched firms (VC-backed or not). Compared to their cofounders who are men, we find that women are 9.4% less likely to start another firm after failure and 8.9% less likely to do so following success. Even though these differences are statistically significant, they explain only a modest portion of the overall funding gap. When we condition our analysis on founders who start another business, we find that women are 30% less likely to raise VC following failure and 18% less likely following success. Differences in the propensity to start new businesses explain part of the VC funding gap following success (reducing it from 26.9% to 18%); however, the majority remains unexplained. Moreover, it explains none of the gap following failure.

A second founder-side interpretation is that, even though we control perfectly for startup quality, men and women cofounders play different roles within their startups and accumulate different types of experience. The CEO role could be particularly important for future fundraising since CEOs typically lead investor relationships and financing rounds. All of our regressions include controls for whether the cofounder serves as CEO. In extended analysis, we test whether including an interaction term between gender and CEO status eliminates the funding gap. This interaction does not eliminate (or even reduce) the gender gap in funding for subsequent startups, indicating that differences in founder roles and their associated fundraising experience do not explain our findings.

The founder-demand channel explains only part of the gap. Substantial disparities remain in both the likelihood and amount of VC funding for subsequent startups. We therefore turn to potential supply-side explanations. Even with the stringent within-startup design, it is possible that the gender differences that we observe reflect investors' correct beliefs about men's and women's relative capacities to build and scale profitable businesses. If there are systematic differences in founder effectiveness, we would expect suppliers of capital to respond accordingly.

We begin with an outcomes test that compares the exit outcomes of subsequent startups that men and women launch (Becker, 1957, 1993; Cook, Marx and Yimfor, 2024). If investors fund mens' ventures more frequently because men are better at

identifying and executing profitable opportunities, we would expect to see higher success rates for mens' subsequent startups. Despite women raising less money compared to men, we find no evidence that men have higher success rates. If anything, womens' subsequent ventures are more likely to exit successfully.

The outcomes test provides the most direct evidence on founders' relative effectiveness at building successful ventures; however, sample size limitations lead us to take a second, complementary approach to understanding whether systematic differences between men and women explain our findings. The alternative approach to examining the quality channel exploits variation in local capital supply conditions to identify situations where startup outcomes are more likely to reveal founder quality. We use state pension fund assets as a plausibly exogenous source of local venture capital, as pension funds are major limited partners with documented local investment biases (Hochberg and Rauh, 2013; González-Uribe, 2020). When capital is abundant, even lower-quality startups can survive, meaning that failures during these periods are particularly informative about founder quality. Conversely, successes during abundant capital periods may include some lower-quality startups that benefited from easy funding conditions. The variation in signal precision that stems from variation in local supply conditions provides an opportunity to investigate the quality channel. If women founders are systematically worse at building ventures, we would expect two patterns: First, we would observe a larger gender gap in funding among founders whose startups failed during periods of abundant capital, as these failures more strongly signal poor quality. Second, we would expect a larger gender gap among founders who succeeded during prior capital-rich periods, as investors correct for artificially inflated success outcomes. We find no evidence of either pattern. The gender gap in follow-on funding does not vary with capital supply conditions at the time of failure or success, inconsistent with systematic quality differences between men and women founders.

Given the evidence against quality-based explanations, in our final tests, we examine investor bias as a potential mechanism. Although current investors have firsthand knowledge of founder competence, having observed their performance up close, outside investors are the primary source of capital for subsequent startups. In our sample, only 1.13 (4.06) percent of founders who fail (succeed) receive funding from current investors. The gaps at the extensive margin are therefore driven primarily by capital from new

investors who may need to infer quality indirectly by observing the outcome of the current startup. Bias from these investors could come from statistical discrimination or from investor preferences.

To understand the potential roles of investor learning and preferences, we exploit the portfolio-level information in Pitchbook. We test whether founders' own track records (likely to be at least partially observable to new investors) predict investors' funding decisions. We find that deal sizes are 29 to 30 percentage points larger when both men and women founders have founded another VC-backed firm in the past. We also find that deal sizes are lower if at least one woman on the founding team has experienced prior failure of a VC-backed firm that they founded. For women, the penalty following failure erases completely any reward for prior experience.

Lower amounts of funding following a failed venture could be consistent with investors' learning about women founders through their track records if we also found rewards following their successes. We do not. Following successful exits, experienced women founders raise as much capital for their subsequent startups as those without any exit track record. Importantly, the same is not true for men. Experienced men with prior successes are rewarded with deals that are approximately 28 percentage points larger compared to all experienced men. In fact, men are rewarded for *any* prior exit. Our estimates imply deal sizes that are 5 percentage points greater following prior failures. The asymmetry in the failure and success results for women, along with the finding that men are rewarded for any past exit points to unequal treatment of women (Bertrand, Chugh and Mullainathan, 2005) by investors.

Women founders' own track records are unhelpful to them as they raise capital for their subsequent ventures. Do their performance histories also have externalities for other women seeking VC funding? We use the investor-deal level data to study investor portfolios over time and test whether their own experiences with women founded-startups spill over to deals involving other (unrelated) women founders.[5] We find that, when an investor experiences a recent failure by a woman-founded startup, the investor's deals for subsequent women founders are between 6.7 and 7.5 percentage

[5]This approach is similar in spirit to Sarsons (2017*b*) who finds that physicians are less likely to make referrals to women surgeons following a bad experience with a different woman surgeon, but no similar spillovers to other men following a bad experience with a man.

points smaller over the next five years. This pullback is incremental to the baseline 14 percentage point gender gap in deal size that we estimate. It is possible that the negative spillovers that we document are due to investors' attempts to learn about the abilities of women entrepreneurs through statistical updating. It could also be due to unequal treatment of women. To distinguish these explanations, we examine investors' experiences with success. If investors participate in larger deals with women founders following the success of another women-founded firm, then the evidence is consistent with statistical updating. If the failure and success results are asymmetric (i.e., if women entrepreneurs do not receive more financing following the success of other women), the evidence points to unequal treatment of women (Bertrand, Chugh and Mullainathan, 2005).

We find no evidence of increased funding to women founders after experiencing successes of other women-founded companies in their portfolios. This is true even when we restrict our definition of success to significant successes (IPOs and acquisitions at TVPI of at least 3).[6] Like the own-track record findings, the asymmetric pattern of negative spillovers to women entrepreneurs after the failure of other women founders within the portfolio but no positive spillovers after success suggests that investors' responses to women founders' performance cannot be explained by simple statistical updating about founder quality (Bohren, Imas and Rosenberg, 2019). Instead, the evidence points to bias in how investors interpret and apply their experiences with women founders. These negative spillovers affect first-time women founders and serial founders alike.

Repeat chances are important to eventual success (e.g., Lafontaine and Shaw (2016), Gompers, Kovner, Lerner and Scharfstein (2010)). Our findings suggest that gender gaps in serial founding are important to understanding the overall gender gap in VC funding. Not only are women less likely to found another VC-backed startup, they raise less capital when they do. Moreover, their track records as entrepreneurs are not helpful (and are often harmful) to their own future VC fundraising and to fundraising by other women founders.

This paper proceeds as follows: Section 2 provides a brief overview of this paper's contributions to the literature. Section 3 details the data that we use for the analysis. Section 4 presents the results of the main empirical tests for evidence of a funding gap.

[6]This strict definition addresses the potential concern in Gompers, Gornall, Kaplan and Strebulaev (2020) that the traditional definition of success may include acquisitions that are actually disguised failures.

Section 5 shows analyses of potential mechanisms driving the results. Section 6 concludes.

2. Contributions to the Literature

This paper contributes to the literature in three 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 start are less common in the literature. Our empirical approach, in which we compare funding outcomes for men and women cofounders of the same firm, allows us to make substantial progress toward identifying true differences in outcomes for men and women. We build on previous research that has documented the existence of a gender gap in VC funding by comparing men and women within the same sector and geography and controlling for observable characteristics (e.g., Brush, Carter, Gatewood, Greene and Hart, 2003; Gompers and Wang, 2017; Ewens and Townsend, 2020; Raina, 2021). [7]

Second, our paper uncovers potential mechanisms related to the demand and supply of capital that drive the gap. Existing studies have focused primarily on factors such as investor homophily and network effects to explain disparities in VC funding (Ewens and Townsend, 2020; Howell and Nanda, 2024; Gornall and Strebulaev, 2024).[8] We find that experienced women founders are penalized for their past failures but they are not rewarded for their past successes. The same is not true for experienced men. Moreover, building on Sarsons (2017*a*), who shows that women surgeons face fewer referrals after a negative patient outcome tied to another woman surgeon, we uncover a strikingly similar dynamic in venture capital. Failures by women-founded startups trigger a significant drop in funding for unrelated women founders, while their successes fail to generate any positive spillovers.

[7] 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, Gompers, Hu, Levinson and Mukharlyamov (2023) find that former VC-backed entrepreneurs re-entered the workforce without any penalty. However, Botelho, Fehder and Miric (2023) show that women get lower-ranked positions than men upon reentry.

[8] Ewens and Townsend (2020) find that investors who are men are less likely to target women-led firms, whereas women investors are more likely to do so. Even if the presence of homophily seems to help women, Ewens and Townsend (2020) conclude on the existence of investors' biases. Hebert (2024) suggests the existence of context-dependent stereotypes in male-dominated sectors, without providing direct evidence.

This stark asymmetry underscores that investor behavior toward women founders is shaped more by bias than by learning about founder quality.

Finally, our focus on serial entrepreneurship, which is linked to startup success (e.g., Hsu, 2007; Gompers, Kovner, Lerner and Scharfstein, 2010; Nahata, 2019; Shaw and Sørensen, 2019; Genc, 2024) reveals important gaps in women founders' ability to secure VC funding for their next startup and is new to the literature.[9]

3. Data and Summary Statistics

3.1. Data

Our analysis draws on PitchBook data and includes all US companies that have raised venture capital funding. The sample period begins in January 2010 and extends through December 2022. We follow funding outcomes through December 2023 to ensure at least one year of post-event observations for all startups. Following standard practice in entrepreneurial finance research, we define venture capital funding to include deals classified in PitchBook as "Early Stage VC," "Later Stage VC," "Seed Round," "Angel (individual)," or "Accelerator/Incubator." For each company in our sample, PitchBook provides information on funding rounds, including the amount raised and the identities of participating investors.[10]

For each company in our sample, PitchBook provides detailed founder information, including their identities and gender. PitchBook also provides information about startup outcomes, including whether a company is out of business, bankrupt, acquired, or went public. Following the literature (e.g., Yimfor and Garfinkel (2023); Ewens and Farre-Mensa (2020); Bernstein, Giroud and Townsend (2016)), 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 a more comprehensive approach to identify failed startups. We classify a startup as a failure if PitchBook flags it as closed or bankrupt by December 2023. In the absence of such a flag, we classify a

[9] Among the 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.

[10] PitchBook has been recognized as the most comprehensive database for private deals, particularly in the period following 2010 (Cook, Marx and Yimfor, 2024).

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 was inactive as of July 2024.

3.2. Gender and Deal Size

3.3. 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 (e.g., Gompers and Wang, 2017; Ewens, 2023). Hidden beneath the 13.3% figure is a meaningful variation in gender balance across serial entrepreneurship, failure, and success outcomes.

Figure 1, Panel A shows that women account for 16% of all first-time VC-backed company founders. However, the representation of women declines to 9% among those entrepreneurs who have founded two VC-backed startups and is only 4% among those who have founded three or more VC-backed startups. 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.[11] Success probabilities increase substantially with founder experience 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, compared to 12% and 32% of women (respectively). Even though success probabilities are lower for one-startup women founders, the probabilities converge as the number of startups founded increases. Among both men and women, serial entrepreneurship is a powerful predictor of success, with nearly half of all founders of 3 or more VC-backed firms experiencing 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.]

[11] 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 route for PE- and VC-backed firms. Gompers, Kovner, Lerner and Scharfstein (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.

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, the representation of women among founders of two startups is more 100 percent greater than 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 have incorrect initial beliefs about the quality of women founders or that they treat women differently from men (due to stereotypes or to discrimination).

The following analysis aims to uncover some of the mechanisms underlying the basic patterns that we observe in the data. 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 2 shows the number of deals by founder team type during the sample period. Although founding teams comprised of all men are most common (75% in 2022), the number of mixed-gender teams that experience a failure or a success in every year of the sample is substantial (17% in 2022).

[INSERT FIGURE 2 ABOUT HERE.]

In addition to analysis of the extensive margin (i.e., whether founders receive VC funding for a new startup), the intensive margin is also of interest. In our data, men raise substantially more funding than women, suggesting shorter runways for women-founded firms (see Appendix Figure A.1a).[12] We examine these patterns more formally later in the paper.

[12]Consistent with shorter runways, Appendix Figure A.1b 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, Appendix Figure A.1d 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 Appendix Figure A.1c) to work quickly to generate faster exits.

3.4. Failure and Success Events

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.[13]

[INSERT TABLE 1 ABOUT HERE.]

Table 1 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, women founders of VC-backed startups are underrepresented in both 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.

3.5. Summary Statistics

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, 6.3 percent of founders successfully raise funding for a new startup within 5 years of the last round for the current startup *I(Invested)*; however, this value masks large gender differences. Among founders who are men, 6.8 percent receive financing for a new startup within five years, compared to 3.1 percent of women founders.

[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

[13]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. We require several conditions to hold, including an inactive website and no other funding rounds following a founder's departure. The number of successes may also appear large. Although the traditional definition of success includes all IPOs and acquisitions, it is possible that sales at low prices are failures in-disguise (Gompers, Gornall, Kaplan and Strebulaev (2020)). In extended tests, we consider only a strict definition of success based on total value to paid in capital (TVPI).

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 of Table 2 also shows that the likelihood of serving as founder-CEO is similar for men and women. Still, women in the sample are considerably less likely to be serial founders compared to men, consistent with Figure 1.

Table 2 Panel B shows data for the subsample of failed startups.[14] 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. The success premium is substantial: founders are nearly twice as likely to raise VC funding following success versus failure (14.1% versus 7.7%). Yet women founders remain underrepresented. After a successful exit, women raise VC funding for a new startup only 7.8% of the time, a rate even lower than that of men following failure (8.2%).

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 $32 million for their new startups, while men raise $102.8 million.[15]

The data in Panel D of Table 2 are at the venture capital investor-deal level. These data are used in the spillover tests, where we examine how investors' past experiences

[14]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.

[15]Average deal sizes are driven by very large deals in the right tail of the distribution. 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. 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, Ljungqvist and Lu, 2007).

with women-founded firms affect their future investments. The data are disaggregated according to the gender composition of startup founding teams. We find that deal sizes are larger when founder teams consist of all men. We also observe some specialization according to the founder's gender. Investors in any deals where founder teams are all men have approximately 17.8% of deals in their portfolios allocated to firms founded by at least a woman (*P(Investments in Women)*). Investors in any deals with all-women founders have 27.5% of the deals in their portfolios allocated to teams where at least one founder is a woman.

The data reveal important patterns in founder experience and investor portfolio history. Serial entrepreneurship is more common among men, with 31.6% of all-men teams having at least one serial male founder, compared to 10.7% of all-women teams having a serial woman founder. Most investors have experience with both successes and failures: 58.0% of investors backing all-men teams have previously backed successful male-only startups, while 51.0% of investors backing all-women teams have similar experience. 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.

3.6. 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:

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

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 current startup. The main explanatory variable of interest is *I(Woman)*, an indicator equal to one if the founder is a woman. To address the most obvious alternative explanations while maintaining parsimony, we include targeted controls for key differences across founders: whether they had founded other VC-backed startups prior to the current one (*I(Serial Founder)*), which captures pre-existing differences in VC access and startup experience, and whether they served as CEO in the current startup (*I(CEO)*), which accounts for potentially different roles in fundraising and investor relationships. We also control for 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 startup 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.

This empirical design tackles a fundamental challenge in understanding gender gaps in entrepreneurial financing. The startup fixed effects allow us to compare fundraising outcomes for men and women cofounders of the same venture, controlling for startup quality, business idea, and combined team capabilities that are typically unobservable to researchers. Crucially, this approach exploits the fact that founding teams form endogenously. Prior research shows that teams do not form randomly: men and women coauthors sort on quality (Sarsons, Gërxhani, Reuben and Schram, 2021), and homophily drives team formation in entrepreneurship (Boisjoly, Duncan, Kremer, Levy and Eccles, 2006; Ductor, Goyal and Prummer, 2023; Gompers, Huang and Wang, 2022; Cullen and Perez-Truglia, 2023). This endogenous matching is a feature, not a bug: it allows us to compare women founders to their chosen male cofounders, holding constant network differences and unobserved team formation abilities (Bloom, Jones, Van Reenen and Webb, 2020). Consistent with this sorting, we observe shrinkage in observable differences between men and women cofounders compared to the full sample. This within-startup design is, to our knowledge, new to the entrepreneurial finance literature and ensures that results are not driven by unobservable differences in the businesses that men and women start.

4. Main Results

4.1. Financing the next startup

Results of the main tests are in Table 3 and capture potential gender differences in the likelihood that a founder will raise VC funding for a new startup within five years from the last recorded funding round of the current startup. The baseline percentage of founders who do so is 6.34%.

The specifications in columns 1 through 3 of Table 3 provide results from cross-sectional tests, where 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. In columns 4 and 5, we remove single-founder startups from the sample and conduct within-startup tests using startup fixed effects. In these specifications, *I(Woman)* is identified based on differences between men and women cofounders 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. 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 cofounders). The cross-sectional results are presented in columns 1 to 3 of the table for comparison; however, we focus the discussion that follows on the within startup specifications (columns 4 and 5).

[INSERT TABLE 3 ABOUT HERE.]

The estimates in Table 3 imply an economically large gender gap in the likelihood of raising VC funding for a new startup. 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%.[16] Women are less likely to raise VC funding for a new startup, even

[16]The cross-sectional tests in columns 1 to 3 show similar gaps.

relative to men with whom they co-founded a startup.

HERE

The estimated coefficients on the control variables shown in all of the specifications in Table 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. It is also useful to note that we observe large increases in R-squared values once we include startup fixed effects in the specifications. The R-squared values increase more than threefold, from 1–7% in the between-startup analysis (columns 1-3) to 19–21% in the within-startup analysis (columns 4-5). These increases underscore the importance of startup-level unobservables in cofounder matching.

4.2. Financing the next startup following failure and success

Table 3 captures differences in funding for subsequent startups, but it does not condition on an exit outcome for the original startup. Given the strong relationship between serial entrepreneurship and future success, we proceed to regression analyses that are identical to those in Table 3, but we condition on failure and success (exit) 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.[17]

[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 14.19% 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

[17] Since the identification relies on mixed-gender teams (comprising approximately 17% of the main sample), we replicate the main test on this subsample in Appendix Table A.1. The results remain consistent, confirming that the variation originates from this type of firm.

founders are likely to search for funding for new startups. The fact that the likelihood of receiving funding for a new startup is 80% higher following success compared to failure is expected since one would expect investors to make positive inferences about founder ability from observed successes. This increases our confidence that we are capturing true failures and successes, despite the empirical challenge associated with observing these outcomes (see Section 3.4).

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 within-firm specifications with the full set of controls in (column 5), the results 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.[18]

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, across all specifications, we find that the reward for success is lower for women. Within startup, the estimated coefficient on *I(Woman* in column 5 implies a gap of 26.9%. 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.

4.2.1. Gender Differences at the Intensive Margin

In addition to the extensive margin, potential gaps among serial founders at the intensive margin can contribute to the total funding gap between men and women founders. In Table 5, 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 cofounder of the same startup to raise VC funding for the next

[18]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.

startup).

[INSERT TABLE 5 ABOUT HERE.]

Panel A shows the analysis of VC funding for a new startup post-failure. The estimated coefficients on *I(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 ($e^{-0.759} - 1 \approx -0.533$). 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).

Following success, the magnitude of the gap is smaller but it is still significant statistically and economically. 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). [19]

5. Potential Mechanisms

Even when we compare cofounders within the same startup, women remain substantially less likely to secure VC funding for their next ventures and they raise smaller amounts when they do. What explains these funding disparities? These patterns could stem from founder demand, investor supply, or both. On the demand side, women founders might have different preferences for serial entrepreneurship or accumulate different types of experience within their startups, particularly around fundraising. On the supply side, VC investors may rationally provide less capital to women entrepreneurs due to quality differences, or the funding gap could reflect investor bias through incorrect

[19] Appendix Figure A.2 presents regression results illustrating the cumulative funding differences between men and women founders in each year following success and failure events. The funding gap emerges as early as Year 1 and becomes statistically significant in subsequent years.

beliefs about women entrepreneurs or preferences for male-founded startups. We examine each of these potential explanations in turn.

5.1. Founder Demand

5.1.1. Gender Differences in Experience Accumulation Within Startups

A potential interpretation of our findings is that men and women cofounders accumulate different types of experience within startups due to their roles. The CEO role could be particularly important for fundraising experience, as CEOs typically lead investor relationships and financing rounds. If the gender gap we observe were driven by women having less exposure to fundraising in their co-founding roles, we would expect to see the gap concentrated among non-CEO founders and eliminated when comparing men and women who served as CEOs. In Table 6, we repeat the analysis of Table 4 but we add an interaction between the gender and CEO indicator variables. The main findings are almost identical to those in Table 4 and the coefficients on the interaction *I(Woman)* X *I(CEO)* are insignificant in all specifications. Thus, differences in founder roles and their associated fundraising experience do not explain the gender gap in follow-on funding.[20]

[INSERT TABLE 6 ABOUT HERE.]

5.1.2. Gender Differences in the Propensity to Launch Another Startup

The VC funding gap could reflect fundamental differences in men's and women's preferences for serial entrepreneurship. After exiting a VC-backed startup through either failure or success, women might be less interested in launching subsequent ventures due to factors such as risk tolerance, family considerations, alternative career opportunities in the entrepreneurial ecosystem (e.g., venture capital or board roles), or subjective perceptions of failure (Puri and Robinson, 2013; Hvide and Panos, 2014). To test whether differences in the propensity to start new businesses explain the gender gaps we observe, we depart from Pitchbook data and use founders' LinkedIn profiles to collect information on newly launched firms, including those that are not VC-backed. From the LinkedIn data, we observe that 26% of founders from VC-backed startups go on to launch a new firm following failure. This figure rises to 35% following a successful exit.

[20] In Appendix Tables A.2 we add to the specification other roles in the founding team, including CTO, COO, CMO and CFO. The results are similar.

In Panel A of Table 7, 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 the earlier tables, 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 7 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 cofounders. 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 cofounders. These gaps are significant statistically but they are much smaller in magnitude than what we find for VC-backed businesses.

[INSERT TABLE 7 ABOUT HERE.]

To test formally whether the VC funding gap is due to women starting fewer businesses, we repeat the Table 7 Panel A analysis using only the subsample of founders who start new firms (VC-backed or not). Results are in Panel B of Table 7. 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. Although women are less likely to start new businesses, the magnitude of this difference is modest relative to the gender gap in VC financing for the next startup that we document. Thus, the VC funding gap following failure and success cannot be explained solely by differences in men's and women's propensities to start new businesses.

The earlier intensive margin results in Table 5 can also inform us about the possibility that VC funding gaps are due to founder demand. If the gap is driven by women's lack of interest in a subsequent VC-backed business, we would expect gender differences to occur mainly at the extensive margin. At the intensive margin, it is reasonable to assume that both men and women entrepreneurs would seek similar amounts of capital when raising

funds for similar types of ventures.[21] The within-startup results in column 5 of Table 5 help to clarify the interpretation since one might expect cofounders to have more similar aspirations and entrepreneurial interests. Of course, it is still possible that women ask for less funding. But even if we were to assume that VC-backed women ask for the 23-25% less capital that is reported in the crowdfunding setting in Hellmann, Mostipan and Vulkan (2021), half of the dollar funding gap that we document would remain unexplained.

In the next section, we consider the supply side channel. 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.

5.2. Subsequent Startup Quality

5.2.1. Lower Quality Entrepreneurs? Comparing Observable Characteristics

Because inference about founder ability is likely to come from observing the current business, the fixed effects specification helps to identify potential gender gaps in VC financing for subsequent ventures. That said, we do not claim that men and women cofounders are identical. Still, our approach should improve on existing approaches to understanding gender gaps if men and women cofounders are more similar to each other than men and women founders more generally. To examine potential gender differences in founder experience, we begin with a descriptive analysis of gender differences in observable characteristics. If founders are more similar to their cofounders in terms of observable characteristics than to other startup founders within the same industry, they are also likely to be more similar to their cofounders in terms of unobservable characteristics (Altonji, Elder and Taber, 2005; Oster, 2019).

In Table 8, we investigate the estimated relationship between various work experience and educational background characteristics and the likelihood that a founder is a woman. We compare cofounders of the same startups as well as founders within the same industry. All variables are standardized so that comparisons across variables are straightforward.

[21] Unlike the average women, who tend to negotiate less and ask lower salaries (Exley and Kessler, 2022; Roussille, 2024), serial VC-backed women entrepreneurs operating in high-stakes environments are likely to share similar motivations and preferences with their male counterparts (Adams and Ragunathan, 2017; Hebert, 2024). However, recent evidence from equity crowdfunding suggests this pattern may be more nuanced. Hellmann, Mostipan and Vulkan (2021) find that female entrepreneurs set lower fundraising goals but hold out longer before closing campaigns, suggesting they may want more funding than they initially request, consistent with founder demand playing a meaningful role in funding gaps.

[INSERT TABLE 8 ABOUT HERE.]

There are two important observations from the regressions in Table 8. First, although there are some differences between men and women founders, they are not large. Men do not dominate on every observable characteristic, nor do women (men tend to have more experience; women tend to have more and higher-status education credentials). Second, and more importantly, as we move from the between-startup comparisons to the within-startup specifications, we observe significant shrinkage in the estimated coefficients. That is, men and women cofounders are more similar than men and women founders within the same industry. For example, gender differences in past startup experience are 57.1% smaller within startups. Gender differences between men and women cofounders' tech experience shrinks by 22.2% relative to same-industry comparisons. The only observable where differences widen in the within startup specification are PhD/MD degrees. In addition to coefficient shrinkage, Table 8 shows an increase in Adjusted R^2 as one moves from the between-startup to the within-startup specifications. This provides further validation for our empirical design of comparing cofounders within the same startup. For example, consider technology experience, adding startup fixed effects not only explains 16 times more variation (Adjusted R^2 from 0.015 to 0.247), the gender coefficient also shrinks by 22.2%. Taken together, the results suggest homophily among cofounders.

5.2.2. Lower Quality Startups? Comparing Startup Outcomes

Although Table 8 suggests that men and women cofounders of the same VC-backed startups are more similar than other VC-backed founders, the analysis considers only observable characteristics. For a formal test of gender differences in founder quality, we conduct an outcome test where we examine potential differences in the outcomes of the VC-backed startups that men and women cofounders launch following success or failure of the current startup (Becker, 1993; Hebert, 2024; Cook, Marx and Yimfor, 2024). We view the outcomes test as the ideal test of differences in quality.

To be included in this analysis, we require that founders raise at least one round of VC funding for their subsequent startup after the current startup has exited, ensuring temporal clarity in our analysis. While founders may begin working on their next venture before their current startup exits, we only consider subsequent startups that receive VC funding after

the current startup's exit. One important caveat is that the sample size for the test is limited because it requires founders to have raised venture capital for at least two startups, exited the first one, and then raised financing and also exited the second one during the 2010-2023 sample period. Still, despite the limited sample size, this analysis provides a useful lens for understanding founder quality differences, and the straightforward interpretation of the outcomes test allows us to shed light on what is (and is not) likely to be the main driver of our findings.

Results of the outcome test are in Table 9. The unit of observation in these tests is a person-startup for the startup-person pairs from Tables 3 and 4 that raised funding for a new VC-backed startup following the exit of the current startup. The outcome variable in columns 1 and 2 is an indicator equal to one if the next VC-backed startup went public or was acquired, with failed startups as the control group. In columns 3 and 4, we require that successful exits have a total value to paid-in capital (TVPI) ratio greater than 3, following Gompers, Gornall, Kaplan and Strebulaev (2020) who note that some acquisitions may be disguised failures. Columns 5 and 6 focus on IPOs only, representing the most successful outcomes.

[INSERT TABLE 9 ABOUT HERE.]

Across all specifications, the estimated coefficients on *I(Woman)* are positive, suggesting better outcomes for subsequent startups founded by women relative to their male cofounders. In column 2, when we control for pre-exit funding, we find that women-founded startups are 12.1 percentage points more likely to exit successfully than startups founded by their male cofounders. For high-quality exits (TVPI $\geq$ 3), women founders are 10.7 percentage points more likely to succeed relative to their male cofounders, and for IPOs specifically, they are 15.6 percentage points more likely to go public than their male cofounders. These results are particularly striking given that women founders raise less capital for their subsequent ventures than their male cofounders, as documented in our earlier tables. The evidence points to women founders achieving better outcomes than their male cofounders despite having access to fewer resources.

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 in Table 9 suggests that subsequent startups founded by serial women enjoy higher rates of success, consistent with a higher bar for women entrepreneurs.

5.2.3. Lower Quality Startups? Exogenous Contributors to Startup Outcomes

Because there are potential 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. 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] The availability of this local capital for financially constrained startups is an important and arguably exogenous determinant of success and failure.

The tests that follow assume that startups that fail following periods of abundant capital are more likely to have poor quality ideas or execution (see e.g., Ljungqvist and Wilhelm Jr, 2003; Janeway, Nanda and Rhodes-Kropf, 2021). Under the hypothesis that the funding gap is due to unobservable differences in the quality of women we then expect an even larger gender gap in funding following failures that occur during favorable capital supply conditions.

We measure local capital supply conditions as *Ln(Capital Supply)*, the natural log of the average pension fund assets in the state in which the startup is located during the four years preceding a deal. Before adding *Ln(Capital Supply)* as an exogenous supply shift variable, we first confirm the hypothesized relationship between local capital supply and startup outcomes. Table 10 Panel A shows that increases in local funding supply from state pension funds (*Ln(Capital Supply)*) are associated with decreased failure probabilities and increases in the likelihood of follow-on funding, as well as exit via IPO or acquisition.

[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.

[INSERT TABLE 10 ABOUT HERE.]

In Table 10 Panel B, we repeat the analysis of funding following failure shown in Table 4 Panel A, but we use capital supply conditions to help identify failures that are more likely to signal low founder quality. When capital is abundant, even lower-quality startups can survive longer, meaning that failures during these periods are particularly informative about founder quality. If women founders are systematically of lower quality, we would expect the gender funding gap to be larger among founders whose startups failed during periods of abundant capital, as investors would view these failures as stronger signals of poor quality for women. This would manifest as a negative interaction between *I(Woman)* and *Ln(Capital Supply)*. We do not find any significant interaction. The evidence suggests that women founders are not systematically lower quality, as investors do not differentially penalize women's failures that occurred during favorable capital conditions. Instead, the negative and significant coefficient on the direct effect (*I(Woman)*) across all specifications shows that all women founders, regardless of capital supply conditions, face a funding gap.

In Table 10 Panel C, we examine "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"). If women founders are systematically of lower quality, we would expect the gender funding gap to be larger among founders whose startups succeeded during periods of abundant capital, as investors would discount these potentially inflated success signals more heavily for women. This would manifest as a negative interaction between *I(Woman)* and *Ln(Capital Supply)*. We fail to find any significant interaction. The evidence suggests that women are not of systematically lower quality relative to their male cofounders, as investors do not differentially penalize women's successes that occurred during favorable capital conditions.

To summarize, we fail to find empirical support that the funding gap is due to differences in the quality of women founders.

5.3. Supply-side and Potential Role of Investors

Given the importance of networks and relationships in venture capital (Gompers, Gornall, Kaplan and Strebulaev, 2020; Howell and Nanda, 2024), one might expect current investors to be especially likely to invest in subsequent startups. These investors have more direct information about individual founders of startups in their portfolios.

Despite this potential informational advantage, repeat investing in multiple startups with the same founder is not common (Bengtsson, 2005; Gompers, Kovner, Lerner and Scharfstein, 2010). In our sample, only 1.13% of founders who fail receive future funding in new startups from the same VC investors. This value is much higher following success, with 4.06% of successful founders receiving funding from repeat investors for their new VC-backed startups. But in both cases, new outside investors are the primary source of capital for subsequent startups.

5.3.1. Investor-Deal Level Tests

New investors might rely on data from founders' track records, their own investment experiences, or even heuristics to evaluate unfamiliar startups and their founders. We return to the Pitchbook investor-deal level data for all U.S. startups to study investor portfolio dynamics over time to understand whether unequal funding stems from investors' incorrect initial beliefs about women founders or to investor preferences for men. These are natural explanations for the gaps that exist between same-startup founders, in light of the earlier findings that neither founder demand nor quality appear to be the primary drivers.

Most of the mechanism analysis until now has focused on tests at the extensive margin. However, Table 5 shows that there is also a substantial gender gap in the amount of funding that serial entrepreneurs raise. We now turn to the intensive margin to provide further insights into the mechanisms. The dependent variable in the analyses that follow is *Ln(Deal Size)*, the natural log of the deal size (in millions). Deal size is of first-order importance to startups.[24] Higher levels of funding provide more resources and longer runways during which startups can accelerate their growth. The second reason to focus on the intensive margin in the investor-level tests is a practical one based on data availability. Because we do not observe all founder teams that *could* have received funding but did not, any tests at the extensive margin would be difficult to interpret.

[24]Note that PitchBook (and other VC-deal-level datasets) does not provide an individual investor's allocations in a given deal. The underlying assumption in 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.

5.3.1.1 Founders' track records

We begin by examining the role of founders' track records. We test whether founding team members' prior experience founding a VC-backed firm predicts funding outcomes for their subsequent ventures. We also test whether founders' prior failures and successes (likely to be observable to new investors) predict funding outcomes. We construct dummy variables that allow the relationship between founders' histories and funding outcomes to be different for men and women. The specification is as follows:

$$\begin{aligned} \text{Ln(Deal Size)} = \quad & \beta_1 \text{I(Serial Women Founder)} + \\ & \beta_2 \text{I(Serial Men Founder)} + \beta_3 \text{I(Serial Women Success)} \\ & + \beta_4 \text{I(Serial Men Success)} + \beta_5 \text{I(Serial Women Failure)} \\ & + \beta_6 \text{I(Serial Men Failure)} + \beta_7 \text{I(Women-Founded)} \\ & + \beta_8 \text{P(Investments Women)} + \beta_9 \ln(\text{Age}) + \beta_7 \ln(\text{Age VC}) \\ & + \beta_{10} \text{P(Serial Founder)} + \omega_j + \eta_t \end{aligned} \tag{2}$$

Because the regressions are at the investor-deal level (rather than the founder-deal level in the earlier tables), the gender variables are modified to capture the gender composition of a given startup's founding team. *I(Women-Founded)* is an indicator equal to one if at least one member of the founding team of the current investment is a woman. The indicators *I(Serial Women Founder)* and *I(Serial Men Founder)* are equal to 1 if the founding team has any members who are women or men, respectively, and have founded previous VC-backed startups. *I(Serial Women Success)* and *I(Serial Women Failure)* are indicators equal to one if the founding team includes at least one woman who founded a startup that succeeded or failed in the past. *I(Serial Men Success)* and *I(Serial Men Failure)* capture prior successes and failures by any male founders on the team. If investors use entrepreneurs' track records to inform future investments, we expect these founder team experience variables to predict future deal sizes.

We include a separate control variable to capture 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 Founder)* represents the proportion of startup founders who have launched at least one other startup prior to the current one. Other controls include startup age and VC firm age. We also include time, industry, and state-fixed effects. Finally, our most rigorous specifications include investor fixed effects, which account for investors' fixed characteristics and enable comparisons of their behavior over time.

Results are in Table 12. Columns 1 and 3 are for reference and show results without the success and failure track record variables. In column 2, we define success as an acquisition or IPO, as in the literature and in the earlier tables. Because it is possible that some of the acquisitions are disguised failures (i.e., sales at low prices), we also examine "significant successes", defined as an IPO or acquisitions with a total value to paid-in (TVPI) ratio of at least 3.[25] Column 4 considers only significant success.

From Table 12, the estimated coefficients on both *Serial Women Founder* and *Serial Men Founder* in columns 2 and 4 imply deal sizes that are between 29 and 30 percentage points larger ($e.g., e^{0.265} - 1 \approx 0.303$) when startups have founders of either gender who have founded another VC-backed firm in the past. However, when at least one woman on the founding team has experienced a prior failure of a VC-backed firm (*I(Serial Women Failure)*), the estimates imply a penalty so large that it erases completely the reward for founders' prior experience.

[INSERT TABLE 12 ABOUT HERE.]

Smaller deal sizes following a woman's failed venture could be consistent with investors' learning about women founders through their track records if we find symmetric results (i.e. larger deal sizes) following past success for men. We do not. The estimated coefficients on *I(Serial Women Success)* in 12 are statistically insignificant under the standard success measure (column 2) and when we focus only on significant successes (column 3). The results in columns 2 and 3 of Table 12 imply that startups with women

[25] Gompers, Gornall, Kaplan and Strebulaev (2020) point out that the traditional definition of success may include acquisitions that are actually disguised failures. The stricter definition of success should exclude these potential cases.

founders that experienced prior success raise as much capital for their subsequent startups as those without any exit track record.

Importantly, the same is not true for men. Startups founded by experienced men with prior successes are rewarded with deals that are 28 percentage points larger compared to startups founded by experienced men without successful exits. In fact, men are rewarded for *any* prior exit. Our estimates imply deal sizes that are 5 percentage points greater following their prior failures. The asymmetry in the sensitivity of deal size to prior failure and success for women, along with the finding that men are rewarded for any past exit points to unequal treatment of women (Bertrand, Chugh and Mullainathan, 2005; Bordalo, Coffman, Gennaioli and Shleifer, 2016) by investors.

5.3.1.2 Investors' experiences and potential spillovers to unrelated women founders

Although women founders with previous startup experience do raise more capital than first-time women founders, they still face substantial disadvantages relative to men with similar experience levels. Do investors experiencing these exits of women-founded startups also update their views on their future investments in women-founded firms?[26]

Investor beliefs and preferences are difficult to distinguish without observing their decision-making processes directly. Our investor-deal level data allow an opportunity to examine them. If investors simply prefer to avoid women founders or they do not use data from their experiences with same-gender founders to make inferences about other women (i.e., they do not stereotype), then the gender gap within their portfolios would be invariant to prior experiences with other women founders. Alternatively, if investors form their beliefs about women founders through statistical updating, then prior experiences with other women founders will impact future investment decision-making.[27] We interpret sensitivity of initial disparities (i.e., the direct *I(Women)* effect) to prior experience with other women founders as consistent with stereotyping. Stereotypes can develop through statistical updating, which would result in both positive and negative spillovers. Different from statistical updating, stereotyping due to biased investor

[26] This line of inquiry is similar in spirit to Sarsons (2017*b*) who reports that physicians are less likely to make new referrals to women surgeons following a bad experience with a different woman surgeon.

[27] (Bohren, Imas and Rosenberg, 2019) also use dynamics to distinguish between discrimination due to statistical updating versus preferences.

preferences would result in negative spillovers but not positive ones.

To conduct our tests, we repeat the analyses in Table 12, but we add indicator variables to capture investors' recent experiences with men and women founders in their portfolios. As before, *I(Woman-Founded)* is an indicator equal to one if at least one of the startup's founders is a woman. *I(Portfolio Success Women)* and *I(Portfolio Success Men)* indicate whether the investor backed at least one woman-founded or one man-only founded startup that was successful, respectively. *I(Portfolio Failure Women)* and *I(Portfolio Failure Men)* capture failure experiences. The coefficients of interest are on the interactions *I(Serial Women Success)*I(Woman-Founded)* and *I(Serial Women Failure)*I(Woman-Founded)*. These capture potential spillovers to unrelated women founders following investors' experiences with startups founded by other women in the past.

The spillover test results in Table 13 are striking. Focusing on columns 2 and 4, the estimated coefficient of -0.069 on *I(Serial Women Failure)*I(Woman-Founded)* in column 2 implies that when an investor experiences a recent failure by a woman-founded startup, the investor participates in deals for subsequent (unrelated) women founders are 6.7 percentage points ($e^{-0.069} - 1 \approx -0.067$) smaller over the next five years. This pullback is incremental to the baseline 14.2 percentage point gender gap in deal size. In column 4, the estimated coefficient of -0.078 on *I(Serial Women Failure)*I(Woman-Founded)* implies that the investor's deals for subsequent women founders are between 7.5 percentage points smaller. This is incremental to the baseline 14.4 percentage point gender gap implied by the coefficient of -0.156 on *I(Woman-Founded)*.

If the negative spillovers that we document are due to investors' attempts to learn about the abilities of women entrepreneurs through statistical updating, then we should observe positive spillovers after an investor experiences the success of a woman-founded firm. We do not observe evidence of this. In column 2, the estimated coefficient *I(Serial Women Success)*I(Woman-Founded)* is insignificant (and negative). In column 4, when we define successes using the stricter definition of success (IPOs or acquisitions with a TVPI ratio of at least 3), the findings are very similar. Taken together, the results in Table 13 are consistent with the investors' biased preferences for men. They show that the performance histories of women founders have negative (but not positive) externalities for other women seeking VC funding, further contributing to the VC funding gap. This additional obstacle is faced

by first-time women founders and serial founders alike.

[INSERT TABLE 13 ABOUT HERE.]

The asymmetric results of both the track record analysis and the negative and positive spillover analyses are all inconsistent with pure statistical updating that would occur in a rational belief-based explanation of the gender gap. Under such updating, investors would attempt to learn about the success probabilities of women-founded startups based on the positive and negative outcomes of experienced founders or based on other startups founded by women. Instead, we observe that only negative outcomes predict future investments in women-founded firms. One-way updating, along with the persistent and negative direct effect of gender for women-founded firms, suggests that both stereotyping and preferences play important roles in the gaps that we observe in the data.

One might question whether it is realistic that partners across a VC firm update negatively about all women founders based on one failed investment led by potentially different partners. To address this concern, we replicate our analysis at the lead partner level, where the spillover effects should be strongest if they reflect genuine learning from direct experience.[28] Tables A.3 and A.4 show that the patterns we document are even more pronounced when we focus on individual lead partners rather than entire firms. The asymmetric updating—penalizing women founders for failures but not rewarding them for successes—persists and is often larger in magnitude at the lead partner level. This suggests that the negative spillovers we observe are unlikely to be artifacts of firm-wide information diffusion, but rather reflect systematic biases in how individual decision-makers process information about women entrepreneurs. The consistency of these patterns across both firm-level and partner-level analyses strengthens our interpretation that investors exhibit stereotyping behavior rather than rational statistical updating.

[28]Lead partner information is missing for approximately 50% of deals in our sample, which substantially reduces our sample size and potentially limits external validity. Therefore, we focus our main analysis on the full sample of all investors while using the lead partner results as robustness checks that strengthen our interpretation.

6. Conclusion

Repeat chances are an important ingredient for entrepreneurial success (e.g., Lafontaine and Shaw (2016), Gompers, Kovner, Lerner and Scharfstein (2010)). Founders gain valuable experience from their prior startup through both their successes and failures, increasing the chances of future success.

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 quality differences between men and women. And, although women do have lower propensities to start subsequent firms, the differences are small relative to the VC funding gap that we document. The results are not driven by bias that is simply due to incorrect initial beliefs about women entrepreneurs. Specifically, inconsistent with learning, we find that women founders are penalized when their track records include prior VC-backed startup failures but not following their prior successes. Moreover, 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. Taken together, these findings suggest that policies aimed at improving capital access for experienced women entrepreneurs could yield substantial efficiency gains, as investors appear to be systematically undervaluing high-quality founders.

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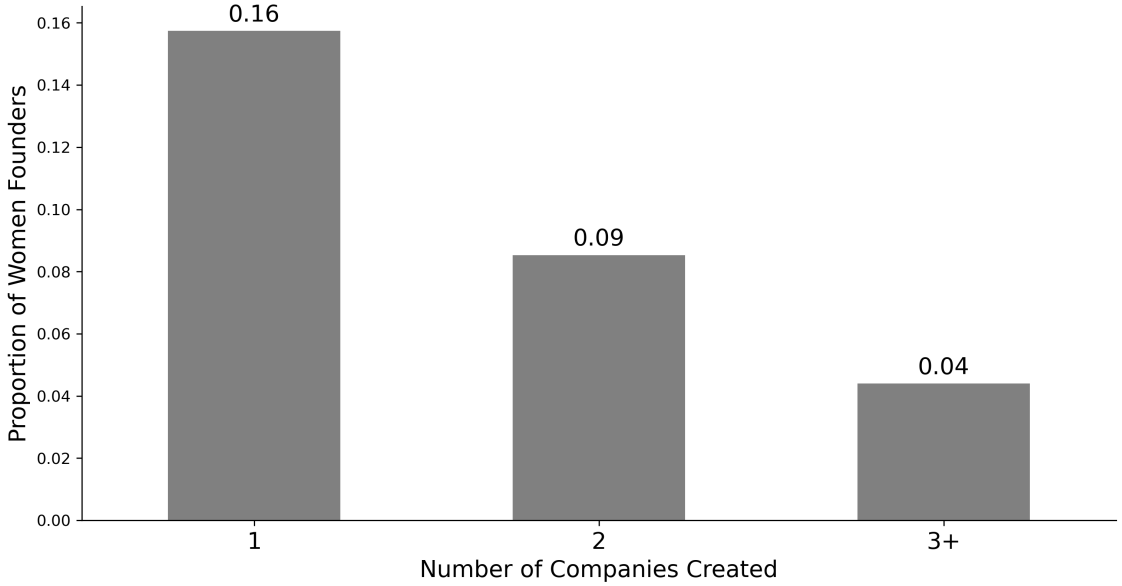
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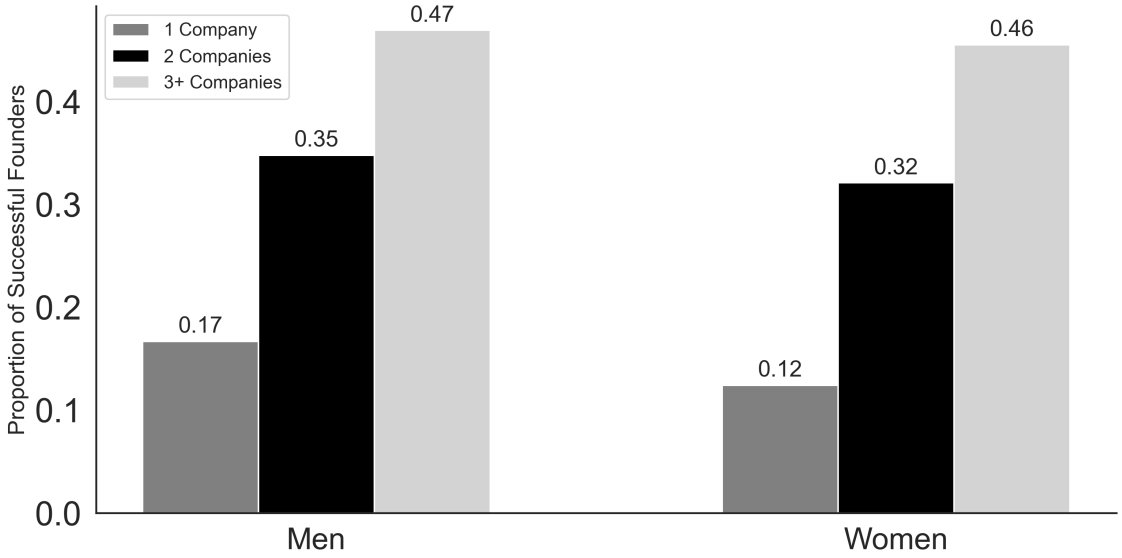
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Figure 1: **Serial Entrepreneurship by Gender**

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) Serial Entrepreneurship, by Gender of Founder



(b) Serial Entrepreneurship by Gender and Success

Figure 2: **Single and Mixed Gender Teams**

The figure plots the number of VC-backed startups in the Pitchbook data over time, by gender of the founder team (Men Only, Women Only, and Mixed Gender teams). The unit of observation is a startup.

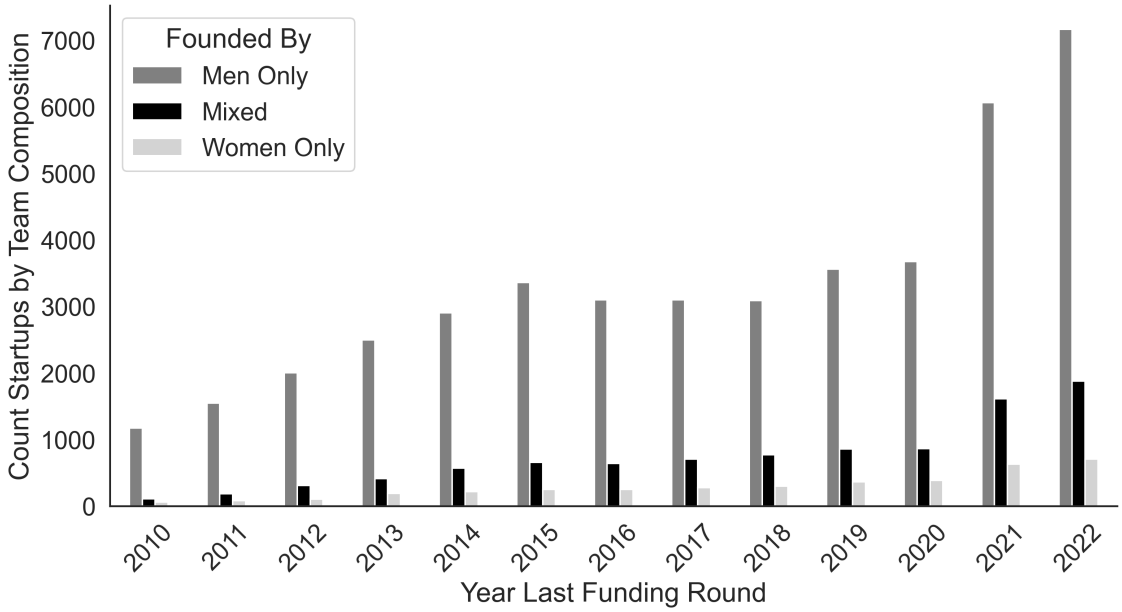


Table 1: **Sample of failure and success events by year**

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 prior to failure or success. *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 VC-backed startup prior to the founding of the current startup. *Age Startup* is the startup's age (in years). *Pre-Failure Funding* (*Pre-Exit Funding*) 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 tests. The unit of observation is an investor-deal 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(Serial Women Founder)* and *I(Serial Men Founder)* are indicators equal to one if the startup has at least one serial woman founder or serial man founder, respectively. *I(Serial Women Success)*, *I(Serial Women Failure)*, *I(Serial Men Success)*, and *I(Serial Men Failure)* are indicators for startups with serial founders who had past successes or failures. *Portfolio Success Women* and *Portfolio Success Men* are indicators equal to one if the investor backed at least one woman-founded or male-only-founded startup that succeeded, respectively, over the previous five years. *Portfolio Failure Women* and *Portfolio Failure Men* are indicators equal to one if the investor backed at least one woman-founded or male-only-founded startup that failed, respectively, over the previous five years. *P(Investments in Women)* represents the average proportion of a VC firm's investment dollars allocated to startups with at least one woman founder, calculated over the previous five years. 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	122,716	106,330			16,386			
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	22,386	19,470			2,916			
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	25,710	23,340			2,370			

Table 2 **(Continued)**

Panel D. Spillover dataset											
Team's gender	Total	All Men			Mixed (At least one Woman)			All Women			Difference
Variables	Mean	Mean	Median	Std. Dev	Mean	Median	Std. Dev	Mean	Median	Std. Dev	M-W
Deal Size ($M)	27.816	30.574	7.000	105.015	21.418	5.000	74.180	10.759	2.715	25.963	11.36***
I(Women-Founded Startup)	0.243	0.000	0.000	0.000	1.000	1.000	0.000	1.000	1.000	0.000	
I(Serial Women Founder)	0.022	0.000	0.000	0.000	0.086	0.000	0.280	0.107	0.000	0.309	-0.09***
I(Serial Women Success)	0.010	0.000	0.000	0.000	0.039	0.000	0.193	0.052	0.000	0.221	-0.04***
I(Serial Women Failure)	0.005	0.000	0.000	0.000	0.020	0.000	0.139	0.029	0.000	0.168	-0.02***
I(Serial Men Founder)	0.294	0.316	0.000	0.465	0.283	0.000	0.451	0.000	0.000	0.000	0.09***
I(Serial Men Success)	0.175	0.188	0.000	0.391	0.169	0.000	0.375	0.000	0.000	0.000	0.05***
I(Serial Men Failure)	0.060	0.066	0.000	0.248	0.055	0.000	0.227	0.000	0.000	0.000	0.02***
Portfolio Success Women	0.107	0.105	0.000	0.307	0.116	0.000	0.320	0.110	0.000	0.313	-0.01***
Portfolio Success Men	0.573	0.580	1.000	0.494	0.562	1.000	0.496	0.508	1.000	0.500	0.03***
Portfolio Failure Women	0.162	0.151	0.000	0.358	0.191	0.000	0.393	0.223	0.000	0.416	-0.05***
Portfolio Failure Men	0.527	0.524	1.000	0.499	0.542	1.000	0.498	0.518	1.000	0.500	-0.01***
Age VC (years)	15.134	15.456	10.000	17.450	14.310	9.000	16.416	13.440	9.000	14.588	1.33***
Age Startup (years)	4.974	5.100	4.000	3.822	4.593	4.000	3.115	4.543	4.000	3.565	0.52***
P(Investments in Women)	0.193	0.178	0.144	0.162	0.229	0.185	0.200	0.275	0.214	0.238	-0.06***
Observations	207,123	156,829			39,902			10,392			

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

This table shows results of analyses that examine 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 VC-backed 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 natural log of the total amount of VC funding the current startup has raised to date. *Ln(Startup Age)* is the natural log of the startup's age (in years) when it received its last round of funding. 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(Startup 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
Last Funding Year 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 VC-backed 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: After failure	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)
I(CEO)		1.630***	1.727***		2.135***
		(0.338)	(0.338)		(0.401)
Ln(Startup Age)		-2.383***	-2.326***		
		(0.415)	(0.416)		
Ln(Pre-Exit Funding)		1.038***	0.887***		
		(0.094)	(0.096)		
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: After success	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)
I(CEO)		3.747***	3.906***		4.312***
		(0.416)	(0.415)		(0.483)
Ln(Age)		-6.069***	-5.713***		
		(0.466)	(0.475)		
Ln(Pre-Exit Funding)		1.845***	1.631***		
		(0.121)	(0.122)		
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: **Amount of VC funding raised following startup success or failure**

This table shows results of analyses that examine the relationship between a startup founder's gender and the amount of VC funding raised at the founder's next startup following the failure or success of the current startup, conditional on starting a new VC-backed firm. 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 current startup's CEO during a funding round. *Ln(Age)* is the natural log of the startup's age when it failed or succeeded. *Ln(Pre-Exit Funding)* is the natural 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: After Failure	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)
I(CEO)		-0.166*	-0.134		0.064
		(0.096)	(0.097)		(0.147)
Ln(Startup Age)		-0.197*	-0.216*		
		(0.119)	(0.121)		
Ln(Pre-Exit Funding)		0.242***	0.210***		
		(0.028)	(0.028)		
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: After Success	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)
I(CEO)		-0.192***	-0.143**		0.118
		(0.058)	(0.057)		(0.073)
Ln(Startup Age)		-0.463***	-0.387***		
		(0.076)	(0.076)		
Ln(Pre-Exit Funding)		0.372***	0.311***		
		(0.021)	(0.021)		
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 6: **Are the results driven by gender differences in cofounder roles? CEO analysis**

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 (columns 1-2) or success (columns 3-4). 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(CEO)* is an indicator equal to one if the founder is also listed as the current startup's CEO during any 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.

Dependent Variable:	I(Invested)			
Sample:	After Failure		After Success	
	(1)	(2)	(3)	(4)
I(Woman)	-2.466***	-1.598**	-4.157***	-4.214***
	(0.537)	(0.776)	(0.699)	(0.935)
I(CEO)	1.947***	2.641***	4.228***	4.847***
	(0.380)	(0.459)	(0.456)	(0.531)
I(Woman) X I(CEO)	0.006	-0.506	-0.079	0.208
	(0.858)	(1.134)	(1.271)	(1.604)
I(Serial Founder)	19.302***	19.299***	24.863***	24.549***
	(1.087)	(1.351)	(0.945)	(1.164)
Ln(Age)	-2.579***		-6.339***	
	(0.429)		(0.480)	
Ln(Pre-Exit Funding)	0.863***		1.766***	
	(0.099)		(0.125)	
Observations	22755	18886	26016	22261
Adjusted R^2	0.064	0.212	0.102	0.253
Year Founded FE	YES	YES	YES	YES
Industry FE	YES	NO	YES	NO
State FE	YES	NO	YES	NO
Startup FE	NO	YES	NO	YES

Table 7: **Starting the next firm: Likelihood of starting the next firm after failure or success according to LinkedIn**

This table shows results of analyses that examine 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 firm regardless of its funding status. In Panel B, the dependent variable is *I(Invested)*, an indicator equal to one if the founder receives VC funding for the new firm within five years after the last round of funding for the previous VC-backed 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 natural log of the total amount of VC funding the current 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 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(Startup 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(Startup 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 8: **VC-Backed Founder Characteristics Between and Within Startup**

The table shows the estimated relationship between various founder characteristics and the likelihood that a startup founder is a woman, *I(Woman)*, between and within startup. Each observation is a startup founder, with characteristics measured prior to their startup's last round of VC funding. We identify founder characteristics using LinkedIn profiles. The unit of observation is a startup-founder pair. The sample is the founders from Table 3 that we could match to their LinkedIn profile. Shrinkage is the difference between the within and between estimates, scaled by the between estimates. *I(Tech Experience)* indicates work at a top-50 funded startup or a computer science/engineering degree. *I(Past Startup Experience)* indicates prior founding or executive experience. *I(MBA/JD)* is an indicator for holding an MBA or a JD degree. *I(PhD/MD)* is an indicator for holding a Ph.D. or an MD degree. *Work Experience* measures cumulative years of work experience, accounting for overlapping job periods and gaps between jobs since graduation. *I(Elite School)* is an indicator for attending an elite university. We standardize all variables to ease comparison of relative effects across rows.

Dependent Variable	I(Past Startup Experience)		Work Experience		I(Tech Experience)		I(Elite School)		I(MBA/JD)		I(PhD/MD)	
	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women
Mean (all founders)	92.28%	91.61%	13.17	11.65	44.10%	26.04%	26.06%	32.07%	16.20%	19.70%	12.02%	11.20%
Mean (mixed gender teams)	91.84%	91.31%	13.19	11.71	41.64%	26.92%	27.75%	30.79%	16.76%	18.67%	13.73%	12.07%
	Between	Within	Between	Within	Between	Within	Between	Within	Between	Within	Between	Within
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
I(Woman)	-0.035***	-0.015	-0.192***	-0.167***	-0.369***	-0.287***	0.131***	0.059***	0.094***	0.040**	-0.032***	-0.045***
	(0.013)	(0.017)	(0.012)	(0.013)	(0.011)	(0.014)	(0.013)	(0.016)	(0.013)	(0.017)	(0.012)	(0.014)
Observations	63034	63034	63034	63034	63034	63034	63034	63034	63034	63034	63034	63034
Adjusted R^2	0.007	0.154	0.010	0.346	0.015	0.247	0.004	0.224	0.001	0.125	0.004	0.339
Shrinkage	-56.9%		-13.2%		-22.0%		-54.8%		-56.9%		40.0%	

Table 9: **Differences in performance of the next startup**

This table shows results of analyses that examine the relationship between the founder's gender and the probability of a successful exit with the next VC-backed startup. The unit of observation is a founder-startup pair from the same sample used in Tables 3 and 4. The sample includes founders who either succeeded or failed with the current startup between 2010 and 2022, and exited through success or failure with the next VC-backed startup by 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 the next startup that exited via an IPO or an acquisition by the end of our sample period, and zero otherwise. In columns 3 and 4, the dependent variable is *I(All IPOs & M&As with TVPI>3)*, an indicator equal to one if the founder received VC funding for the next startup that exited via an IPO or an acquisition whose deal size divided total funding raised is available and greater than 3, and zero otherwise. In the last two columns, a startup is successful if the next 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 natural 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.

Dependent Variable:	I(All IPOs & M&As)		I(All IPOs & M&As with TVPI>3)		I(IPOs Only)	
	(1)	(2)	(3)	(4)	(5)	(6)
I(Woman)	0.117	0.121*	0.105*	0.107*	0.153**	0.156**
	(0.079)	(0.065)	(0.057)	(0.055)	(0.069)	(0.066)
I(CEO)	0.091**	0.067**	0.030	0.013	0.011	-0.006
	(0.035)	(0.033)	(0.024)	(0.022)	(0.019)	(0.017)
I(Serial Founder)	0.042	0.047	0.135**	0.139***	0.086*	0.090**
	(0.062)	(0.053)	(0.054)	(0.051)	(0.045)	(0.041)
Ln(Pre-Exit Funding)		0.096***		0.070***		0.069***
		(0.017)		(0.016)		(0.015)
Observations	601	601	601	601	601	601
Adjusted R^2	0.441	0.515	0.457	0.499	0.390	0.452
Year Exit FE	YES	YES	YES	YES	YES	YES
Previous Startup FE	YES	YES	YES	YES	YES	YES

Table 10: **Likelihood of VC funding for a new startup following abundant supply of capital**

This table shows results of analyses that examine the effects of abundant supply of capital conditions on the likelihood of raising VC funding for the next startup following the failure (Panel B) or the success of the current startup (Panel C). We measure the abundant supply of capital conditions, *Ln(Funding Supply)*, as is the natural log of the average pension fund assets in the state where the startup is headquartered in the four years preceding a deal. In Panel A the unit of observation is a startup year for startups that raised VC funding between 2010 and 2022. We cluster standard errors at the state level. *I(Follow-on)* is an indicator of whether the current 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. In Panel B, the unit of observation is a failed startup-founder pair, while Panel C is a successful startup-founder pair. *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 current startup's CEO during a funding round. *Ln(Startup Age)* is the natural log of the startup's age when it failed or succeeded. *Ln(Pre-Exit Funding)* is the natural log amount of VC funding the startup raised before it failed or succeeded. 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: Supply of Capital and Outcomes	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
Last Funding Year FE	YES	YES	YES	YES
Industry FE	YES	YES	YES	YES

Panel B: Effects of Failure 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: Effects of Success and Supply of Capital	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 11: **Likelihood of investment by the same investor following startup failure by founder gender**

This table shows results of analyses that examine 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 also backed the next 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 natural log startup's age when it failed or succeeded. *Ln(Pre-Exit Funding)* is the natural 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: After failure	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: After success	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 12: **Founder track records and subsequent startup funding**

This table shows results of analyses at the investor level that examine the relationship between past startup outcomes (both significant successes and failures) and subsequent deal sizes for women-founded startups. The unit of observation is an investor-deal pair. The sample includes all investors in Pitchbook that experienced at least one startup exit between 2010 and 2022. We present coefficients from OLS regressions and cluster standard errors by investors. *I(Woman-founded)* equals 1 if at least one of the startup's founders is a woman. *I(Serial Women Founder)* and *I(Serial Men Founder)* are indicators equal to one if the startup has at least one serial woman founder or serial man founder, respectively. *I(Serial Women Success)*, *I(Serial Women Failure)*, *I(Serial Men Success)*, and *I(Serial Men Failure)* are indicators for startups with serial founders who had past successes or failures. *P(Investments Women)* is the proportion of deal value in the VC firm's portfolio that funded startups with women founders over the previous five years. *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). In column 2, *Success* is defined as an IPO or acquisition. Column 3 shows results where success is defined as *Significant Success* (IPOs or acquisitions with a total value to paid-in (TVPI) ratio of at least 3). The dependent variable is *Ln(Deal Size)*, the natural log of deal size (in millions). $^{***}p < 0.01$ 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)		
Portfolio Experience:		Success	Significant Success
	(1)	(2)	(3)
I(Serial Women Founder)	0.076***	0.265***	0.268***
	(0.024)	(0.041)	(0.041)
I(Serial Men Founder)	0.252***	0.254***	0.254***
	(0.011)	(0.013)	(0.014)
I(Serial Women Success)		0.046	0.042
		(0.052)	(0.052)
I(Serial Men Success)		0.247***	0.247***
		(0.015)	(0.015)
I(Serial Women Failure)		-0.263***	-0.267***
		(0.054)	(0.054)
I(Serial Men Failure)		0.050***	0.049***
		(0.016)	(0.016)
I(Woman-Founded)	-0.219***	-0.173***	-0.173***
	(0.010)	(0.009)	(0.009)
P(Investments Women)		-0.022	-0.022
		(0.015)	(0.015)
Ln(Age VC)		0.144***	0.144***
		(0.033)	(0.033)
Ln(Age Startup)		0.811***	0.811***
		(0.016)	(0.016)
Observations	207,123	207,123	207,123
Adjusted R^2	0.564	0.619	0.619
Year FE	YES	YES	YES
Investor FE	YES	YES	YES

Table 13: **Potential spillovers following portfolio company exits**

This table examines the relationship between investor portfolio spillovers, founder experience, and subsequent deal sizes for women-founded startups. The unit of observation is an investor-deal pair. The sample includes all investors in Pitchbook that experienced at least one startup exit between 2010 and 2022. We present coefficients from OLS regressions and cluster standard errors by investors. *I(Woman-founded)* equals 1 if at least one of the startup's founders is a woman. *Portfolio Success Women* and *Portfolio Success Men* are indicators equal to one if the investor backed at least one woman-founded or male-only-founded startup that succeeded, respectively, over the previous five years. *Portfolio Failure Women* and *Portfolio Failure Men* are indicators equal to one if the investor backed at least one woman-founded or male-only-founded startup that failed, respectively, over the previous five years. The interaction terms capture differential effects when investors with specific portfolio experiences invest in woman-founded startups. *I(Serial Women Founder)* and *I(Serial Men Founder)* are indicators equal to one if the startup has at least one serial woman founder or serial man founder, respectively. *I(Serial Women Success)*, *I(Serial Women Failure)*, *I(Serial Men Success)*, and *I(Serial Men Failure)* are indicators for startups with serial founders who had past successes or failures. *P(Investments Women)* is the proportion of deal value in the VC firm's portfolio that funded startups with women founders over the previous five years. *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). In columns 1 and 2, *Success* is defined as an IPO or acquisition. Columns 3 and 4 show results where success is defined as *Significant Success* (IPOs or acquisitions with a total value to paid-in (TVPI) ratio of at least 3). The dependent variable is *Ln(Deal Size)*, the natural log of deal size (in millions). $^{***}p < 0.01$ 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)			
Portfolio Experience:	Success		Significant Success	
	(1)	(2)	(3)	(4)
Portfolio Success Women x I(Woman-Founded)		-0.042		-0.021
		(0.026)		(0.031)
Portfolio Failure Women x I(Woman-Founded)		-0.069***		-0.078***
		(0.024)		(0.024)
I(Woman-Founded)	-0.235***	-0.153***	-0.222***	-0.156***
	(0.010)	(0.009)	(0.010)	(0.009)
Portfolio Success Women	-0.015	0.003	-0.001	0.025
	(0.042)	(0.041)	(0.038)	(0.038)
Portfolio Success Men	0.020	-0.018	0.026	-0.005
	(0.018)	(0.016)	(0.018)	(0.017)
Portfolio Failure Women	0.008	-0.010	0.008	-0.009
	(0.027)	(0.027)	(0.028)	(0.027)
Portfolio Failure Men	0.073***	0.032	0.073***	0.032
	(0.021)	(0.019)	(0.020)	(0.020)
I(Serial Women Founder)		0.266***	0.096**	0.269***
		(0.041)	(0.043)	(0.041)
I(Serial Men Founder)		0.253***	0.093***	0.254***
		(0.013)	(0.015)	(0.013)
I(Serial Women Success)		0.047	0.096*	0.042
		(0.053)	(0.054)	(0.053)
I(Serial Men Success)		0.247***	0.255***	0.247***
		(0.015)	(0.016)	(0.015)
I(Serial Women Failure)		-0.264***	-0.263***	-0.268***
		(0.054)	(0.058)	(0.054)
I(Serial Men Failure)		0.050***	0.034*	0.049***
		(0.016)	(0.018)	(0.016)
P(Investments Women)		-0.021		-0.021
		(0.015)		(0.015)
Ln(Age VC)		0.141***		0.139***
		(0.031)		(0.031)
Ln(Age Startup)		0.811***		0.812***
		(0.016)		(0.016)
Observations	207,123	207,123	207,123	207,123
Adjusted R^2	0.561	0.620	0.565	0.620
Year FE	YES	YES	YES	YES
Investor FE	YES	YES	YES	YES

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

Internet Appendix

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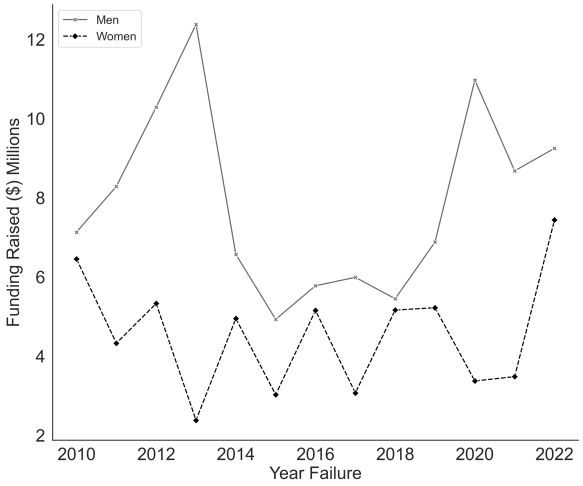
This Internet Appendix contains supplementary discussions and analyses organized as follows:

1. Figures:
    - Figure A.1: VC funding and time prior to failure and success
    - Figure A.2: Cumulative VC funding differences by gender after exit
2. Tables:
    - Table A.1: Likelihood of VC funding for mixed-gender teams
    - Table A.2: Financing the next startup: Roles within the team
    - Table A.3: Founder track records and subsequent startup funding the lead partner level
    - Table A.4: Potential spillovers following portfolio exits at the lead partner level

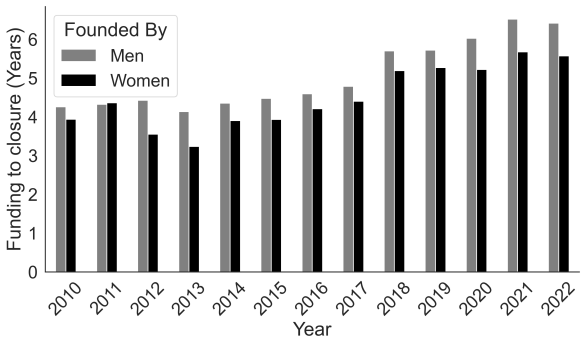
Appendix A. Supplementary Figures and Tables

Figure A.1: VC Funding and time prior to failure and success

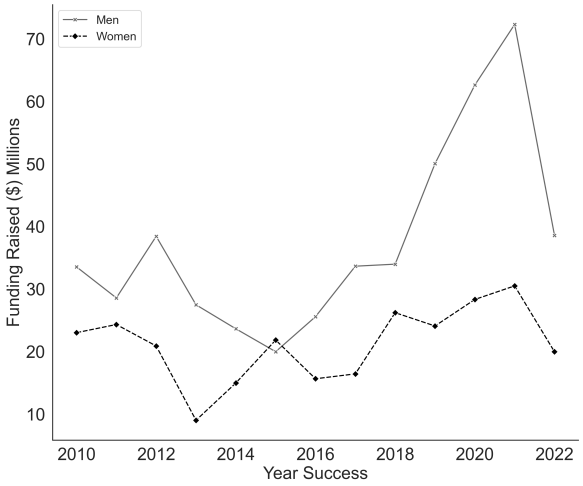
The figures show the amount of VC funding raised and the time from the first funding round to failure and success events for the sample of VC-backed startups, by founder gender. The unit of observation is a startup-founder. The sample includes founders of all VC-backed startups that failed (figures a and b) or all VC-backed startups that succeeded (figures c and d). Figures a and c show the amount of VC funding (in millions) raised prior to the failure and success events. Figures b and d show the time (in years) between the initial funding round and the event. 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.



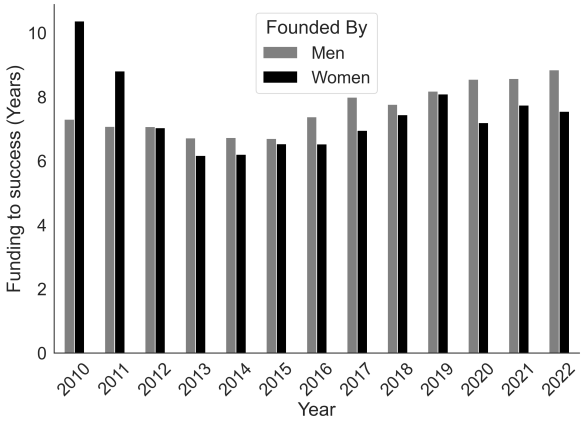
(a) VC Funding Raised before Failure



(b) Time between first VC funding round and failure



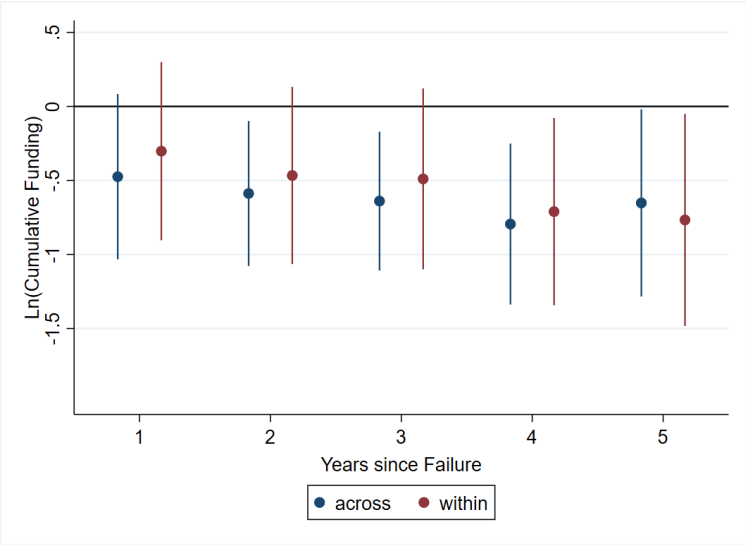
(c) VC Funding Raised before Success



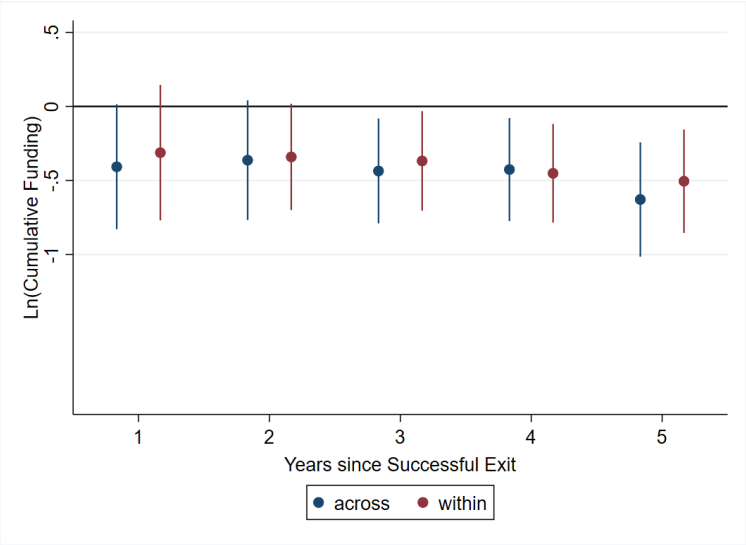
(d) Time between first VC funding round and success

Figure A.2: Cumulative VC funding differences by gender 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) Cumulative VC Funding differences after failure



(b) Cumulative VC funding differences after success

Table A.1: **Likelihood of VC funding for a new startup following success or failure (Mixed teams only)**

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 sample includes only teams that include a man and a woman cofounders. 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 VC-backed 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: After failure	I(Invested); Mean = 5.90%				
	(1)	(2)	(3)	(4)	(5)
I(Woman)	-2.984***	-1.720**	-1.692**	-3.003***	-1.762**
	(0.807)	(0.781)	(0.785)	(0.871)	(0.853)
I(CEO)		1.745**	1.883**		2.038**
		(0.828)	(0.831)		(1.000)
I(Serial Founder)		20.500***	20.502***		20.239***
		(3.194)	(3.201)		(3.636)
Ln(Age)		-1.249	-1.237		
		(0.974)	(0.940)		
Ln(Pre-Exit Funding)		0.530**	0.415**		
		(0.206)	(0.207)		
Observations	3748	3748	3745	2933	2933
Adjusted R^2	0.005	0.052	0.057	0.148	0.188
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: After success	I(Invested); Mean = 11.58%				
	(1)	(2)	(3)	(4)	(5)
I(Woman)	-7.001***	-4.343***	-4.457***	-6.270***	-4.221***
	(1.090)	(1.040)	(1.049)	(1.195)	(1.170)
I(CEO)		5.793***	5.801***		6.056***
		(1.151)	(1.158)		(1.411)
I(Serial Founder)		26.158***	25.883***		24.844***
		(2.821)	(2.777)		(3.425)
Ln(Age)		-5.774***	-5.209***		
		(1.109)	(1.134)		
Ln(Pre-Exit Funding)		1.604***	1.357***		
		(0.295)	(0.294)		
Observations	3472	3472	3470	2803	2803
Adjusted R^2	0.025	0.111	0.116	0.156	0.216
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 A.2: **Financing the next startup: Roles Within the Team**

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 (columns 1-2) or success (columns 3-4). 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, and is interacted with several indicators for the founder's role within the team: *I(CEO)* is an indicator equal to one if the founder is also listed as the current startup's CEO during any funding round. *I(CTO)* is an indicator equal to one if the founder is the startup's Chief Technical Officer, chief scientist, or engineer, according to Pitchbook. *I(COO)* is an indicator equal to one if the founder is the startup's Chief Operating Officer or chief development officer. *I(CMO)* is an indicator equal to one if the founder is the startup's Chief Marketing Officer or product lead. *I(CFO)* is an indicator equal to one if the founder is the startup's Chief Financial Officer. 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.

Dependent Variable:	I(Invested)			
Sample:	After Failure		After Success	
	(1)	(2)	(3)	(4)
I(Woman)	-2.300***	-1.707*	-5.091***	-5.361***
	(0.616)	(0.887)	(0.848)	(1.129)
I(CEO)	1.916***	2.466***	3.537***	4.078***
	(0.400)	(0.483)	(0.490)	(0.582)
I(Woman) X I(CEO)	-0.130	-0.397	0.684	1.023
	(0.877)	(1.169)	(1.329)	(1.669)
I(CTO)	0.018	-0.687	-2.329***	-2.587***
	(0.536)	(0.668)	(0.576)	(0.709)
I(Woman) X I(CTO)	1.050	-0.068	1.404	0.533
	(1.923)	(2.660)	(2.333)	(3.046)
I(COO)	-0.760	-0.825	-1.561*	-0.412
	(0.694)	(0.886)	(0.854)	(1.047)
I(Woman) X I(COO)	0.071	2.026	4.554**	2.273
	(1.378)	(1.886)	(2.185)	(2.708)
I(CMO)	0.767	0.669	-1.301	-1.005
	(1.037)	(1.191)	(1.032)	(1.224)
I(Woman) X I(CMO)	-2.340	-2.716	-0.563	3.619*
	(1.587)	(2.337)	(1.991)	(2.158)
I(CFO)	-3.436*	1.203	10.342**	7.061
	(2.034)	(2.058)	(5.057)	(6.099)
I(Woman) X I(CFO)	-1.031	5.634	-19.842***	-16.363
	(2.624)	(5.584)	(6.109)	(13.448)
I(Serial Founder)	19.273***	19.271***	24.714***	24.457***
	(1.088)	(1.352)	(0.944)	(1.163)
Ln(Age)	-2.585***		-6.449***	
	(0.429)		(0.482)	
Ln(Pre-Exit Funding)	0.864***		1.777***	
	(0.099)		(0.125)	
Observations	22755	18886	26016	22261
Adjusted R^2	0.064	0.212	0.103	0.254
Year Founded FE	YES	YES	YES	YES
Industry FE	YES	NO	YES	NO
State FE	YES	NO	YES	NO
Startup FE	NO	YES	NO	YES

Table A.3: **Founder track records and subsequent startup funding the lead partner level**

This table shows results of analyses that examine the relationship between founder experience and subsequent deal sizes for women-founded startups at the lead partner level. The unit of observation is a lead partner-deal pair. The sample includes all lead partners in Pitchbook that experienced at least one startup exit between 2010 and 2022. We present coefficients from OLS regressions and cluster standard errors by lead partners. *I(Woman-founded)* equals 1 if at least one of the startup's founders is a woman. *I(Serial Women Founder)* and *I(Serial Men Founder)* are indicators equal to one if the startup has at least one serial woman founder or serial man founder, respectively. *I(Serial Women Success)*, *I(Serial Women Failure)*, *I(Serial Men Success)*, and *I(Serial Men Failure)* are indicators for startups with serial founders who had past successes or failures. *P(Investments Women)* is the proportion of deal value in the VC firm's portfolio that funded startups with women founders over the previous five years. *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). In column 2, *Success* is defined as an IPO or acquisition. Column 3 shows results where success is defined as *Significant Success* (IPOs or acquisitions with a total value to paid-in (TVPI) ratio of at least 3). The dependent variable is *Ln(Deal Size)*, the natural log of deal size (in millions). $^{***}p < 0.01$ 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)		
Portfolio Experience:		Success	Significant Success
	(1)	(2)	(3)
I(Serial Women Founder)	0.019	0.225***	0.225***
	(0.042)	(0.064)	(0.064)
I(Serial Men Founder)	0.181***	0.149***	0.149***
	(0.015)	(0.021)	(0.021)
I(Serial Women Success)		0.014	0.014
		(0.083)	(0.083)
I(Serial Men Success)		0.279***	0.277***
		(0.024)	(0.024)
I(Serial Women Failure)		-0.179*	-0.180*
		(0.094)	(0.094)
I(Serial Men Failure)		0.107***	0.111***
		(0.029)	(0.029)
I(Woman-Founded)	-0.138***	-0.104***	-0.104***
	(0.016)	(0.015)	(0.015)
P(Investments Women)		0.015	0.015
		(0.014)	(0.014)
Ln(Age Partner)		0.289***	0.288***
		(0.044)	(0.044)
Ln(Age Startup)		0.802***	0.802***
		(0.013)	(0.013)
Observations	67,807	67,807	67,807
Adjusted R^2	0.496	0.566	0.566
Year FE	YES	YES	YES
Investor FE	YES	YES	YES

Table A.4: **Potential spillovers following portfolio exits at the lead partner level**

This table shows results of analyses that examine the relationship between lead partner portfolio spillovers, founder experience, and subsequent deal sizes for women-founded startups at the lead partner level. The unit of observation is a lead partner-deal pair. The sample includes all lead partners in Pitchbook that experienced at least one startup exit between 2010 and 2022. We present coefficients from OLS regressions and cluster standard errors by lead partners. *I(Woman-founded)* equals 1 if at least one of the startup's founders is a woman. *Portfolio Success Women* and *Portfolio Success Men* are indicators equal to one if the lead partner backed at least one woman-founded or male-only-founded startup that succeeded, respectively, over the previous five years. *Portfolio Failure Women* and *Portfolio Failure Men* are indicators equal to one if the lead partner backed at least one woman-founded or male-only-founded startup that failed, respectively, over the previous five years. The interaction terms capture differential effects when lead partners with specific portfolio experiences invest in woman-founded startups. *I(Serial Women Founder)* and *I(Serial Men Founder)* are indicators equal to one if the startup has at least one serial woman founder or serial man founder, respectively. *I(Serial Women Success)*, *I(Serial Women Failure)*, *I(Serial Men Success)*, and *I(Serial Men Failure)* are indicators for startups with serial founders who had past successes or failures. *P(Investments Women)* is the proportion of deal value in the VC firm's portfolio that funded startups with women founders over the previous five years. *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). In columns 1 and 2, *Success* is defined as an IPO or acquisition. Columns 3 and 4 results where success is defined as *Significant Success* (IPOs or acquisitions with a total value to paid-in (TVPI) ratio of at least 3). The dependent variable is *Ln(Deal Size)*, the natural log of deal size (in millions). $^{***}p < 0.01$ 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)			
Portfolio Experience:	Success		Significant Success	
	(1)	(2)	(3)	(4)
Portfolio Success Women x I(Woman-Founded)		-0.012		0.023
		(0.096)		(0.118)
Portfolio Failure Women x I(Woman-Founded)		-0.177**		-0.182**
		(0.070)		(0.072)
I(Woman-Founded)	-0.139***	-0.097***	-0.140***	-0.098***
	(0.016)	(0.014)	(0.016)	(0.014)
Portfolio Success Women	0.111*	0.127**	0.125	0.152
	(0.058)	(0.063)	(0.097)	(0.098)
Portfolio Success Men	0.004	0.006	0.006	0.014
	(0.023)	(0.022)	(0.024)	(0.023)
Portfolio Failure Women	0.155	0.175	0.160	0.180*
	(0.114)	(0.109)	(0.113)	(0.108)
Portfolio Failure Men	0.068***	0.017	0.069***	0.017
	(0.025)	(0.023)	(0.025)	(0.023)
I(Serial Women Founder)	0.010	0.223***	0.012	0.224***
	(0.071)	(0.064)	(0.071)	(0.064)
I(Serial Men Founder)	0.002	0.148***	0.003	0.148***
	(0.023)	(0.021)	(0.023)	(0.021)
I(Serial Women Success)	0.074	0.015	0.074	0.015
	(0.091)	(0.083)	(0.091)	(0.083)
I(Serial Men Success)	0.262***	0.280***	0.259***	0.278***
	(0.025)	(0.024)	(0.025)	(0.024)
I(Serial Women Failure)	-0.152	-0.176*	-0.153	-0.178*
	(0.111)	(0.094)	(0.111)	(0.094)
I(Serial Men Failure)	0.086***	0.109***	0.086***	0.112***
	(0.031)	(0.029)	(0.031)	(0.029)
P(Investments Women)		0.016		0.016
		(0.014)		(0.014)
Ln(Age Partner)		0.295***		0.293***
		(0.044)		(0.043)
Ln(Age Startup)		0.801***		0.801***
		(0.013)		(0.013)
Observations	67,807	67,807	67,807	67,807
Adjusted R^2	0.498	0.566	0.498	0.566
Year FE	YES	YES	YES	YES
Investor FE	YES	YES	YES	YES