Women and Minority-Owned Businesses in Regulation Crowdfunding

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CONTENTS

1. INTRODUCTION

Women and racial minority entrepreneurs have historically encountered significant barriers to accessing capital, a critical component for launching and scaling their ventures. While only 0.5 percent of new businesses in the United States ("U.S.") receive equity investments from venture capitalists ("VC"),[2] just 2 percent of this group are led by all-women while 10 percent are led by mixed gender founding teams.[3] The situation is even more dire for startups led by racial minorities. Black and Hispanic/Latino entrepreneurs aggregately received less than 3 percent of VC funding in 2020,[4] despite representing 14 percent and 19 percent of the population in the U.S., respectively.[5] We observe similar trends in funding by angel investors. In 2022, 4 percent of angel funding deals went to startups led by Black CEOs and 2 percent went to Hispanic CEOs[6]. Startups led by female CEOs accounted for 25 percent of all angel funding deals in the same year.[7]

These statistics underscore a pervasive challenge within the traditional venture capital funding landscape. Traditional venture investors have been predominantly white males, supported by reports revealing that women make up less than 20 percent of VC investment partners, while Hispanic and Black partners account for just three and four percent, respectively.[8] Twenty-two percent of angel investors are women, while one percent and two percent of the angel investors are Black and Hispanic, respectively.[9] This lack of representation likely contributes to disparities in startup funding, as individuals are more likely to make connections and make market exchanges with others with similar social and economic characteristics.[10]

Funding disparities can lead to persistent inequalities in the performance and survival of startups. Lack of access to capital is the primary reason businesses close, and the funding disparity leads to a disproportionate rate of business closures for women and racial minority entrepreneurs. While 61 percent of men cited the inability to access capital as a primary reason for closing their businesses, 68 percent of women cited the same reason.[11] The disparity in business closure is even more pronounced by race/ethnicity, with 95 percent of Hispanic and 68 percent of Black entrepreneurs closing due to a lack of access to capital. Such disparities not only hinder the growth of businesses led by women and racial minorities but also represent a missed opportunity for innovation and economic growth.

Regulation Crowdfunding ("Reg CF")—introduced as part of the Title III of the 2012 Jumpstart Our Business Startups ("JOBS") Act and effective on May 16, 2016—was designed to ease securities regulations in order to allow startups and small businesses to raise capital from a large number of people via equity crowdfunding platforms registered with the Securities and Exchange Commission ("SEC") and the Financial Industry Regulatory Authority ("FINRA") (e.g., Republic, StartEngine, Wefunder), with less regulatory burden compared to traditional securities offerings. Specifically, it allows everyday individuals who are not accredited investors to invest in startups and small businesses. At its inception in May 2016, Reg CF enabled a company to raise a maximum of $1 million during any 12-month period from an unlimited number of investors. In April 2017, the maximum limit was statutorily adjusted for inflation to $1.07 million. The cap further expanded to $5 million in March 2021, making Reg CF a more competitive option for startups and small businesses. While solving financial disparities is not the primary goal, many people believe it will reduce barriers to capital access, especially for women and racial minority entrepreneurs. Startups and small businesses can access a broader, more diverse investor base, reducing the need to rely on a small homogenous pool of venture capital firms and angel investors.

The goal of this report is to document the experiences and outcomes of women and racial minority business owners who participate in Reg CF. The next section provides an overview of the Reg CF landscape. The third section addresses the business characteristics of women and racial minority business owners who participate in Reg CF. The fourth section examines any gender or racial disparities in funding outcomes among those who participate in Reg CF. The following section considers what happens after women and racial minority business owners participate by looking at repeat participation and future funding, business performance, survival, and exit outcomes. Finally, the paper concludes with policy implications.

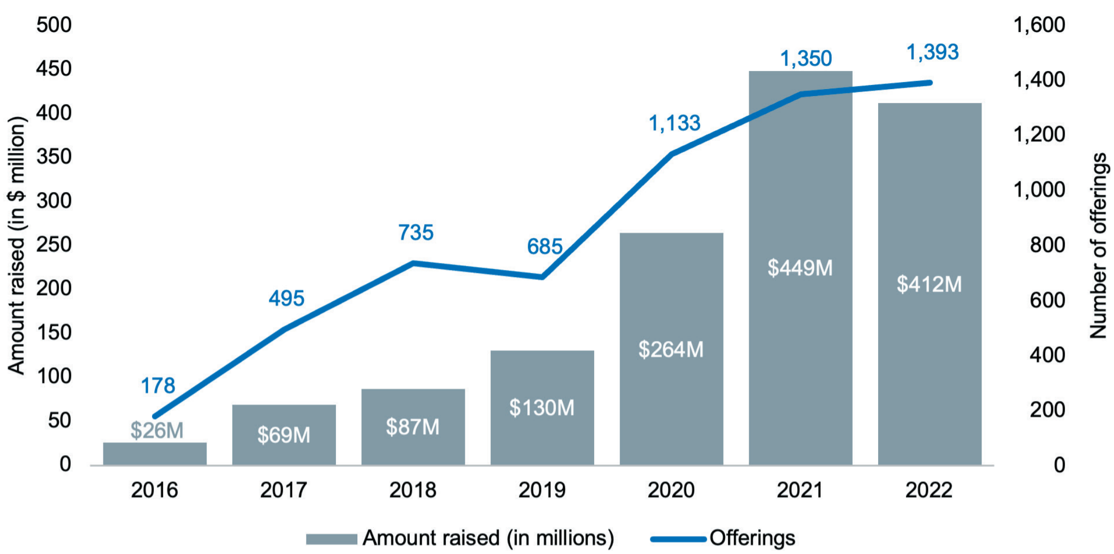
2. OVERVIEW OF REGULATION CROWDFUNDING

This report covers Reg CF offerings from the regulation's inception on May 16, 2016, through December 31, 2022 ("study period").[12] This time period saw a total of 5,969 offerings from 5,211 unique businesses,[13] resulting in a total of $1.4 billion in funding.

2.1. Offerings Information and Outcomes

The landscape of Reg CF has experienced a remarkable transformation since its inception in 2016, as reflected in Figure 1. One of the most striking shifts occurred in 2020, amid the global COVID-19 pandemic. During this tumultuous period, the number of Reg CF deals surged by 62%, from 685 in 2019 to 1,133 in 2020. There has been a drop in the amount raised in 2022, most likely due to macroeconomic conditions including a spike in interest rate, yet the drop appears to be smaller than the drop in the VC market.[14]

Figure 1. Regulation Crowdfunding Offerings and Amount Raised by Year



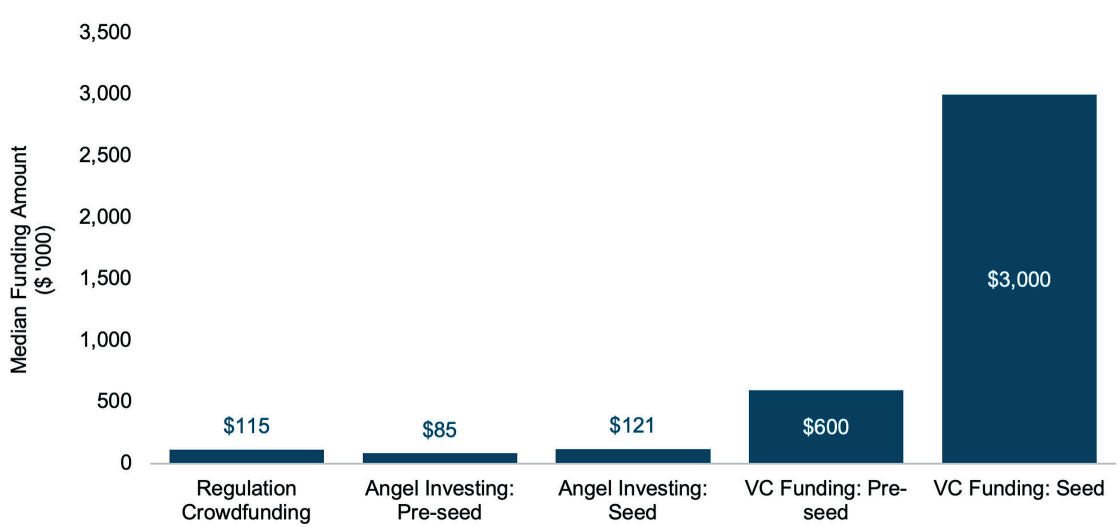
The year 2021 also marked another milestone for Reg CF, which saw an uptick in the amount raised to $449 million. This surge aligns with the SEC's revision of the yearly maximum funding limit for Reg CF from $1.07 million to $5 million, which came into effect in April 2021. This regulatory adjustment allowed business owners to aim for higher funding goals, thereby attracting more substantial investments and driving the total raised amount to new heights. Table 1 shows that the average amount raised per offering escalated to approximately $425,529 and the median amount climbed to $154,295 in 2021, highlighting that both large-scale and more typical offerings were able to secure significantly more capital than in previous years.

Table 1. Regulation Crowdfunding Offerings and Outcomes

Year	Number of Offerings	Amount Raised ($)	Average Amount Raised per Offering ($)	Median Amount Raised per Offering ($)	% Funded
2016	178	25,884,477	300,982	197,211	48.3
2017	495	68,805,142	225,591	116,149	61.6
2018	735	87,128,812	193,620	93,574	61.2
2019	685	130,495,301	289,347	118,667	65.8
2020	1,133	264,108,791	333,050	143,343	70.0
2021	1,350	448,648,053	425,259	154,295	78.1
2022	1,393	412,271,420	363,876	115,250	81.3
All Years	**5,969**	**1,437,341,996**	**336,378**	**127,100**	**71.6**

The median Reg CF amount of $115,250 in 2022 is comparable to angel funding. Specifically, the Reg CF median was less than the median amount of angel investing seed deals ($121K) but greater than the median amount of angel investing pre-seed deals ($85K). However, the Reg CF median is much less than the median of VC funding in both the pre-seed and seed stages, which come in at $0.6 million and $3.0 million, respectively.

Figure 2. Median Funding Amount by Funding Type[15]



Not all companies that participate in Reg CF actually receive funding. To secure funding, the total amount raised from investors must exceed the target offering amount set by the business. If the target offering amount is not met, investment commitments will be cancelled and committed funds will be returned to investors.[16] In the study time period, 71.6 percent of all offerings met their target amount and, thus, successfully raised capital.

In summary, as a dynamic funding mechanism, Reg CF has not only provided critical support to startups and small businesses during economic hardships but has also shown potential for continued growth and significance in the years to come with a median amount compatible with those of angel investing.

2.2. Platforms

Intermediary platforms for Reg CF must be registered with the SEC and FINRA. These platforms provide educational resources for businesses and investors and facilitate communication between the two parties. Each platform has its own screening criteria and commission fees.

Of the 101 active Reg CF platforms during the study period, 39 platforms had at least 10 Reg CF offerings and 20 platforms had at least 20 offerings. The top 3 leading Reg CF platform account for 76 percent of the market share in terms of total amount raised. Table 2 shows the offering count and total amount raised for the top 20 leading platforms in terms of amount raised.

Table 2. Top 20 Regulation Crowdfunding Platforms (2016-2022)

Year	Number of Offerings	Amount Raised ($)	% Amount Raised
Wefunder	1,640	490,928,740	34.2
StartEngine	1,220	366,006,666	25.5
Republic	544	232,271,334	16.2
NetCapital	300	55,519,317	3.9
SeedInvest	295	52,485,667	3.7
Angel Funding	16	27,407,560	1.9
MicroVentures	171	27,147,755	1.9
Nextseed	124	27,014,500	1.9
Equifund	12	23,955,462	1.7
MainVest	460	22,313,319	1.6
Honeycomb	277	16,279,113	1.1
truCrowd	131	13,815,737	1.0
Dealmaker	16	11,174,909	0.8
Dalmore	19	10,667,759	0.7
SMBX	98	10,131,640	0.7
PicMii	18	6,267,757	0.4
Vicinity	13	5,700,311	0.4
Raise Green	19	4,673,200	0.3
TycoonoInvest	5	3,092,630	0.2
Silicon Prairie	37	2,532,450	0.2

2.3. Offering Structure

Reg CF represents a departure from traditional reward-based crowdfunding platforms like Kickstarter and Indiegogo. Instead of offering products or services as rewards, businesses raise capital by selling securities. As shown in Table 3, there is a clear preference for equity-based securities (totaling 78 percent), with common stocks and SAFE notes being particularly prevalent. Less commonly used are debt-based and performance-based securities, such as revenue and profit participation. Similar to the practices of VCs and angel investors, Reg CF participants often opt for equity-based securities despite their higher risk and uncertainty, due to the potential for substantial long-term returns if the company's value appreciates significantly.

Table 3. Security Type

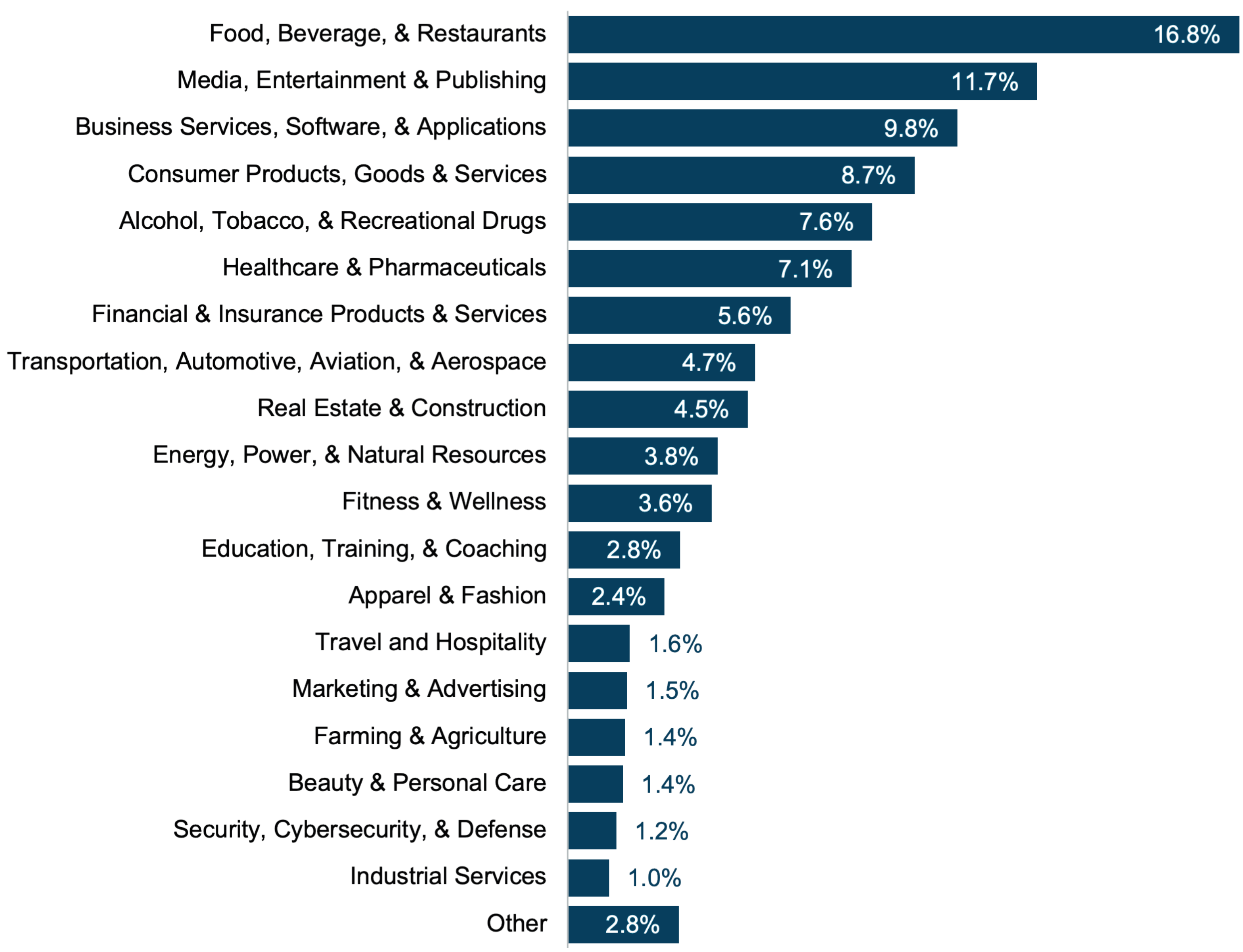
	Count	% Total
Equity-based Securities		
Common	1,637	27.4
Limited/Non-Voting Common	332	5.6
Preferred Units	543	9.1
SAFE (Simple Agreement for Future Equity)	1,662	27.8
Convertible Note	479	8.0
Debt-based Securities		
Debt	932	15.6
Performance-based Securities		
Revenue/Profit Participation	351	5.9
Other[17]	33	0.6
Total	**5,969**	**100.0**

2.4. Business Characteristics

2.4.1. Industry Distribution

Reg CF has attracted entrepreneurs across industries, from local businesses to high-tech startups. The statistics on industry distributions in Figure 3 reflect the broad interest in this new funding model. Main street businesses, such as Food, Beverages, and Restaurants that contribute to local economies and communities, comprise 16.8 percent of the offering. Yet innovation driven industries and high technology firms that have been the target industry for VCs and angel investors are also well-represented. The Business Services, Software, & Applications sector, which showcases novel and scalable innovations, accounts for 9.8 percent of offerings. Consumer Products, Good & Services, which includes hardware and innovative consumer products, represents 8.7 percent of the offerings. Healthcare and Pharmaceuticals, making up 7.1 percent, and the Energy sector, at 3.8 percent, are similarly aimed at breakthroughs in medicine and sustainable energy, respectively. Financial Services companies also feature in the Reg CF landscape, making up 5.6 percent of offerings.

Figure 3. Industry Distribution[18]

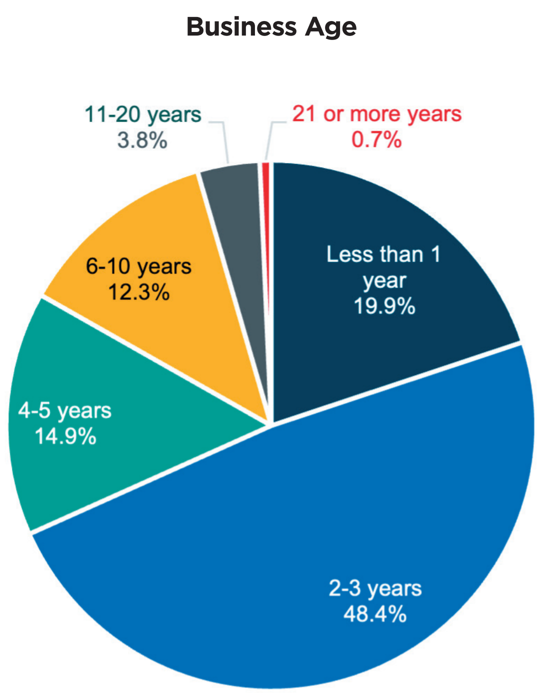


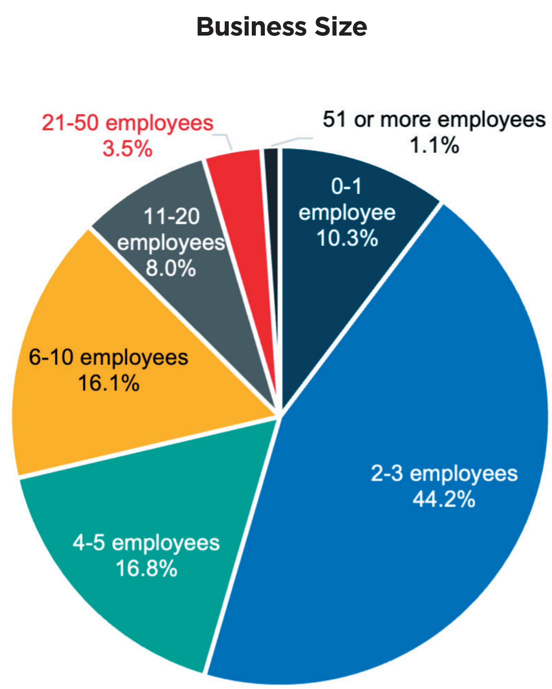
2.4.2. Firm Age and Size

Most firms that seek funding through Reg CF are relatively young, with nearly half (48.4 percent) two to three years old and approximately one in five (19.9 percent) less than a year old, as shown in Figure 4. This suggests that Reg CF is particularly attractive for newer companies in their nascent stages with capital needed to fuel growth.

In terms of business size, Figure 4 illustrates that small firms with two to three employees constitute the largest group, at 44.2 percent, followed by those with four to five employees at 16.8 percent, and six to ten employees at 16.1 percent. This suggests that Reg CF is predominantly utilized by micro to small enterprises. The relatively low numbers of firms with more than 20 employees further reinforces the notion that this fundraising method is less common among more established companies.

Figure 4. Business Age and Size





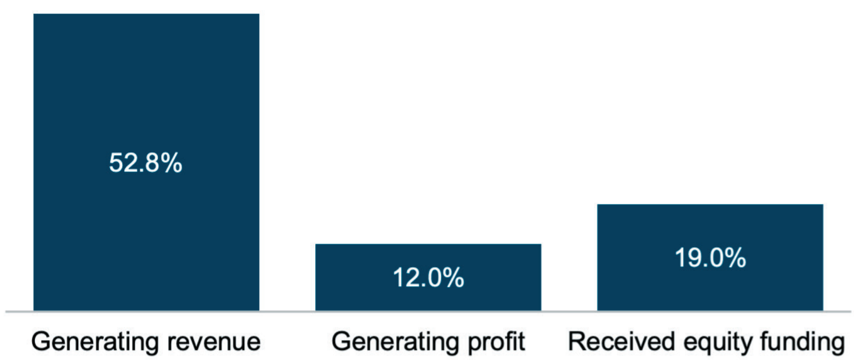
2.4.3. Financial Performance

As depicted in Figure 5, businesses participating in Reg CF are characterized by modest revenue generation and a propensity for losses, which is not uncommon for early-stage startups and small businesses.[19] Around half of businesses generate revenue, with the other half likely focused on product development, market entry, and customer acquisition.

In terms of profitability, only 12.0 percent of firms report net profits, suggesting that effectively navigating the path to financial gain is not the norm within this group. While detailed revenue and net profit information for businesses funded by private capital are not accessible, it is common for many pre-seed and seed stage companies to be pre-profit and pre-revenue.

Yet Reg CF is not merely an initial funding option nor a fallback "Plan B" for businesses. It's noteworthy that nearly 20 percent of businesses engaging in Reg CF have previously secured VC and angel investor funding. This trend underscores Reg CF's role as a deliberate funding strategy for promising ventures.

Figure 5. Financial Performance of Participating Businesses[20]



2.5. Valuation

The valuation amount reported in this section is based on pre-money valuation or valuation cap disclosed in Form C offering statements.[21] The median valuation for all Reg CF offerings during the entire data period is $8.5 million. This figure increased to $13.0 million in 2022, indicating more competitive startups and small businesses participating in the funding program (Figure 6). This amount is considerably higher than the median valuation of angel funding and VC funding in the same year, as illustrated by Figure 7. The amount is comparable to seed-stage VC funding of $11 million in 2022. These valuation trends suggest that Reg CF is becoming a more competitive and viable funding option for startups and small businesses.

Figure 6. Valuation of Regulation Crowdfunding Offerings by Year

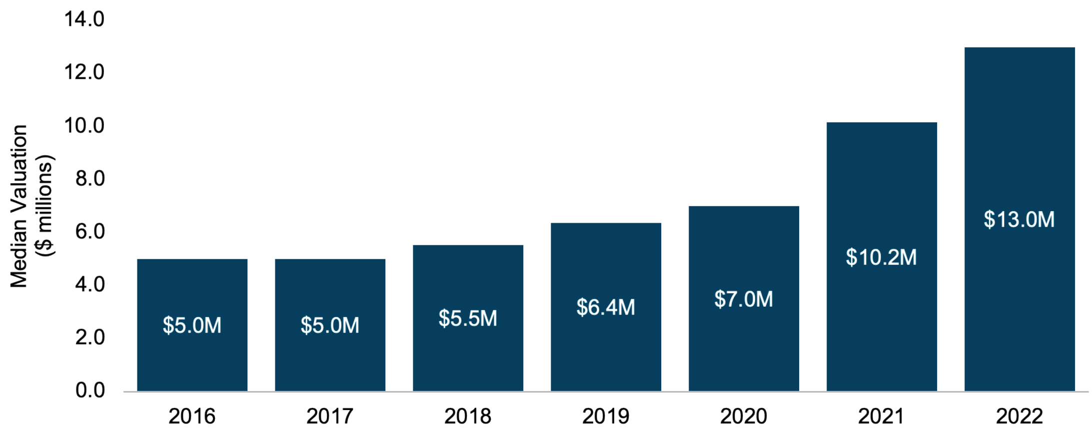
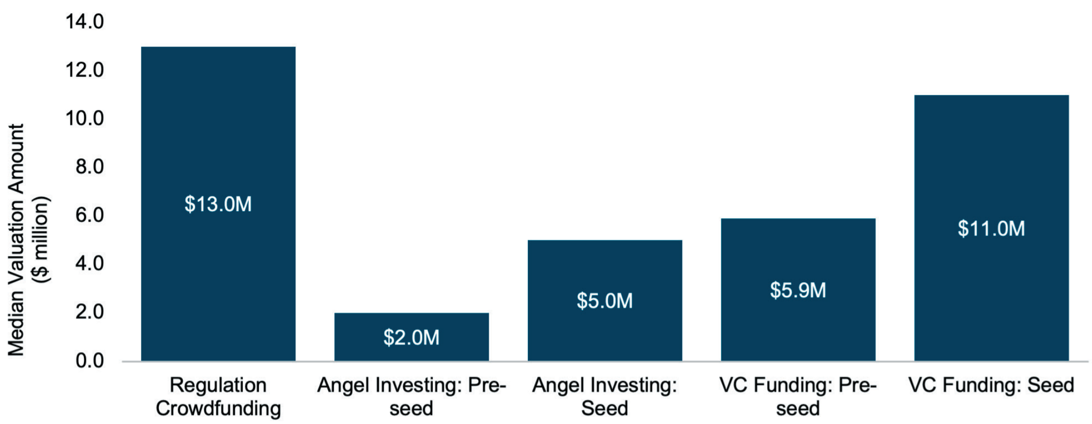


Figure 7. Median Valuation by Funding Type (2022)[22]



3. PARTICIPATION OF WOMEN AND MINORITY-OWNED BUSINESSES USING REG CF

3.1. Gender and Racial/Ethnic Composition

To examine whether Reg CF has offered more funding opportunities to women and racial minority entrepreneurs, the first important step is to assess whether there are higher rates of participation among these underrepresented groups.

Figure 8 shows the breakdown of all Reg CF entrepreneurs by gender and race/ethnicity.[23] When considering all individual entrepreneurs participating in Reg CF, the proportion of women increased from 17.3 percent in 2016 to 22.5 percent in 2022. The proportion of White entrepreneurs decreased from 83.4 percent in 2016 to 73.0 percent in 2022, while the proportions of Asian, Black, and Hispanic entrepreneurs all increased over time.

Figure 8. Gender and Racial/Ethnic Composition of Entrepreneurs

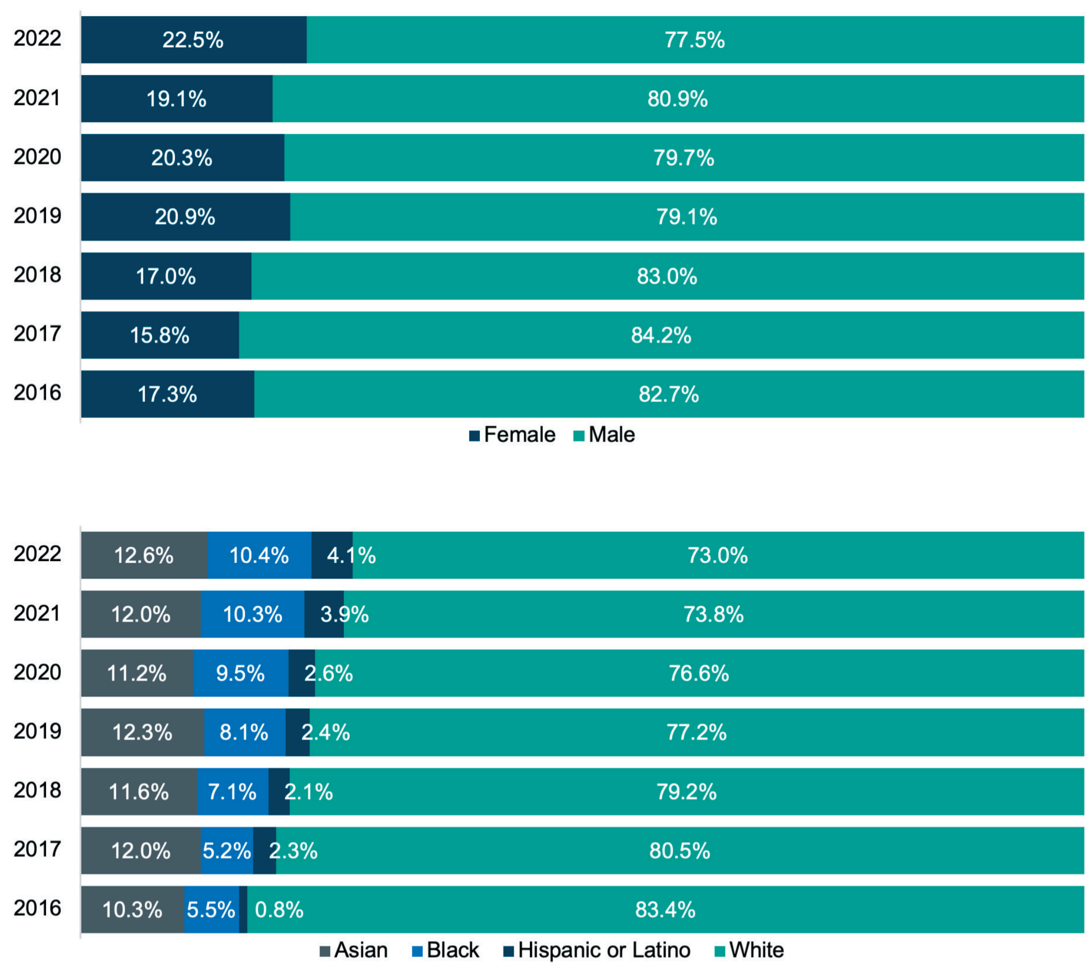


Figure 9 illustrates team composition by gender and race/ethnicity for all Reg CF offerings. Founding team for each offering is classified in one of three gender composition groups: "All Female," "All Male," or "Mixed Gender."[24]

Founding teams led exclusively by women account for 13.1 percent of the total teams in Reg CF pools. "All Male" teams dominate the composition with 72.5 percent of the total, while "Mixed Gender" teams constitute the remaining 14.3 percent.

The research team classified racial/ethnicity of each founding team in an offering in two ways.[25] The first grouping relates to composition of White and non-White members: "All Non-White," "All White," and "Mixed Non-White and White," with the last group indicating a mix of White and non-White entrepreneurs. The second grouping distinguishes Black and Hispanic members, who have been historically marginalized in the traditional startup funding landscape: "All Black or All Hispanic/Latino," "All White," "Black or Hispanic/Latino on Team," and "Other Racial/Ethnic Mix." Here, the "Other Racial/Ethnic Mix" mostly contains all-Asian teams or Asian-White mix teams.

In terms of racial/ethnic composition, "All White" teams held a majority with 71.3 percent. "All Non-White" teams represented 20.5 percent, while the last pie chart shows that, within this group, "All Black or All Hispanic/Latino" teams account for 11.2 percent. Teams with at least one Black or Hispanic/Latino member make up 4.1 percent of the total.

Figure 9. Gender and Racial/Ethnic Composition of Founding Teams Participated in Regulation Crowdfunding (2016-2022)

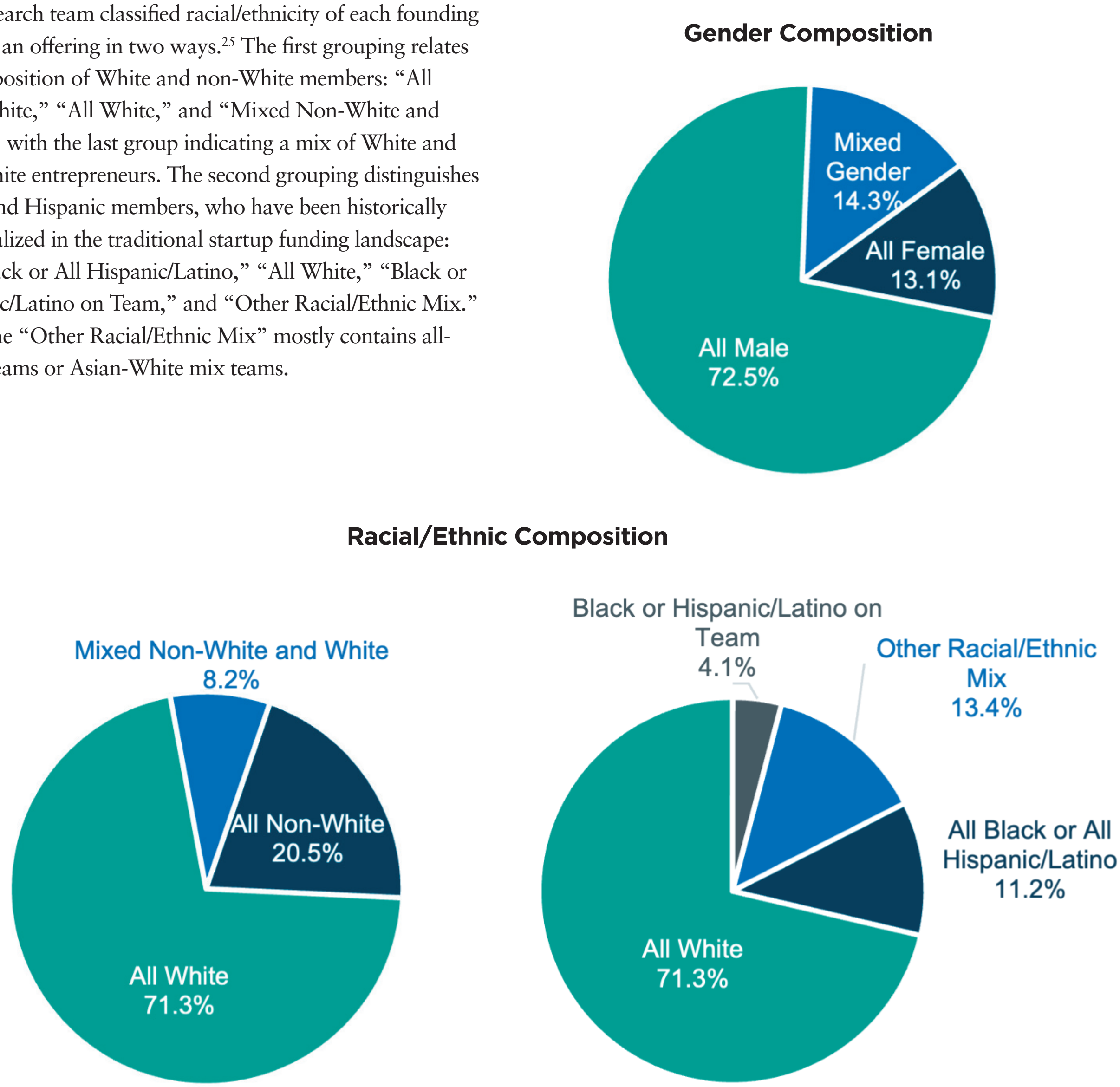
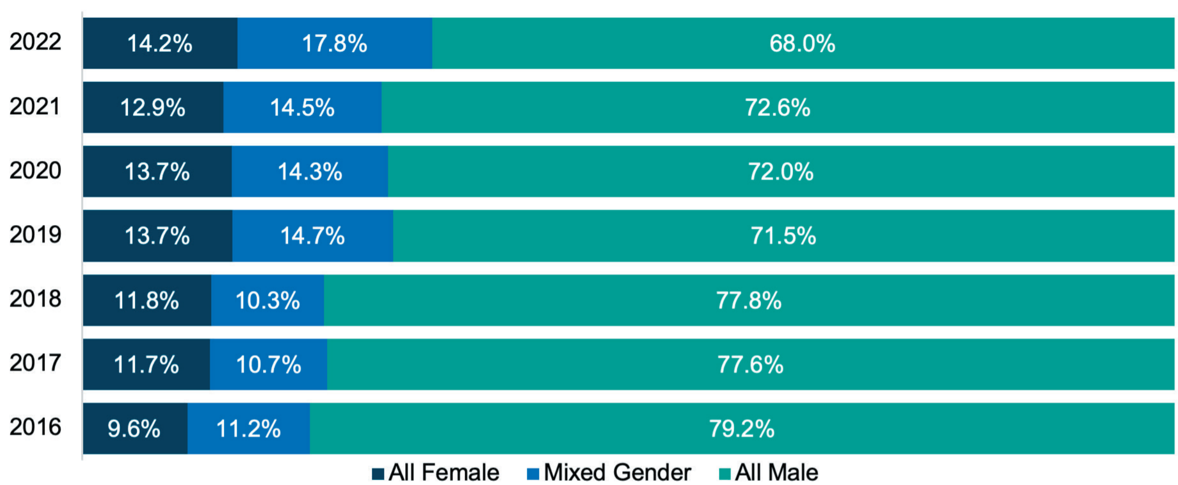


Figure 10 shows that there have been improvements in the gender mix over the years. The proportion of "All Female" teams increased from 9.6 percent in 2016 to 14.2 percent in 2022, while the proportion of "All Male" teams decreased from 79.2 percent to 68.0 percent. "Mixed Gender" teams grew from 11.2 percent in 2016 to 17.8 percent in 2022. The yearly trend shows that Reg CF is becoming a more accessible funding source for female founders.

Figure 10. Gender Composition by Year



When analyzing racial/ethnic composition, Figure 11 shows that "All White" teams have decreased over the years, from 82.4 percent in 2016 to 67.9 percent in 2022. There has been an upward trend in "All Non-White" teams, which grew from 11.4 percent in 2016 to 22.5 percent in 2022. "All Black or All Hispanic/Latino" teams have increased from 5.1 percent to 12.6 percent. Teams with Black or Hispanic/Latino members likewise saw an increase, from 1.7 percent in 2016 to 5.4 percent in 2022.

Figure 11. Racial/Ethnic Composition by Year

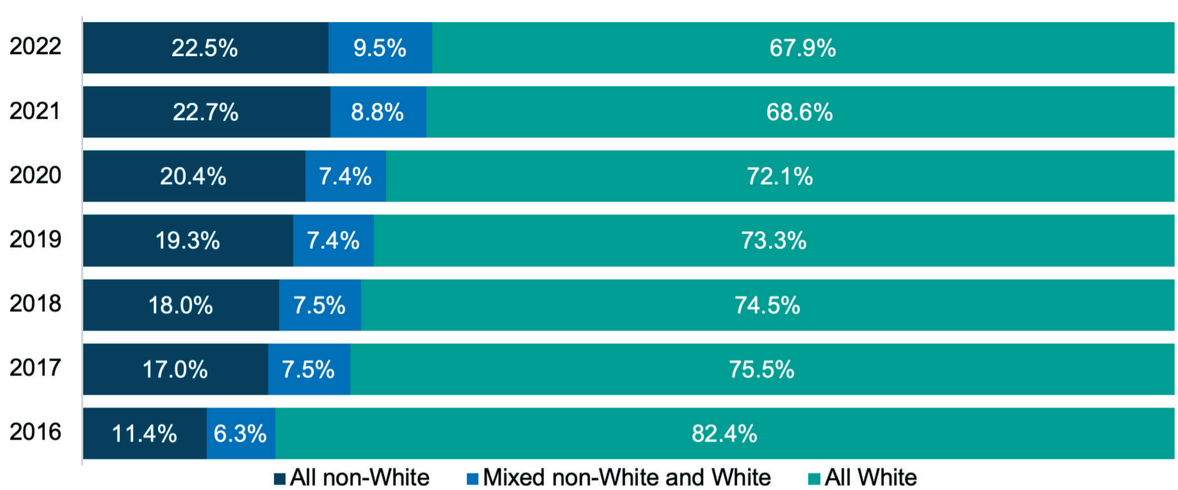
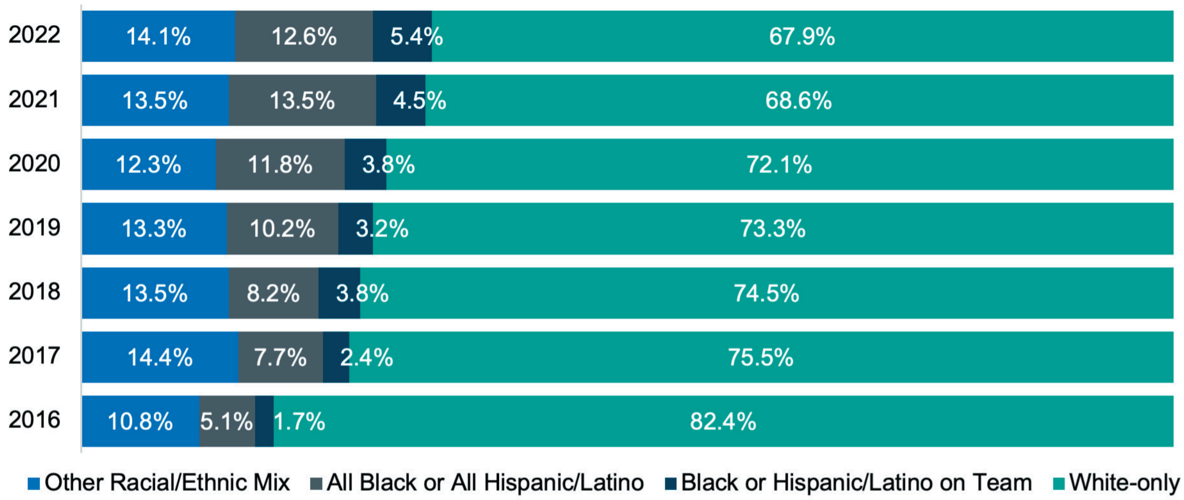


Figure 11. Racial/Ethnic Composition by Year (Cont'd)



While an increasing proportion of women and minority entrepreneurs are participating in Reg CF, they appear to be relatively underrepresented compared to the overall business owner population. According to the U.S. Small Business Administration report, women, Africa-American, and Hispanic business owners had shares of 37.6 percent, 9.9 percent, and 12.8 percent, respectively.[26] For Reg CF to help improve funding outcomes of women and minority entrepreneurs, there needs to be active participation from these marginalized groups.

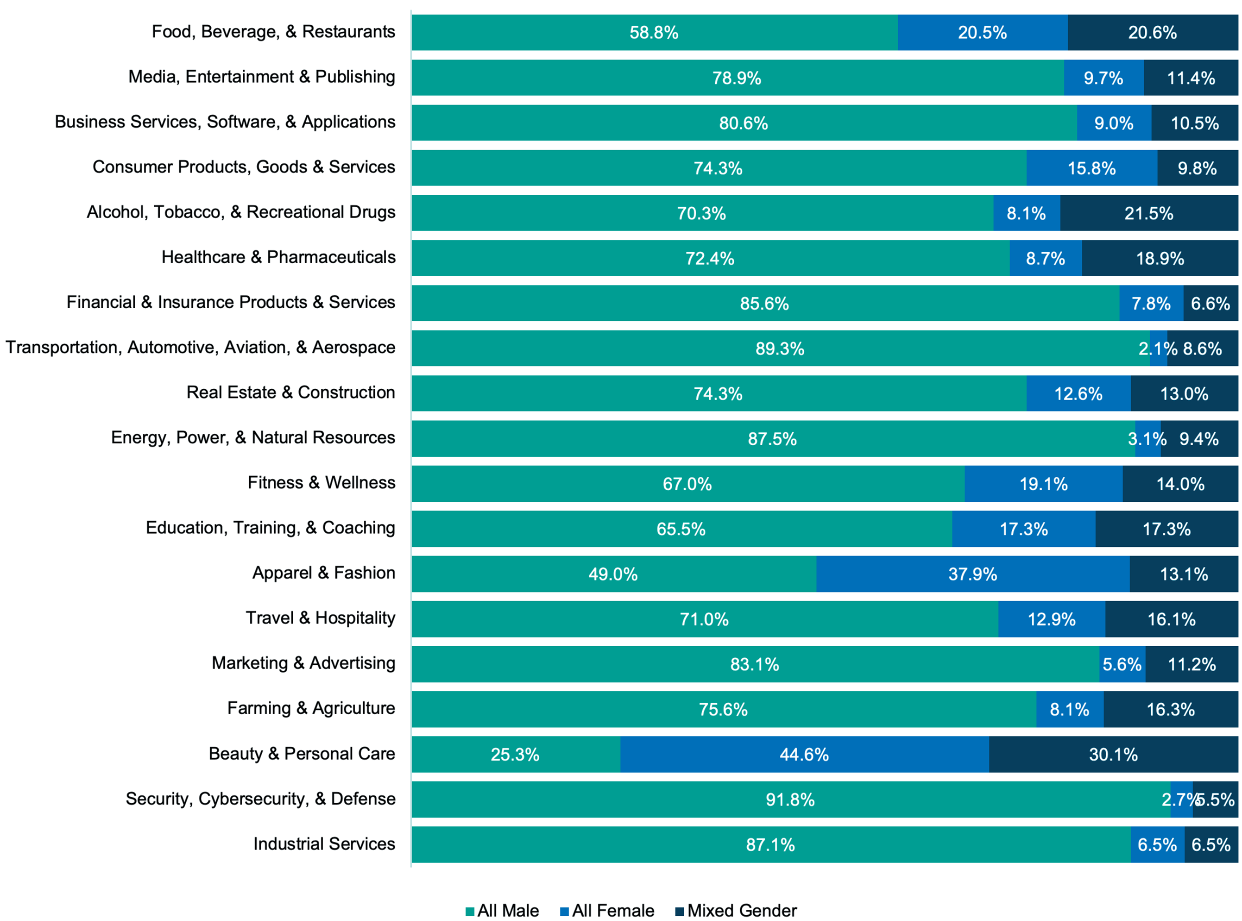
The demographics of Reg CF participants underscores a critical area for policy intervention: increasing the visibility and accessibility of Reg CF to women and minority business owners. Entrepreneurs from historically marginalized groups need to be aware of this relatively new funding source. Also, in pursuit of a more democratized funding landscape, it is imperative to identify and dismantle any existing barriers to entry in Reg CF. To facilitate this, government and supporting organizations might consider the provision of grants or subsidized loans that can minimize any costs associated with the fundraising, such as legal, accounting, and promotional costs associated with Reg CF campaigns.

3.2. Industry by Gender and Race/Ethnicity Composition

Figure 12 shows industry distributions for the three gender composition types. Across all industries, except for Beauty & Personal Care, "All Male" teams have higher representation compared to "All Female" teams and "Mixed Gender" teams. Industries with especially marked gender disparity include Security, Cybersecurity, & Defense; Transportation, Automotive, Aviation, & Aerospace; and Energy, Power, & Natural Resources. The pronounced gender gaps in these industries may reflect historical trends, cultural norms, and barriers to entry that disproportionately affect women and mixed-gender teams.

In contrast, the Apparel & Fashion and Beauty & Personal Care industries emerge as frontrunners in gender diversity within the entrepreneurial space. These sectors showcase strong female participation. There are also relatively smaller gender gaps in the Food, Beverages, & Restaurant; Fitness & Wellness; and Education, Training, & Coaching sectors.

Figure 12. Industry Breakdown by Gender Composition



Given the racial/ethnicity mix, there is a general predominance of firms owned by White individuals across all sectors (Figure 13). This is especially true in the Alcohol, Tobacco, & Recreational Drugs; Farming & Agriculture; Energy, Power, & Natural Resources; Industrial Services; and Transportation, Automotive, Aviation, & Aerospace sectors.

There is a greater representation of "All Non-White" teams, which includes Asian entrepreneurs, in Beauty & Personal Care; Education, Training, & Coaching; Real Estate & Construction; Business Services, Software, & Applications; and Marketing & Advertising.

If we focus on "All Black or All Hispanic/Latino" teams, we see the smallest racial/ethnic gap in Main Street sectors, such as Beauty & Personal Care; Real Estate & Construction; Food, Beverage, & Restaurants; and Education, Training, & Coaching sectors. However, in more high-tech and business-related sectors, such as Business Services, Software, & Applications and Marketing & Advertising, which had relatively high "All Non-White" population (which includes Asian entrepreneurs), Black and Hispanic/Latino entrepreneurs are still underrepresented.

Figure 13. Industry Breakdown by Racial/Ethnic Composition

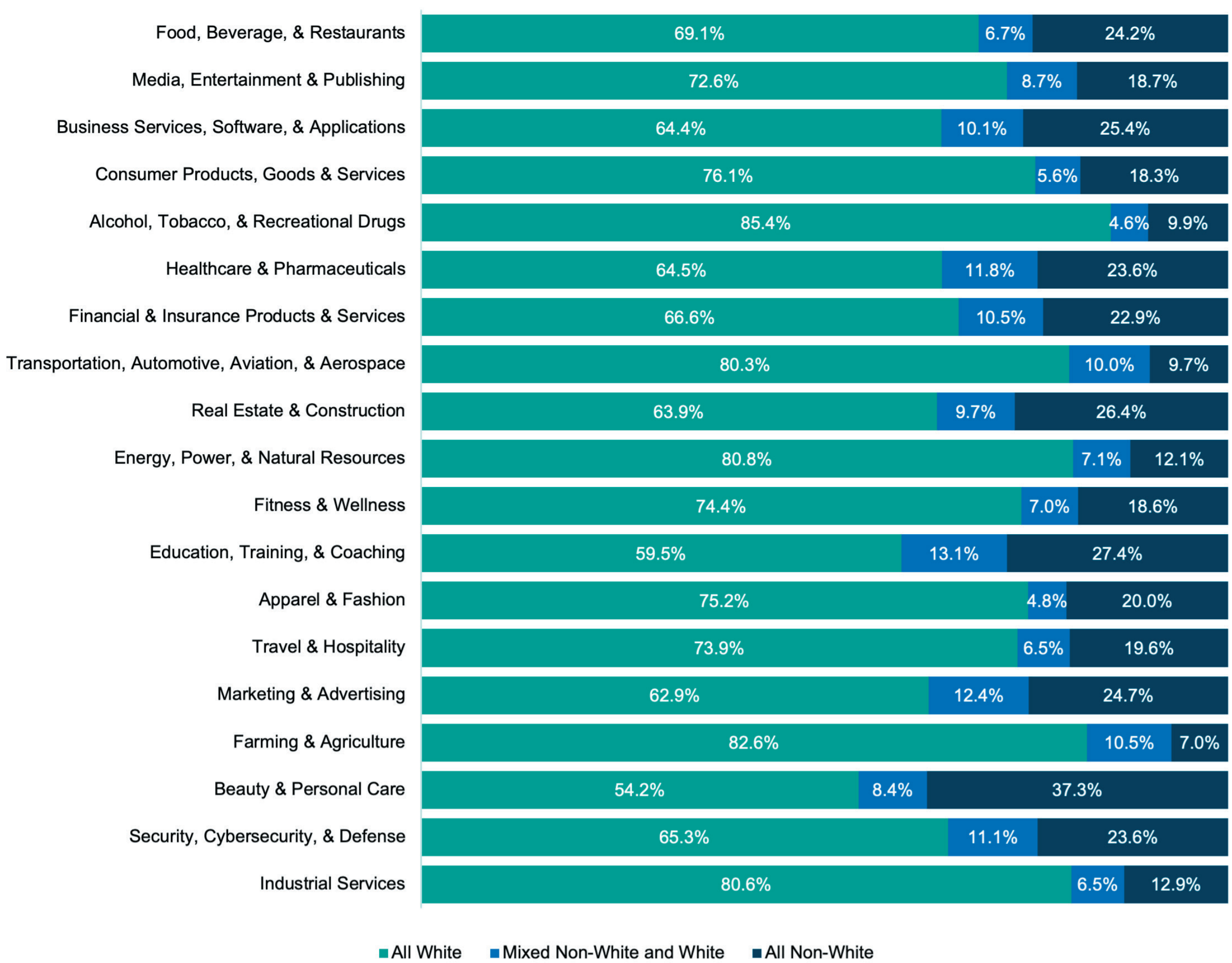
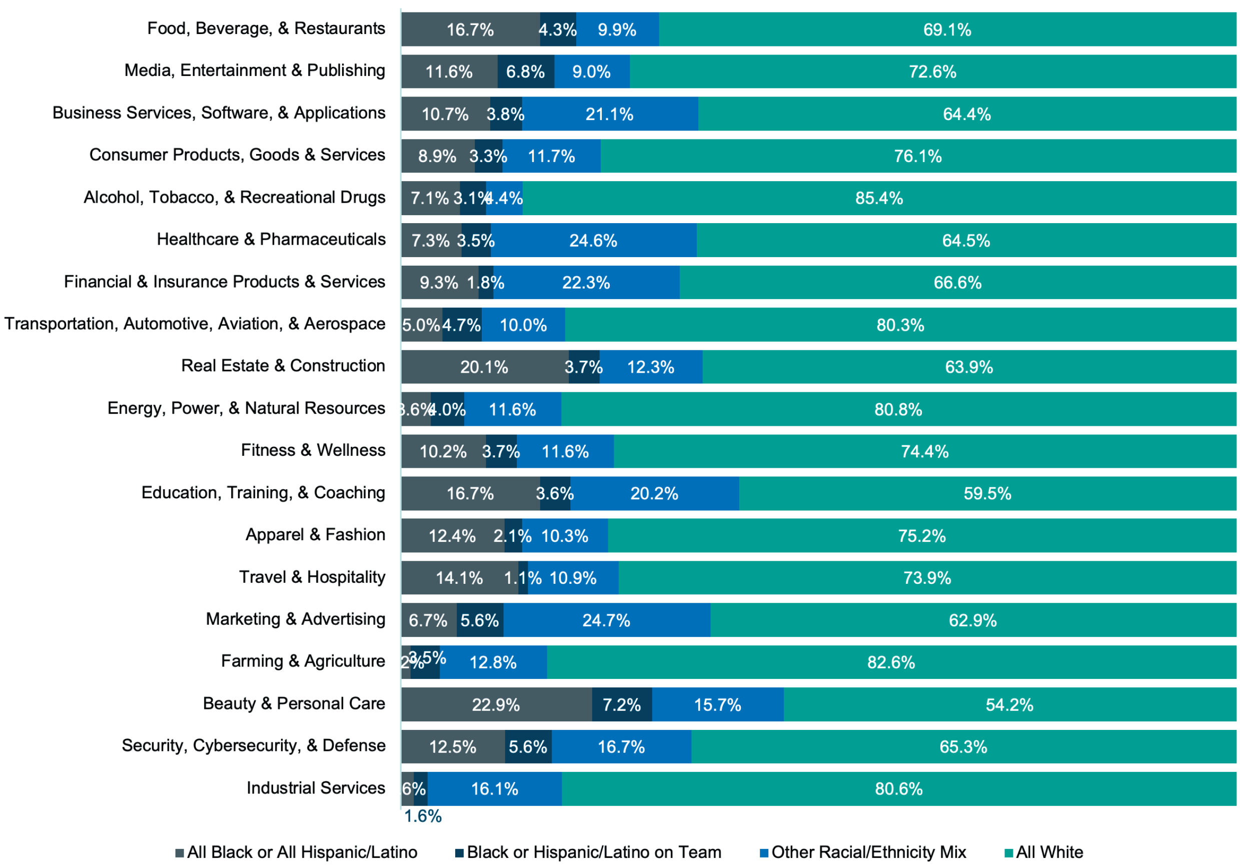


Figure 13. Industry Breakdown by Racial/Ethnic Composition (Cont'd)

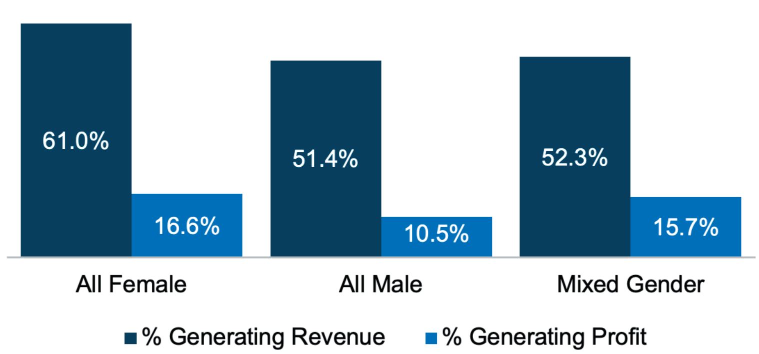


3.3. Pre-Offering Financial Performance by Gender and Racial/Ethnic Composition

To explore pre-offering performance differences, we examine the proportion of businesses that are generating revenue and generating profit across different gender and racial/ethnic composition groups.

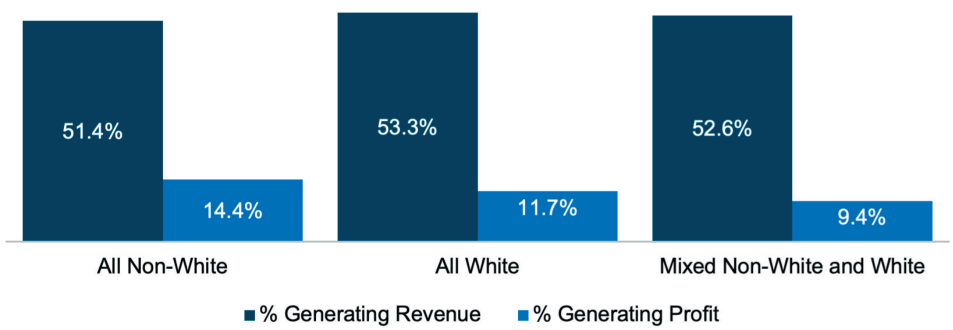
Figure 14 illustrates that "All Female" teams have higher proportions of businesses that generate revenue and profit, followed by "Mixed Gender" teams. Appendix Figure A1, which shows the performance data by year, highlights that, among the three gender composition types, "All Male" teams have lowest proportion of businesses generating revenue and profit across almost all study years. The performance breakdown suggests that "All Female" teams actually tend to have better financial performance than "All Male" teams going into Reg CF.

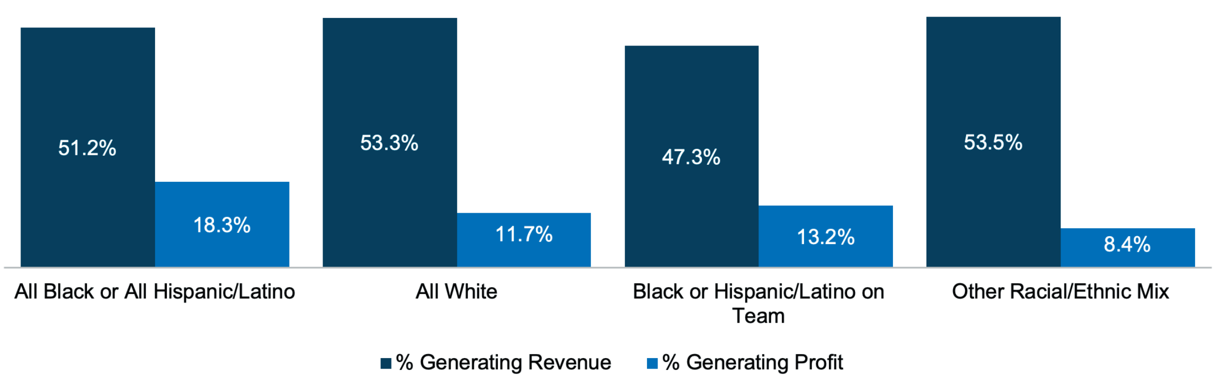
Figure 14. Pre-Offering Financial Performance by Gender Composition



In terms of racial/ethnic composition, "All White" teams have the highest proportion of businesses generating revenue, compared to "All Non-White" teams and "Mixed Gender" teams, although the differences are small (Figure 15). Yet "All Non-White" teams have the highest proportion of firms generating profit. We find similar trends when we focus on "All Black or All Hispanic/Latino" teams, as highlighted in the second chart of Figure 15. Teams that consist of All Black or All Hispanic/Latino founders have the highest proportion of businesses generating profit.

Figure 15. Pre-Offering Financial Performance by Racial/Ethnic Composition





Yearly trends shown in Appendix Figure A1 show that the racial gap in revenue outcomes has been converging over time. While "All White" teams have outperformed "All Non-White" teams (especially "All Black or All Hispanic/Latino" teams) in the early years of Reg CF, the proportions of revenue generating businesses across racial groups are similar in 2022. In terms of profitability, "All Non-White" teams, especially "All Black or All Hispanic/Latino" teams, have much higher proportions of businesses generating profits compared to "All White" teams.

Taken together, firms led by women and minorities often have a track record that surpasses that of startups and small businesses led exclusively by men or White founders. While research suggests that investors often undervalue the competence of female entrepreneurs and racial minorities,[27] objective performance data of early-stage startups and small businesses show that these assumptions are unfounded and, in fact, the opposite is true.

3.4. Valuation and Target Offering Amount by Gender and Racial/Ethnic Composition

In Reg CF, founding teams set their own valuation and target amount. This practice is different from traditional startup financing from VCs and angel investors, where the deal terms are the outcomes of offers and negotiations.

Figure 16 shows that "All Female" teams tend to set lower valuations compared to "All Male" or "Mixed Gender" teams. In terms of race/ethnicity, "All Non-White" teams, especially "All Black or All Hispanic/Latino" teams, likewise set lower valuation compared to "All White" teams (Figure 17). While Section 3.3 highlights that "All Female" or "All Non-White" teams have similar or better performance histories, these teams frequently adopt more conservative valuations. This could stem from a lack of confidence due to the unique challenges and obstacles that female and minority entrepreneurs face. Moreover, the tendency of women-led and minority-led ventures to operate in industries like Beauty & Personal Care, and Food & Beverage, which generally demand less capital and have modest growth prospects, might contribute to their lower valuations. This underscores the need to empower women and minority entrepreneurs to venture into sectors, such as technology or other capital-intensive fields, also favored by VCs and angel investors.

Reg CF requires that the total amount raised must meet or exceed the target offering amount for the issuer to be able to complete the deal and receive the funds raised. As such, it is imperative to set an appropriate target offering amount, as it determines the CF outcome. "All Female" and "All Male" founding teams exhibit comparable target offering amounts, while "Mixed Gender" teams tend to aim for higher target amounts. Similarly, "All Non-White" and "All White" teams tend to set comparable target amounts.

Figure 16. Valuation and Target Offering Amount by Gender Composition

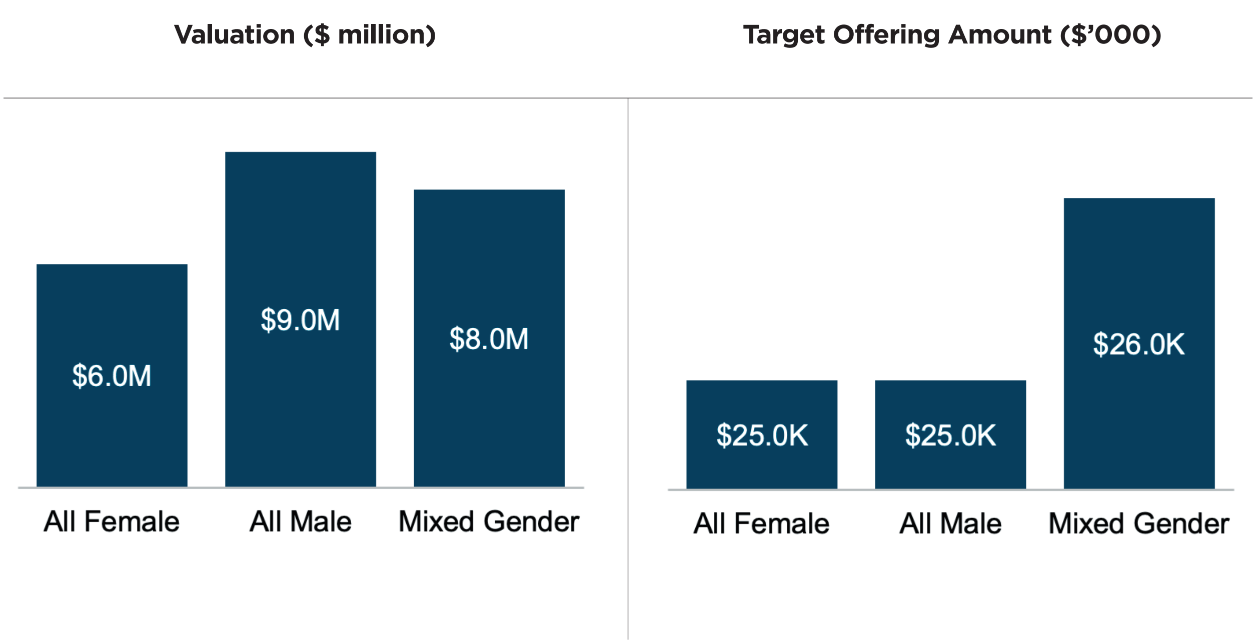
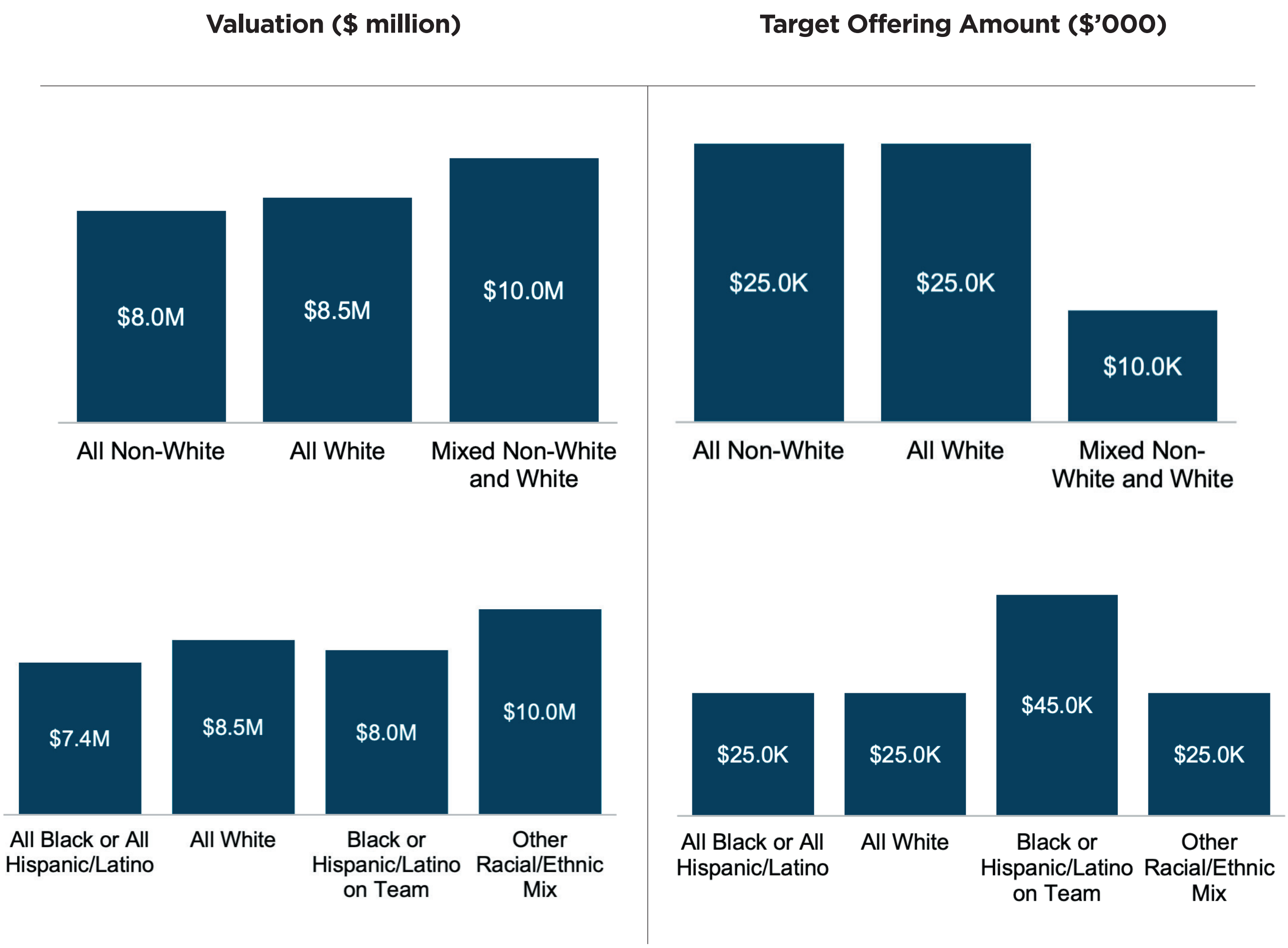


Figure 17. Valuation and Target Offering Amount by Racial/Ethnic Composition



4. REGULATION CROWDFUNDING OUTCOMES OF WOMEN AND MINORITY-OWNED BUSINESSES

4.1. Funding Outcomes by Gender Composition

Figure 18 illustrates funding outcomes across the three gender composition groups. Over the years, all groups have seen improved chances of securing funding. This improvement may stem from a variety of factors: an increasing number of investors becoming aware of and participating in Reg CF, an enhancement in the quality of businesses seeking funds, and companies becoming more adept at setting appropriate target offering amounts and deal terms.

Except for the inaugural year of 2016, "All Female" founding teams have, on average, had a lower success of receiving funding compared to "All Male" or "Mixed Gender" teams. The percentage of businesses reaching their target offering amount—a measure of successful funding—increased from 58.8 percent in 2016 to 77.2 percent in 2022 for "All Female" teams. For "All Male" teams, this rate climbed from 45.4 percent to 81.1 percent during the same timeframe. Despite setting slightly higher target offering amounts, as indicated in Figure 17, "Mixed Gender" teams have consistently outperformed single-gender teams, with their success rates escalating from 60.0 percent in 2016 to an impressive 86.3 percent. The share of women entrepreneurs securing funding in Reg CF is much larger compared to the 2.3 percent of women-led startups that receive VC funding.

In terms of the amounts raised, there has been a general increase across all groups over the years. "All Male" teams have consistently garnered the most significant funding, while "All Female" teams have received the lowest average amounts. The average funding amount for "All Male" teams are 1.5 to 2.0 times greater than that of "All Female" teams across all study years.

The average funding amounts for "All Female" teams have grown in past years. Nevertheless, the most robust growth in average funding occurred among all-male teams, which boast a 6-year compound annual growth rate (CAGR) of 4.1 percent. This is followed by "All Female" teams and "Mixed Gender" teams, with CAGRs of 2.9 percent and 0.8 percent, respectively.

Overall, there is no discernible evidence of a narrowing gender gap over the examined period. While Figure 14 shows that "All Female" teams had the best financial performance, "All Female" teams have consistently experienced lower success rates in receiving funding and tend to receive smaller amounts compared to their "All Male" or "Mixed Gender" counterparts.

Figure 18. Funding Outcomes by Gender Composition

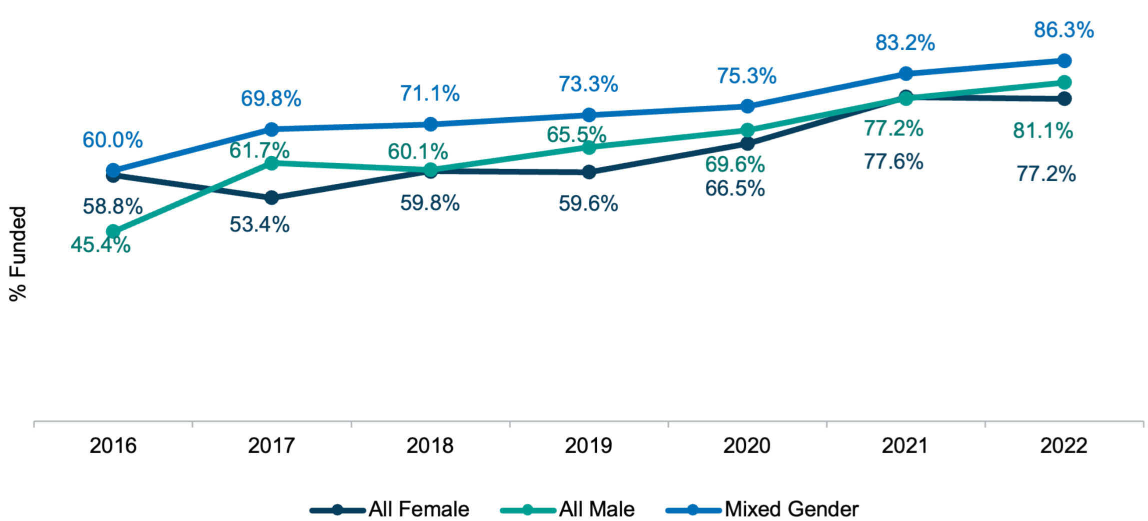
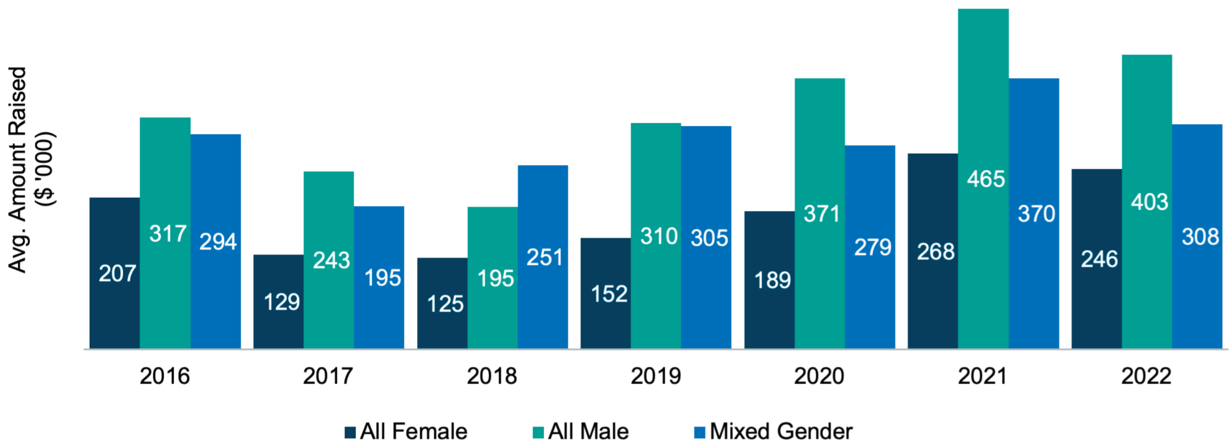


Figure 18. Funding Outcomes by Gender Composition (Cont'd)



4.2. Funding Outcomes by Racial/Ethnic Composition

In terms of racial/ethnic composition, Figure 19 shows that "Mixed Non-White and White" founding teams had the highest success rate in securing capital. Yet "All White" founding teams had higher success rates than "All Non-White" teams. The average funding amount trend shows that "All Non-White" teams receive lower average funding amounts compared to "All White" and "Mixed Non-White and White" teams. On a positive note, the funding amount for the "All Non-White" group is growing the fastest, with a 6-year CAGR of 7.2 percent from 2016 to 2022, higher than the growth rate for "All White" of 3.3 percent.

Figure 19. Funding Outcomes by Racial/Ethnic Composition

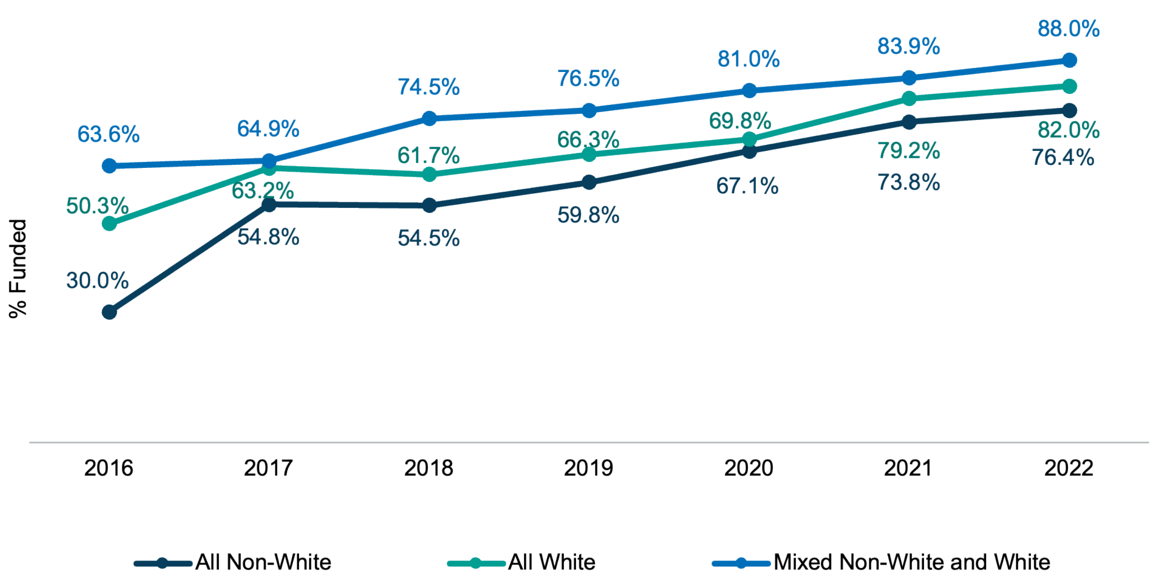
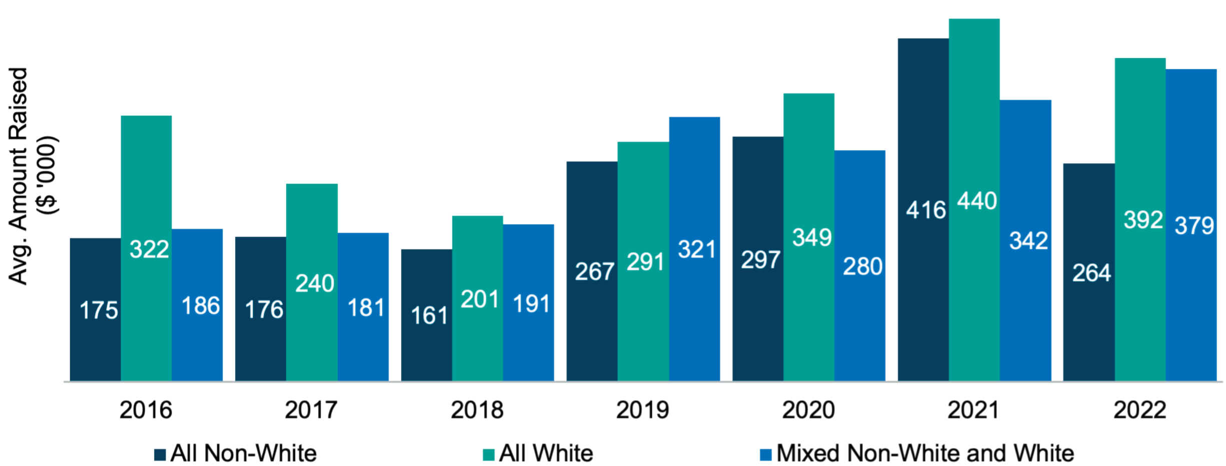


Figure 19. Funding Outcomes by Racial/Ethnic Composition (Cont'd)



In Figure 20, the racial gap is more pronounced when distinguishing Black and Hispanic/Latino-led teams. The funding success rate for minority founding teams appears much lower when focused on "All Black or All Hispanic/ Latino" founders. Particularly in the early years of Reg CF, Black and Hispanic founders had funding rates lower than 50 percent until 2019.

While the funding success rate increased in 2021 and 2022 for Black and Hispanic entrepreneurs, the funding gap persists in terms of average funding amount. While the funding amount gap has narrowed between 2017 and 2020, the gap has widened since 2021. In 2022, "All Black or All Hispanic/Latino" teams received check size less than half of that of "All White" teams.

While "All Black or All Hispanic/Latino" had comparable performance in terms of revenue and superior performance in terms of profitability, they consistently had lower average funding rates and received lower funding amounts.

Figure 20. Funding Outcomes by Racial/Ethnic Composition (Focusing on Black and Hispanic/Latino Minority Groups)

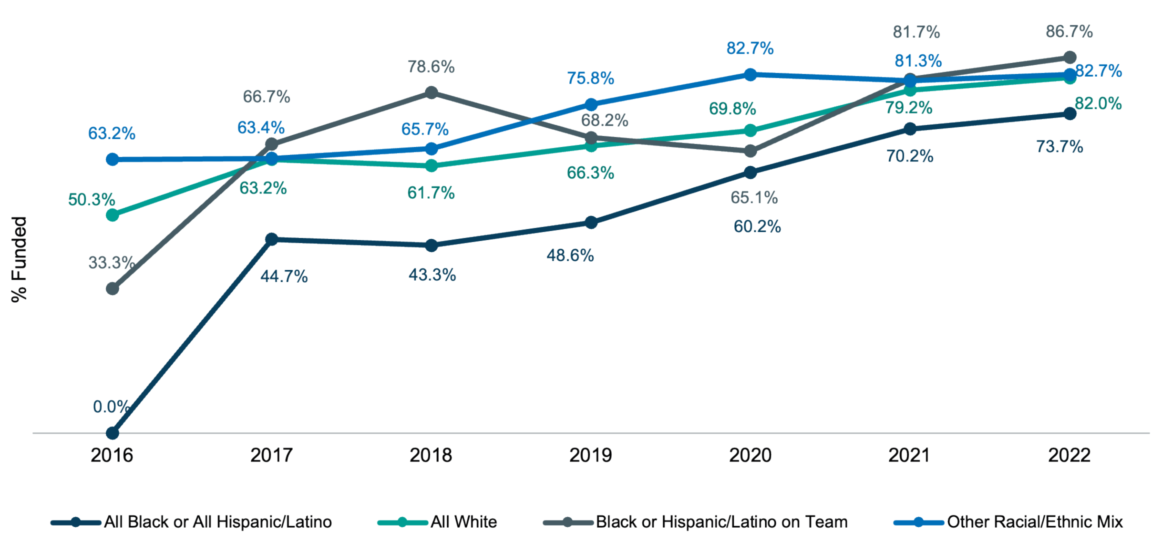
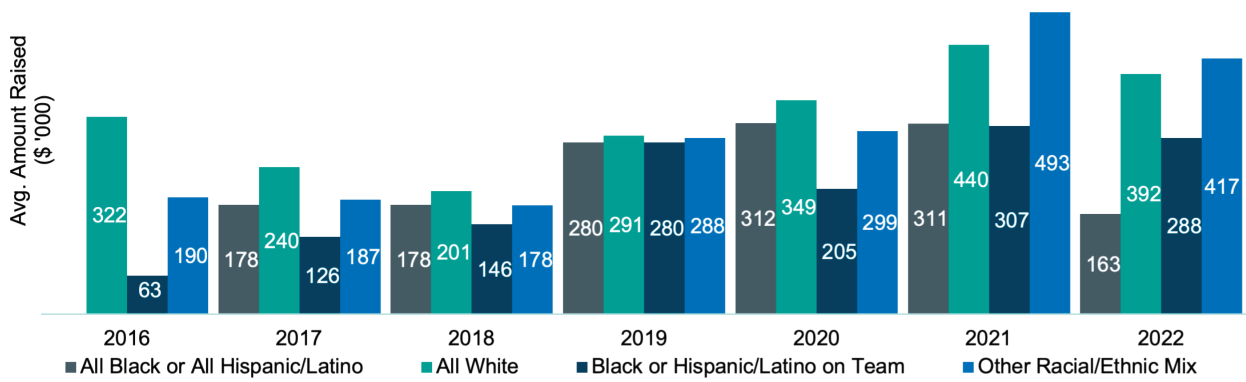


Figure 20. Funding Outcomes by Racial/Ethnic Composition (Focusing on Black and Hispanic/Latino Minority Groups) (Cont'd)



4.3. Summary and Explanations of Funding Outcome Findings

Overall, women and minorities appear to have a higher chance of securing funding by participating in Reg CF compared to seeking capital from VCs and angel investors. In recent years, more than half of the "All Female" and "All Black or All Hispanic/Latino" founding teams that participated in Reg CF successfully raised money, whereas these groups receive 2 percent and 3 percent of all VC funding, respectively.[28] The funding success rates for "All Female" and "All Non-White" teams are still lower but are becoming more comparable to those of "All Male" or "All White" teams over time. "Mixed Gender" and "Mixed Non-White and White" founding teams often have higher funding success rates than single-gender or single-race/ethnicity teams. This highlights a potential advantage of having demographically diverse teams, which can help them derive innovative solutions and leverage expansive social networks.[29]

Yet among businesses that raise capital, there are substantial gaps in funding amount between "All Female" and "All Male," as well as between "All Non-White" and "All White" teams. The average funding amount for "All Male" teams is 1.5 to 2.0 times greater than that of "All Female" teams across all study years. Similarly, "All Non-White," and especially "All Black and All Hispanic/Latino" teams receive disproportionally less funding compared to their "All White" counterparts.

While having a broader and more diverse investor base in Reg CF should help women and racial/ethnic minorities, the persistent gaps in funding could be driven by both entrepreneur-driven and investor-driven explanations. In terms of entrepreneur-driven explanations, women or minority entrepreneurs might not have the same access to educational resources about how to effectively engage with investors and organize crowdfunding campaigns (e.g., understanding the marketing and legal responsibilities, investor engagement strategies). Although having social ties with VCs and angel investors may be less important in Reg CF, having more access to business networks, mentors, and resources may still be important. White male entrepreneurs may have more access to these resources relative to women and minority entrepreneurs. Also, these historically marginalized groups may differ in presentation and pitching styles.[30] That is, the same pitch content may be perceived differently by investors due to gender stereotypes and biases.[31] In addition, the kinds of businesses typically started by female or minority entrepreneurs may be in sectors that attract less interest for all traditional and everyday investors alike. For instance, "Beauty & Personal Care" businesses may appear as less compelling and growth-oriented compared to "Business Services, Software, & Applications" businesses. Additionally, industries dominated by women and minorities might be undervalued by investors who are more familiar with traditionally male-dominated sectors.

For investor-driven explanations, although the investor base is broader, it may not be more diverse in terms of gender and race/ethnicity. If most investors are still predominantly white male, they might inadvertently prefer to invest in "All Male" or "All White" teams. Even if the investor base is more diverse, this does not necessarily mean it is free from inherent biases. If most investors still hold conscious or unconscious biases regarding gender roles and capabilities, this can influence their funding decisions.[32] Investors, regardless expertise, may hold perceptions that women-led and minority-led businesses lack growth potential and/or are riskier investments.

To address these imbalances, it is essential for policymakers, platforms, and investors to actively engage in creating solutions for both entrepreneur and investor-driven factors. For entrepreneur-driven issues, efforts must be made to ensure women have equal access to education, resources, and mentorship as they tackle the funding landscape. For investor-driven issues, encouraging a more diverse population to engage in Reg CF as investors is crucial. Additionally, investors must be made aware of their unconscious biases in order to mitigate stereotyping women and minority entrepreneurs.

4.4. The Maximum Offering Limit Increase to $5 Million

A significant rule change came when the maximum offering limit under Reg CF was increased from $1.07 million to $5 million on March 15, 2021. Since then, as Table 1 suggests, the average funding amount has increased. This raises questions about whether women and racial/ethnic minority entrepreneurs have reaped benefits commensurate with their male counterparts following the introduction of the new maximum offering limit.

Table 4 presents the proportion of offerings that raised more than $1.07 million, broken down by gender and racial/ethnic composition. After the increase in the funding cap, 4.7 percent of “All Female” teams raised more than $1.07 million, compared to 9.7 percent of “All Male” teams.

Regarding racial/ethnic composition, 9.1 percent of “All White” teams raised more than $1.07 million, while only 6.1 percent of “All Non-White” teams exceeded the prior maximum funding limit. Specifically, a mere 3.4 percent of “All Black or All Hispanic/Latino” teams raised more than $1.07 million. The data suggest that a larger proportion of “All White” teams receive larger investments, hence the widening gap in average amount raised between predominantly white and minority teams. In 2020, the average amount raised for the “All White” group was 18 percent higher than for the “All Black or All Hispanic/Latino” group; by 2022, this percentage difference surged to 48 percent.

Among the “Other Racial/Ethnic Mix” category—which includes all-Asian or Asian-White mixed teams—9.4 percent raised more than $1.07 million, outperforming the "Mixed Non-White and White" category, which additionally includes Black and Hispanic/Latino members. This suggests that founding teams with Asian members secure large investments at a rate comparable to that of All White teams.

Increasing the maximum Reg CF cap from $1.07 million to $5 million offers opportunities for women and minority entrepreneurs to raise more capital from the general public in one year. Yet there are several reasons that could explain this unintentionally widening gaps. First, the success of larger fundraising efforts can be influenced by the extent and strength of founder networks. Historically, White and male entrepreneurs have had more access to large and affluent networks. If these networks are not as accessible for female and minority founders, increasing the cap may disproportionately benefit those who already have the advantage of better network access. While the role of social networks may not be as prominent as it is in VC and angel funding, having larger social circles may still play a role in CF settings.[33] Second, raising larger amounts of money typically requires more sophisticated marketing and outreach efforts, as well as mentorship and training, which can be resource intensive. “All Male” or “All White” teams with more social capital and financial resources may be better equipped to benefit from the higher investment cap. Third, some industries, such as the Industrial or Energy sectors, may require more capital and have lower levels of female and minority representation. The increased cap could lead to a concentration of funding in these sectors, again inadvertently widening the gap. Lastly, the herding behavior observed in other crowdfunding settings can amplify gender and racial/ethnicity gaps. In other words, offerings that receive significant attention and funding early on, which tend to be “All White” or “All Male” teams, can continue to attract even more support with the increased funding cap, while women and minority entrepreneurs who tend to get little initial support often struggle to gain traction.

It is important to consider these potential outcomes of a rule change and to implement supportive measures that ensure all entrepreneurs, regardless of gender or race, can equally benefit from changes in funding regulations. This might include targeted education and support programs, enhanced investor education on diversity, and inclusive outreach efforts by crowdfunding platforms.

Table 4. Funding Outcomes After the $5M Rule

	Proportion of businesses that raised greater than $1.07 million
All Offerings	**7.6%**
Gender Composition:	
All Female	4.7%
All Male	9.7%
Mixed Gender	5.2%
Racial/Ethnic Composition:	
All Non-White	6.1%
All White	9.1%
Mixed Non-White and White	7.2%
Racial/Ethnic Composition (Focusing on Black and Hispanic/Latino):	
All Black or All Hispanic/Latino	3.4%
All White	9.1%
Black or Hispanic/Latino on Team	6.1%
Other Racial/Ethnic Mix	9.4%

5. FUTURE OUTCOMES OF WOMEN AND MINORITY ENTREPRENEURS IN REGULATION CROWDFUNDING

This section explores what happens after businesses participate in Reg CF and whether there are any differences in future outcomes based on gender or racial/ethnic composition.

5.1. Repeat Participation in Regulation Crowdfunding

Table 5 depicts whether different gender and racial/ethnic composition groups participate in Reg CF again after their first rounds. Exploring repeat participation outcomes is important, as it informs whether businesses consider Reg CF as a viable funding source and whether they learn from their initial Reg CF experiences by having improved chances of success depending on their initial success or failure to receive funding. Also, it assesses how founding teams respond to failure and their persistence in seeking funding, both of which are crucial for fostering an entrepreneurial ecosystem that encourages calculated risks.

Overall, the average number of total rounds in Reg CF is 1.16, with 11.6 percent of businesses participating in more than one round. The first three columns in Table 5 show repeat participation rates by gender and racial/ethnic composition. The last three columns depict the outcome of subsequent Reg CF rounds (i.e., % of businesses that get funded) among teams that participate again.

Initial Reg CF round success appears to be positively associated with subsequent Reg CF rounds. Teams that had successful initial offerings by meeting their target amounts are more likely to participate again, while teams that did not hit the minimum funding amount are less likely to try again. Further, teams that had prior Reg CF success have a higher likelihood of receiving funding in the subsequent round compared to teams that didn't experience initial success. Regardless of gender or racial/ethnic composition, businesses that were successful in the first round show higher rates of success in subsequent rounds, often above 90 percent. This trend could indicate that Reg CF investors consider past funding performance to be a strong indicator of future success. It could also reflect that teams with successful past Reg CF improve their business performance or campaign strategies between rounds.

"All Female" and "All Non-White" founding teams tend to have slightly lower rates of repeat participation in Reg CF, compared to "All Male" or "All White" teams, though the differences are not substantial. Similarly, success rates for subsequent rounds do not meaningfully differ across gender or racial/ethnic composition types.

Among teams that failed to get funding in their initial rounds, "Mixed Gender" teams have the lowest success rates among the three gender composition group in subsequent offerings. The chance of having successful offerings in subsequent rounds after an unsuccessful initial round is much higher for "All Black or All Hispanic/Latino" teams and "Black or Hispanic/Latino on team," at 77.8 percent and 100.0 percent more than that of "All White" teams (58.3 percent).

Table 5. Repeat Participation in Regulation Crowdfunding and Its Outcome

	Repeat Participation After the Initial Round			Repeat Participation Outcome (% Funded in Subsequent Rounds)		
	All	**Initial Offering - Not Funded**	**Initial Offering - Funded**	**All**	**Initial Offering - Not Funded**	**Initial Offering - Funded**
All Offerings:	**11.6%**	**3.9%**	**15.0%**	**89.9%**	**58.7%**	**93.5%**
Gender Composition:						
All Female	8.0%	3.9%	10.0%	84.5%	55.6%	89.8%
All Male	12.4%	3.7%	16.6%	89.7%	53.3%	93.6%
Mixed Gender	10.6%	5.2%	12.3%	94.9%	88.9%	95.7%
Racial/Ethnic Composition:						
All Non-White	10.4%	3.4%	14.2%	91.1%	61.5%	94.9%
All White	11.9%	4.2%	15.4%	89.1%	58.3%	92.9%
Mixed Non-White and White	11.5%	2.2%	14.0%	93.8%	50.0%	95.7%
Racial/Ethnic Composition (Focusing on Black and Hispanic/Latino):						
All Black or All Hispanic/Latino	10.8%	3.7%	15.7%	90.6%	77.8%	92.7%
All White	11.9%	4.2%	15.4%	88.9%	58.3%	92.6%
Black or Hispanic/ Latino on Team	8.2%	1.9%	10.2%	88.9%	100.0%	88.2%
Other Racial/Ethnic Mix	11.4%	2.9%	14.3%	93.6%	20.0%	98.6%

Note: Repeat participation is based on 5,211 unique businesses that participate in Regulation Crowdfunding at least once.

5.2. Performance after Regulation Crowdfunding

Academic research by the author finds that Reg CF outcomes are strongly correlated with firm survival rates, future funding received, and business performance.[34] Specifically, successfully raising capital from Reg CF is associated with a 9 percent decline in startup failure rate and increases the chance of receiving future funding by 2 percent. Further, the amount raised from Reg CF has a strong positive association with employee size and net income the fiscal year following the offering year.

For women and racial minority entrepreneurs who had successful Reg CF offerings, the evidence suggests this success may create a positive feedback loop and bolster performance in the long run. Yet the persistence of gender and racial/ethnic gaps in Reg CF suggests that women-led or minority-led teams that do not perform well in Reg CF may experience lower survival rates and worse performance. Thus, early-stage funding disparities have the potential to feed unequal longer-term business and financial performance.

5.2.1. Regulation D Offerings

To supplement Chang (2024)'s study findings, this report further examines Regulation D ("Reg D") outcomes for businesses that participated in Reg CF. Reg D is a set of rules that govern private placement offerings which usually involve accredited investors. Many VC and angel investments involve Reg D offerings, which are typically done without making a public offering. Reg D offering information are based on Form D filings submitted to the SEC.

To explore how funds raised from Reg CF relates to future funding outcomes from accredited investors and to examine whether the outcomes vary by gender and racial/ethnic composition, Table 6 reports Reg D offering outcomes of businesses that participated in Reg CF by December 31, 2023. "% Reg D Funded" denotes the proportion of Reg CF participants that subsequently raised money through a Reg D offerings; "Reg D" Amount" denotes the average amount of Reg D offering amount if a past Reg CF participant subsequently raised money through a Reg D offering. The first two columns show the two outcome measures among all Reg CF participants, the third and fourth columns show the measures among Reg CF participants that didn't raise money, and the last two columns show the measures among Reg CF participants that had successful offerings by exceeding the target offering amount.

Across all Reg CF participants, 9.5 percent of businesses raise money through Reg D after their Reg CF offerings, with an average amount of $7.5 million. This overall rate decreases to 3.1 percent if the participants were not funded through Reg CF and increases to 12.3 percent if they successfully raised funding through Reg CF. The average Reg D funding amount is higher among Reg CF participants with an initial successful round. Thus, Reg CF outcome is positively correlated with future funding chance and amount received through Reg D. This could be attributable to the following explanations. First, Reg CF could serve as a selection process by screening promising and high potential startups and small businesses. Second, funding through Reg CF could allow businesses to grow their ventures and learn funding strategies so that they have a successful experience when they approach accredited investors. Third, having a successful Reg CF may give validation to accredited investors.

Yet the Reg CF to Reg D trajectory highlights persistent barriers for women and minority entrepreneurs. "All Female" teams command a small portion of Reg D funding, at 7.9 percent irrespective of their Reg CF outcomes, and the average funded amounts remain much lower than those secured by male-led or mixed-gender teams. This pattern persists whether these women-led ventures were successfully funded through Reg CF or not. Though having a successful Reg CF offering is positively associated with a higher likelihood of receiving money through Reg D, "All Female" teams see a smaller increase from 3.1 percent to 10.2 percent in Reg D funding rate, while "All Male" teams experience a more pronounced jump from 3.2 percent to 13.2 percent. These statistics reflect a gendered funding gap that Reg CF has not fully bridged, indicating that while Reg CF may offer an entry point, it does not necessarily equate to equitable growth opportunities in later-stage funding.

When analyzing the experiences of racial minority entrepreneurs, a complex picture also emerges. While "All Non-White" groups have a low Reg D funding at 2.7 percent if they fail to secure funding, those funded through Reg CF see a meaningful improvement to 7.7 percent. Reg CF may provide a valuable signal of viability for minority entrepreneurs, potentially influencing positive outcomes in subsequent funding rounds. However, the jump is not as substantial as it is for white-led ventures, which grow from 3.2 percent to a robust 13.3 percent. The outcomes for "All Black or All Hispanic/Latino" are even more stark, with 2.5 percent slightly increasing to 4.8% post-Reg CF funding, while "Mixed Non-White and White" groups (which include Asian entrepreneurs) experience the highest percentage increase, from 3.4 percent to an impressive 14.9 percent. The average Reg D funding amount is much lower for "All Non-White" teams, especially for "All Black or All Hispanic/Latino" teams compared to "All White" teams. Racially and ethnically diverse groups—"Mixed Non-White and White," "Black or Hispanic/Latino on Team," and "Other Racial/Ethnicity Mix"—exhibit higher Reg D funding rates and amount raised compared to "All Non-White" or "All Black or All Hispanic/Latino" founding teams. This may indicate that racial/ethnic diversity allows businesses to expand social networks with accredited investors, or alternatively, investor confidence may increase with more demographically diverse teams.

Overall, these disparities are indicative of deeper, systemic issues in the entrepreneurial funding ecosystem that Reg CF alone cannot resolve. While Reg CF has been successful in enabling some women and minority entrepreneurs to secure initial funding, the transition to more traditional forms of venture financing, like Reg D, reflects the persistently unequal playing field. These entrepreneurs face ongoing challenges, with women and specific minority groups receiving smaller percentages of funding and lower dollar amounts, regardless of their success in initial crowdfunding efforts.

The findings point to a need for additional policy measures that support these entrepreneurs beyond the Reg CF funding stage. This could involve creating pathways for smoother transitions to subsequent funding rounds, offering additional educational resources, or giving financial incentives to investors for backing underrepresented founders. Moreover, the insights gathered here advocate for a robust support system that encompasses not just financial backing through Reg CF but also through networking, mentorship, and strategic guidance after Reg CF funding to bolster the long-term viability and growth of ventures led by women and minorities.

Table 6. Regulation D Outcomes of Regulation CF Participants

	All Reg CF Participated		Reg CF Not Funded		Reg CF Funded	
	% Reg D Funded	Reg D Amount (in $MM)	% Reg D Funded	Reg D Amount (in $MM)	% Reg D Funded	Reg D Amount (in $MM)
All Offerings:	**9.5**	**7.5**	**3.1**	**7.0**	**12.3**	**7.6**
Gender Composition:						
All Female	7.9	3.5	3.1	10.8	10.2	2.7
All Male	10.0	8.5	3.1	6.7	13.2	8.7
Mixed Gender	8.6	5.7	3.0	4.2	10.2	5.8
Racial/Ethnic Composition:						
All Non-White	5.9	3.4	2.7	2.1	7.7	3.6
All White	10.2	8.5	3.2	8.3	13.3	8.5
Mixed Non-White and White	12.4	5.8	3.4	4.7	14.9	6.0
Racial/Ethnic Composition (Focusing on Black and Hispanic/Latino):						
All Black or All Hispanic/Latino	3.9	2.0	2.5	2.3	4.8	1.9
All White	10.2	8.5	3.2	8.3	13.3	8.5
Black or Hispanic/ Latino on Team	7.8	4.6	3.8	3.0	9.0	4.7
Other Racial/Ethnic Mix	11.1	5.2	2.9	3.5	13.8	5.3

5.2.2. Business and Financial Performances

This section explores the business performances of Reg CF participants broken down by gender (Figure 21) and race/ethnicity (Figures 22 and 23). The data presented in this section are drawn from annual reports, i.e., Form "C-AR," which is required to be submitted to the SEC upon completion of a successful Reg CF offering. Among 3,626 businesses that had successful Reg CF offerings, 1,851 businesses submitted their first annual reports and 797 businesses submitted their second annual reports.[35]

In Figures 21 to Figure 23, "FY0" represents the fiscal year prior to the Reg CF offering, indicating the latest financials submitted by participants. The performances in "FY1" and "FY2 are derived from annual reports submitted after successful Reg CF rounds, offering a glimpse into the trajectory of these businesses post-funding.

In discussing the financial and business performance of early-stage startups, it is crucial to acknowledge the inherent challenges in interpreting such data. Early-stage ventures are typically in a phase of significant growth and development, where volatility in revenue and net income is not uncommon. These companies are often refining their business models and operational efficiencies, which can lead to fluctuations in financial metrics that do not necessarily reflect the long-term potential of the venture. Also, if women and minorities are predominantly found in distinct industries, this may result in a varied composition of business models. Moreover, initial post-funding years are frequently characterized by heavy investment into product development, market entry, and scaling operations, which can depress net income even as they set the stage for future profitability. Thus, the data must be interpreted with an understanding of the typical growth curves of startups, where short-term losses can be a strategic part of long-term growth strategies.

Figure 21 shows that a greater proportion of businesses generate revenue after participating in Reg CF. For "All Female" and "Mixed Gender" teams, more businesses generate profits, but their average revenue tends to grow at a slower pace compared to "All Male" teams. In terms of employee size, "All Male" or "Mixed Gender" teams started with higher average employee size and exhibit more robust employee size growths over the two-year period, compared to "All Female" teams. These trends point to potential challenges of women entrepreneurs in scaling their operations.

In terms of racial/ethnic composition, minority teams exhibit comparable, and in some cases, better growth trajectories than their "All White" or "Mixed Non-White and White" counterparts. "All Non-White," and especially "All Black or All Hispanic/Latino," teams experience more robust growth in average revenue size and employee size, whereas "All White" teams show relatively stagnated growth. Teams with Black or Hispanic/Latino have a consistently higher proportion of businesses generating profits compared to "All White" teams.

While Reg CF provides a platform for initial fundraising, it does not guarantee long-term financial sustainability and growth, especially for women entrepreneurs. For women and minority entrepreneurs to leverage Reg CF's potential, ongoing support in the form of mentorship, additional funding opportunities, operational guidance, and market access is crucial. Given these observations, policy considerations should focus on extending support beyond the initial funding phase, especially for women and minority entrepreneurs.

Figure 21. Post-Offering Business and Financial Performance by Gender Composition

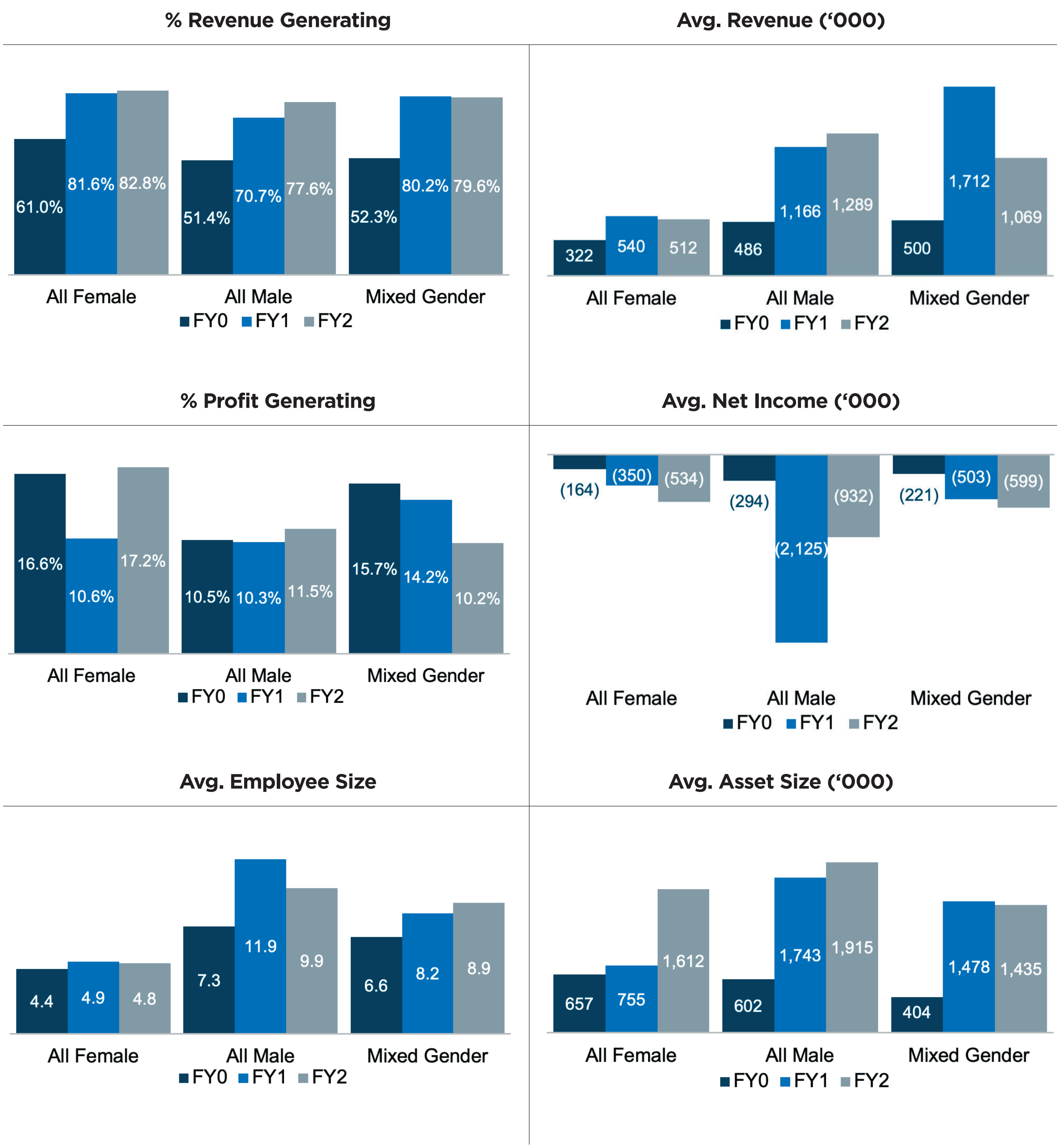


Figure 22. Post-Offering Business and Financial Performance by Racial/Ethnic Composition

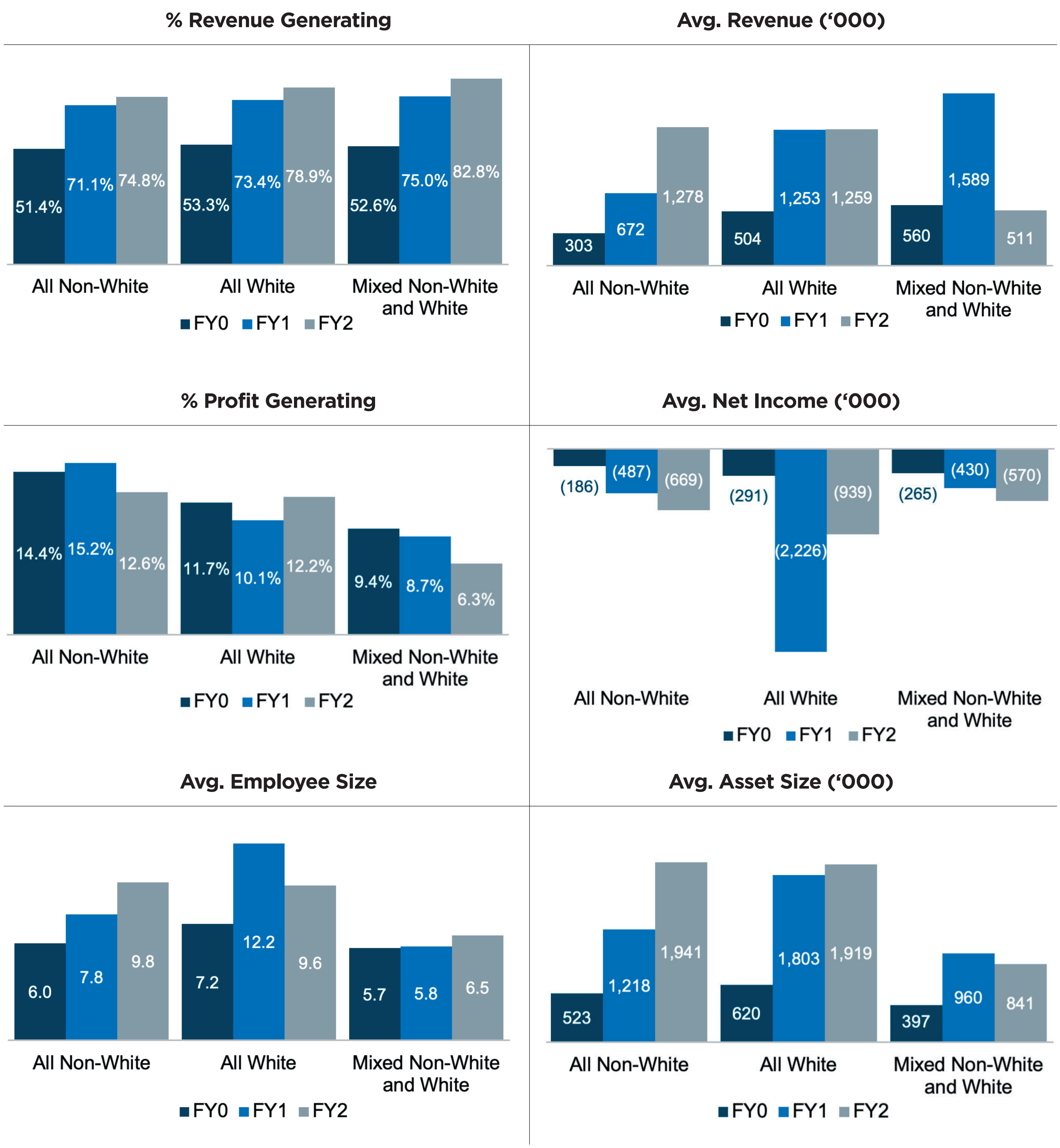
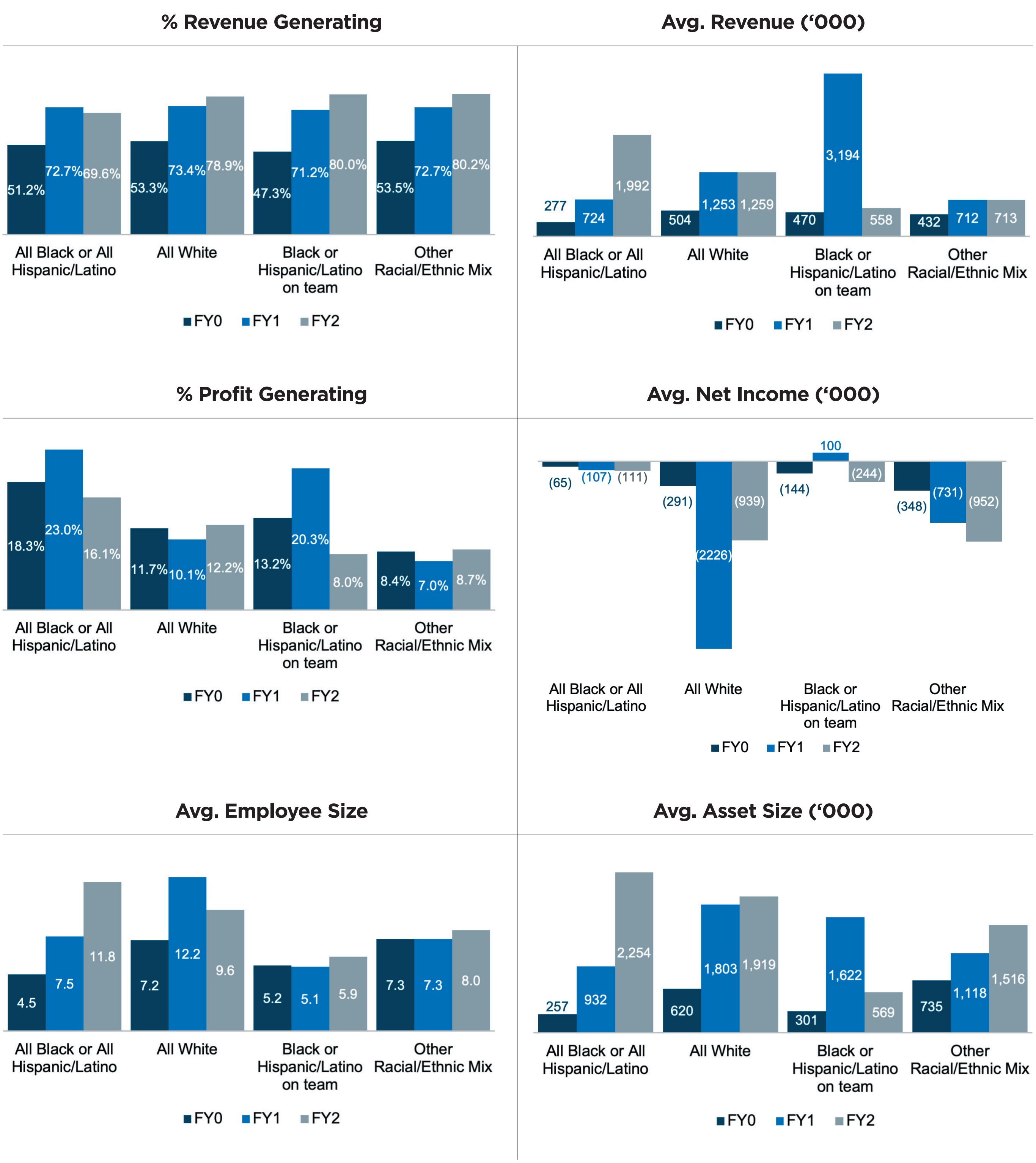


Figure 23. Post-Offering Business and Financial Performance by Racial/Ethnic Composition (Focusing on Black and Hispanic/Latino)



5.2.3. Business Survival

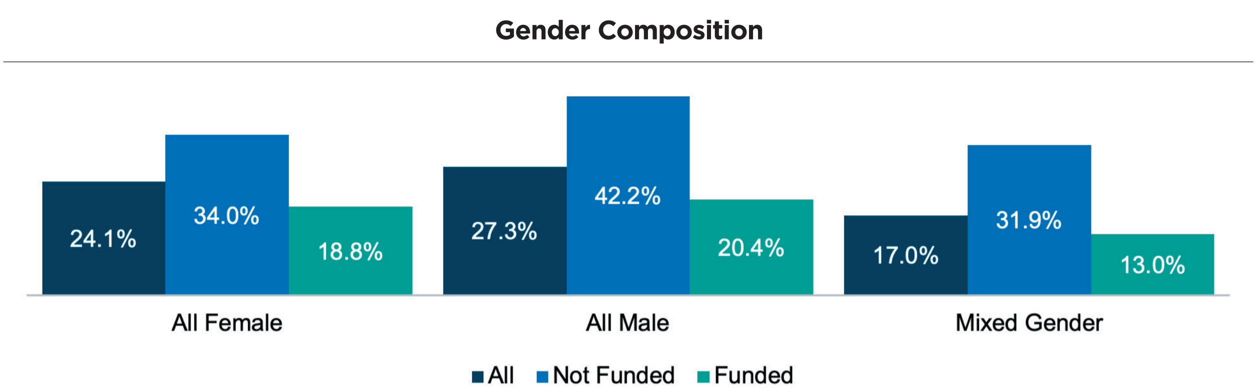
Most startups and small businesses fail within the first few years of establishment. This section examines the failure rate of startups and small businesses that participated in Reg CF before 1Q 2021 by gender and racial/ethnic composition. A business is classified as no longer operating if it meets at least one of the following criteria: (1) no functional website or application, (2) website or social media page mentions business closure or cease of operations, (3) no sign of online (website, social media) activity since March 2023, or (4) Crunchbase and Pitchbook reports that it is "out of business."

As of March 10, 2024, 25.5 percent of businesses that participated in Reg CF before 1Q 2021 are no longer operating. The failure rate breaks down to 19.0 percent for businesses that get funded via Reg CF and 40.0 percent for those that fail to get funding via Reg CF.

In terms of gender composition, "Mixed Gender" teams have the lowest failure rate compared to "All Female" teams and "All Male" teams. "All Female" teams fail at lower rates than "All Male" teams. Successfully raising capital through Reg CF reduces the failure rate across all gender composition types. In terms of racial/ethnic composition, "All White" teams tend to have a lower failure rate, at 25.1 percent, compared to 28.8 percent of "All Non-White" teams. This is especially true for "All Black and All Hispanic/Latino" teams, which see a 31.1 percent failure rate. For racial/ethnic minorities that do not successfully raise capital through Reg CF, the failure rate exceeds 40 percent.

While the lower failure rates for women-led businesses appear promising, it is important to interpret the survival rate statistics with caution. It is possible that women-led businesses are more likely to be in industries with higher average survival rates. It is also plausible that women entrepreneurs who participate in Reg CF may be more capable and of higher quality than those who do not participate in Reg CF, and thus demonstrate better subsequent performance. These failure rates are valuable indicators of the relative challenges and advantages that different demographic groups face in the entrepreneurial ecosystem following Reg CF.

Figure 24. Failure Rate by Gender and Racial/Ethnic Composition



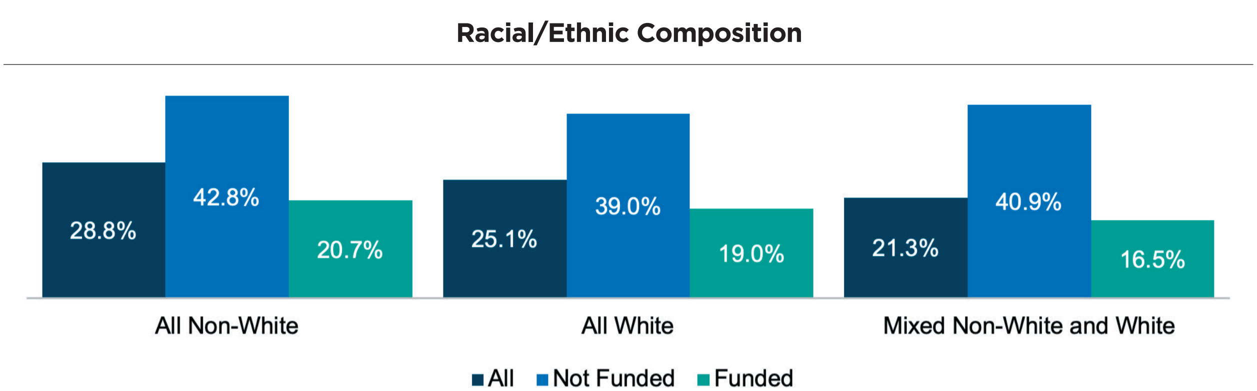
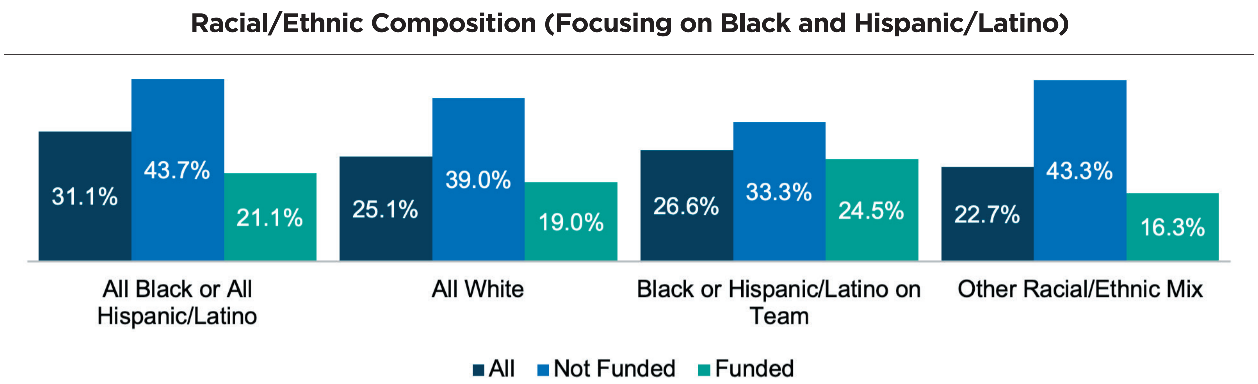


Figure 24. Failure Rate by Gender and Racial/Ethnic Composition (Cont'd)



5.3. Exit Outcomes

Investing in startups is an inherently long-term commitment. Similar to venture capital and angel investments, returns on equity from crowdfunding generally materialize when a startup "exits," which occurs either through an initial public offering (IPO) or acquisition by another entity. However, it's critical to recognize that not all startups achieve a successful exit, with the vast majority of early-stage companies failing to yield any returns for their investors.[36] For the limited number of businesses that do exit, industry reports note that this typically takes 5 to 10 years after inception. Since the establishment of Reg CF seven years ago, there have been 14 IPOs and 71 acquisitions to date of businesses that conduct a Reg CF offering, though the precise terms of these acquisitions and the exact proceeds distributed to investors are often not disclosed. These instances, albeit infrequent, demonstrate that Reg CF possesses the capacity to deliver financial rewards to investors, highlighting its potential as an investment avenue.

Table 7 lists all Initial Public Offering (IPO) offerings by Reg CF participants known as of the report date. Among the 14 participants, 12 businesses successfully raised capital from Reg CF. All businesses, except for one "Mixed Gender" team, have "All Male" founding teams.

Figure 25 illustrates the gender and racial/ethnic makeup of businesses acquired after participating in Reg CF. With regard to gender composition, "All Male" teams accounted for 69.0 percent of all deals. This contrasts with 16.9 percent for "All Female" teams and 14.1 percent for "Mixed Gender" teams. For example, Inlightened, a marketplace for healthcare expertise co-founded by two women, secured over $162,000 in Reg CF on Republic in November 2022 and was subsequently acquired by LocumTenens.com for $6.9 million in August 2023. Poppilu, a children's beverage business founded by a woman, raised over $200,000 in Reg CF on Republic in January 2022 before being acquired by American Beverage Corporation in November 2022. Additionally, Wingspan Health, a company led by a female founder offering "a robo-advisor for healthcare," raised over $110,000 on Wefunder in 2021 and was later acquired by Curative the following year.

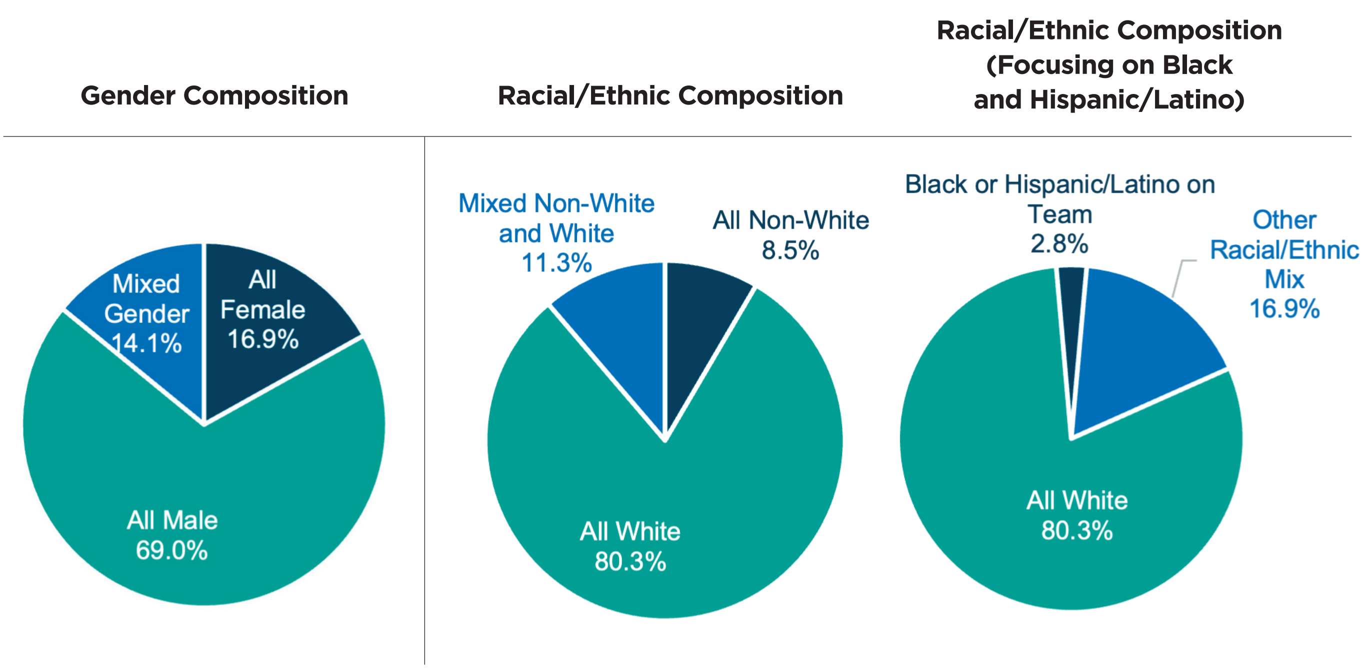
A modest proportion, 8.5 percent, of all acquisitions involved "All Non-White" teams. Further, there have been no acquisitions of Reg CF participants with entirely of Black or Hispanic/Latino members, while only two acquisitions featured founding members who are Black or Hispanic/Latino. More acquisitions of minority-led teams include Asian entrepreneurs, with Asian-led businesses such as Heroclip, Innamed, and KPOP Foods being acquired by industry peers.

It is premature to fully assess the exit and return outcomes of Reg CF offerings, yet the data thus far indicates that the majority of IPOs and acquisitions are associated with teams founded by "All Male" or "All White" individuals. This highlights the need for ongoing attention and policy interventions aimed at supporting women and racial minorities even after Reg CF offerings, which usually occur at early stages of startups and small businesses. These interventions could involve partnership development programs that help connect diverse-led startup with larger companies, potentially leading to strategic partnerships or acquisitions. There could be platforms for showcasing minority and women entrepreneurs to a broader audience targeting financial and strategic acquirors and investors, as well as promoting success stories of startups with diverse leadership and successful exits in order to inspire confidence among both entrepreneurs and investors. Policymakers can consider government-backed incentives, such as grants or low-interest loans for companies that invest in or acquire diverse-led startups.

Table 7. Initial Public Offerings by Reg CF Participants

Company Name (Ticker)	First Reg CF Date	IPO Closing Date	Reg CF Funded	Gender Composition	Racial/Ethnic Composition
Amphitrite Digital (AMDI)	Jun-22	Filed	Yes	Mixed Gender	All White
Atlis Motor Vehicles (AMV)	Mar-18	Sep-22	Yes	All Male	All White
Auddia (Previously Clip; AUUD)	Sep-17	Feb-21	No	All Male	All White
BullFrog AI (BFRG)	Oct-20	Aug-23	No	All Male	All Non-White (Asian)
CNS Pharma (CNSP)	Mar-18	Jan-24	Yes	All Male	All White
Digital Brands Group (DBGI)	Jun-18	Dec-21	Yes	All Male	All White
Edible Garden (EDBL)	Oct-20	May-22	Yes	All Male	All White
FibroBiologics (FBLG)	Jan-23	Jan-24	Yes	All Male	All White
Immersed (AIMR)	Jul-20	Filed	Yes	All Male	All Non-White (Asian)
Innovative Eyewear (LUCY)	Jun-20	Aug-22	Yes	All Male	All White
Janover (JNVR)	May-20	Jul-23	Yes	All Male	All White
Jet Token (JETAI)	Feb-19	Aug-23	Yes	All Male	All White
Monogram Orthopedics (MGRM)	Feb-22	May-23	Yes	All Male	All White
Volcon (VLCN)	Oct-20	Nov-23	Yes	All Male	All White

Figure 25. Acquisitions by Reg CF Participants: Gender and Racial/Ethnic Compositions



6. CONCLUSIONS AND POLICY RECOMMENDATIONS

The data on Reg CF offerings between 2016 and 2022 present a nuanced picture of its efficacy as a funding mechanism for women and minority entrepreneurs. This report elucidates the ways in which these groups engage with Reg CF in order to secure investment and examines the obstacles they encounter both during and after their participation.

Although there is a notable uptick in the number of women and minority-led startups participating in Reg CF, their representation does not mirror the diversity of the U.S. workforce or business owners. This discrepancy suggests a potential lack of awareness among these groups about the opportunities presented by this relatively nascent funding model.

Prior to participating in Reg CF, women and minority-led businesses that participated in Reg CF had comparable business performance relative to male-led and White-led teams. Yet there are notable differences in funding rates and funding amount received based on gender and race/ethnicity. Reg CF shows higher average funding rates compared to VC and angel investors, with more than half of participating firms receiving capital. Yet if larger check sizes continue to favor "All Male" or "All White" founding teams, the disparities in Reg CF funding have the potential to perpetuate unequal funding and business outcomes. In fact, Reg CF success rate and amount received appear to be positively associated with future business and financial performance, Regulation D funding, and survival rates. Most companies that generate returns to investors through exits are led by "All Male" or "All White" teams.

Overlooking women and minority entrepreneurs, who often outperform before Reg CF funding, is not just a social oversight but a market misstep. These businesses show promise, yet encounter undervaluation by investors, suggesting a market inefficiency. Investors' biases, whether conscious or subconscious, may lead them to miss out on lucrative opportunities with these high potential ventures. Addressing funding disparities could also be a step towards improving market efficiency, ensuring capital goes to deserving businesses based on performance rather than the background of entrepreneurs.

The insights from Reg CF data suggest that comprehensive strategies are needed to encourage participation, level the playing field in funding outcomes, and provide ongoing support post-crowdfunding for women and minority entrepreneurs. To improve participation, policymakers could incentivize platforms to reach out to these groups, potentially through awareness campaigns or subsidized training on equity crowdfunding. Such education should encompass strategies for effective investor engagement and campaign organization. Government and platforms can consider subsidizing women and minority entrepreneurs costs associated with fundraising efforts (e.g., accounting, legal, marketing expenses). Additionally, considering the networking challenges faced by these entrepreneurs, Reg CF platforms could facilitate connections with more seasoned business mentors and provide resources tailored to the unique challenges and strengths of women and minority entrepreneurs.

To reduce disparities in Reg CF outcomes, policymakers and platforms can implement anti-bias training for potential investors. Platforms could also highlight successful women and minority-led campaigns to counteract stereotypes. An incentive for taking diversity training and investing in female-led or minority-led projects, such as investment credits, tax benefits, or matching funds, could encourage a more equitable distribution of investments. Platforms or support organizations can consider implementing gender-blind or color-blind evaluation systems that allow entrepreneurs to pitch their ideas without revealing their demographic backgrounds. For women and minority entrepreneurs, there needs to be education resources and support networks available that can help them build more robust campaigns, effectively pitch their ventures and solicit feedback, and access wider networks.

For ongoing support, post-Reg CF performance evidence suggests the need for structures that aid in scaling the business and in transitioning to traditional venture financing and beyond. Policymakers could design frameworks that offer streamlined access to subsequent funding rounds. A downside of receiving funding from Reg CF over VCs/angels is that businesses may not be able to leverage advice and mentorship from professional investors. Platforms and support organizations can consider creating networking and mentorship programs that connect VCs and angels with women and minority Reg CF participants. This would require participation from traditional startup investors. To aid women and minority Reg CF participants to scale and exit, the government can play a role by offering grants or loans to companies investing in or acquiring startups with diverse leadership, and by fostering partnerships that could lead to strategic alliances or acquisitions. These policies could help Reg CF become not just a one-time funding opportunity but also a steppingstone towards long-term sustainability and growth for entrepreneurs from various backgrounds.

Bridging the gender and racial/ethnicity gaps in entrepreneurship requires addressing educational gaps, providing robust pre-funding and post-funding support, and fostering an inclusive investment culture. Addressing these challenges to create a more inclusive and equitable entrepreneurial ecosystem requires concerted efforts from policymakers, platforms, and all stakeholders in the entrepreneurial ecosystem, including traditional startup investors.

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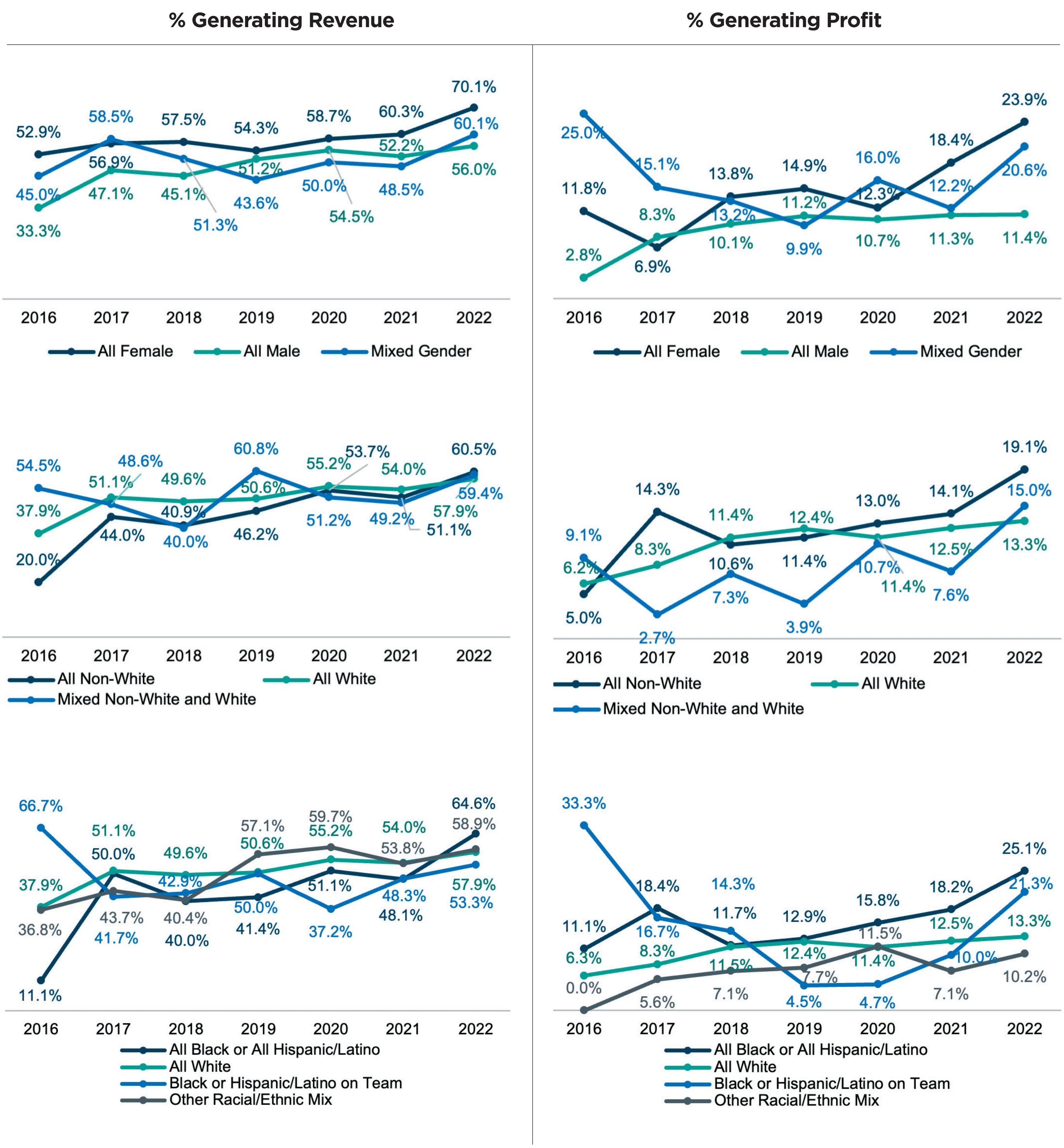
APPENDIX

Appendix Table A1. Business and Financial Performance Breakdown

	N	% Total
Business Age		
Less than 1 year	1,189	19.9
2-3 years	2,891	48.4
4-5 years	888	14.9
6-10 years	732	12.3
11-20 years	228	3.8
21 or more years	41	0.7
Employee Size		
0-1 employee	616	10.3
2-3 employees	2,640	44.2
4-5 employees	1,005	16.8
6-10 employees	963	16.1
11-20 employees	470	7.9
21-50 employees	211	3.5
51 or more employees	64	1.1
Revenue		
Not generating revenue	2,820	47.2
Less than $100K	1,338	22.4
Between $100K and $1M	1,240	20.8
Between $1M and $10M	535	9.0
$10M or more	36	0.6
Net Income		
Net loss	3,889	64.1
Neither net profit nor let loss	1,443	23.8
Net profit	733	12.1

Appendix Figure A1. Pre-Offering Financial Performance by Gender and Racial/Ethnic Composition



ENDNOTES

1 This report was developed under contract with the SEC's Office of the Advocate for Small Business Capital Formation. The report represents the independent research and analysis of the author and expresses the author's views and does not necessarily reflect those of the Commission, the Commissioners, or other members of the staff.
2 Brendan Cosgrove, Philip Gaskin, Thomas Goff, Erin Kenney, Jessica Milli, 2023.
3 Chilazi, 2019.
4 Crunchbase, n.d.
5 U.S. Census Bureau QuickFacts: United States, n.d.
6 Angel Capital Association, 2023.
7 Angel Capital Association, 2023.
8 VC Human Capital Survey, 2021.
9 Huang et al., 2017.
10 Chang, 2024; Hochberg et al., 2007; Sorenson & Stuart, 2001.
11 Brendan Cosgrove, Philip Gaskin, Thomas Goff, Erin Kenney, Jessica Milli, 2023.
12 All startups and small business are required to submit an offering statement, Form C, to the SEC. The purpose of this filing is to disclose business financial, offering information important to potential investors, as the crowdfunding investment, like all startup investment, involves risk.
13 "Business" is defined as an organization with a unique Central Index Key ("CIK"). The sample excludes offerings that have been withdrawn, as there are many reasons why an offering might be withdrawn (e.g., not getting much traction as expected, choosing a different funding source like VC, etc.). Including the withdrawn offerings could lead to misleading results.
14 https://files.pitchbook.com/website/files/pdf/Q4_2022_PitchBook-NVCA_Venture_Monitor.pdf.
15 Angel Capital Association, 2023; Pitchbook, 2024.
16 While there are no outlined rules related to how businesses should set target amount, intermediary platforms advise that the target amount should be enough to give your business at least six months of runway (Wefunder, n.d.).
17 Other security types include debt and SAFE securities that involve tokens, mostly used by blockchain companies.
18 Industry categorization is based on KingsCrowd's industry groupings. KingsCrowd (www.kingscrowd.com) is a leading analytics and rating platform for Reg CF offerings. Other industry sectors include Logistics, Delivery, & Supply Chain; Government Services; Arts & Crafts; and Pet Health, Food, & Services.
19 Appendix Table 1 contains a detailed breakdown of business age, size, and financial performance among startups and small businesses that participate in Reg CF.
20 Revenue and profit data come from company filings. Equity crowdfunding information comes from Chang (2024)'s paper based on 3,351 offerings until March 31, 2021. The paper uses Crunchbase database to examine whether a business received equity funding (from VCs and angels) prior to participating in the offering round.
21 The valuation amount information is available for 4,246 offerings. Offerings that are not equity based (e.g., debt-based, performance-based) do not usually contain valuation information.
22 The values for angel investing and VC funding are based on median pre-money valuation (Angel Capital Association, 2023, Pitchbook, 2024).
23 There is a total of 9,423 entrepreneurs who are part of 5,969 offerings. To identify the gender and race of entrepreneurs, the research team took the following steps. First, we identified the perceived gender and race based on images of all entrepreneurs (i.e., identified as "founder" or "owner") on the funding platform webpages. If no photo of entrepreneurs is available or if the funding platform webpages are not accessible, we used gender and race/ethnicity matching algorithms based on the names of the signatories who signed Form C. Form C guidelines specify that all principal executive/financial/accounting officers, who are most likely key members of the founding teams, sign the form. To identify likely gender, we used the first names and the 'genderize.io' algorithm, discarding probabilities of the selected gender below 0.6. For likely race/ethnicity, we used the surnames and the R 'wru' algorithm, which uses voter registration records to identify the most likely race/ethnicity of a given surname. The algorithm assigns each surname into one of the five racial/ethnicity categories: "Asian," "Black," "Hispanic/Latino," "White," and "Other/Mixed." We removed "Other/Mixed" category, as there are less than 10 individuals who fall under this category. The gender and race/ethnicity in the data are thus "predicted" and may not reflect self-identified gender and race/ethnicity.

24 "Founding team" incorporates businesses with single founders. For instance, a business founded by female would be classified as "All Female" founding team.

25 There is no straightforward method for distinguishing between racial and ethnic minorities. While there are numerous ways to categorize, no classification system is without flaws and limitations. The research team has opted for two racial/ethnic groupings for the following reasons. The first grouping—All White vs. All Non-White vs. Mixed Race/Ethnicity—broadly categorizes teams into majority and minority representation. The categories reflect the reality of the traditional funding landscape, which has predominantly favored White entrepreneurs. Even in the Reg CF space, nearly 80 percent of all entrepreneurs are White, as shown in Figure 11. The second grouping—All Black or Hispanic/Latino vs. All White vs. Black or Hispanic/Latino on Team vs. Other Racial Mix—permits a more detailed examination of specific minority groups particularly underrepresented in the startup funding landscape. Many entrepreneurial programs are designed for Black or Hispanic/Latino groups. Thus, distinguishing "All Black or Hispanic/Latino" from "All Non-White" can underscore the challenges minority founders face with more nuance.

26 https://advocacy.sba.gov/wp-content/uploads/2021/03/Business-Ownership-Demographics-Fact-Sheet.pdf

27 Snellman & Solal, 2023; Younkin & Kuppuswamy, 2018.

28 Chilazi, 2019; Crunchbase, n.d.

29 Bengtsson & Hsu, 2015; Dai et al., 2018; Stuart & Sorenson, 2007.

30 Kolev et al., 2020; Lerchenmueller et al., 2019.

31 Brooks et al., 2014; Kanze et al., 2018.

32 Chang, 2024; Younkin & Kuppuswamy, 2018.

33 Mollick, 2014.

34 Chang, 2024.

35 Not all businesses that had successful offering submitted C-AR filings. One condition to future Reg CF offerings is that all annual reports required to filed in the two years preceding the proposed new Reg CF offering must be filed. However, businesses can still raise funds from accredited investors using Regulation D only. More details on the C-AR reporting requirements can be found in this link: https://www.ecfr.gov/current/title-17/chapter-II/part-227/subpart-B/section-227.202.

36 https://about.crunchbase.com/blog/startup-exit/

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