Tyranny of the Personal Network: The Limits of Arm's Length Fundraising in Venture Capital

Sabrina T. Howell, Dean Parker, and Ting Xu*

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Abstract

The central tension in securities regulation is between protecting investors and enabling broader capital formation. Focusing on VC fund managers, we study the main tools of investor protection in private markets: enforcing relationship-based fundraising and restricting eligible investors. A new policy permitting arm's length public advertising is disproportionately used by traditionally less well-networked, underrepresented fund managers; it also reduces the sensitivity of fundraising to local conditions. However, it has limited take-up because track record matters at arm's length while strong networks matter in relationship financing, and underrepresented managers are more likely to have neither. Arm's length fundraising also requires access to the "crowd" and imposes investor verification costs, inducing negative signaling.

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*Howell: New York University, Stern School of Business & NBER (sabrina.howell@nyu.edu); Parker: New York University, Stern School of Business (dap527@stern.nyu.edu); Xu: Univeristy of Toronto, Rotman School of Management (tingxu.xu@rotman.utoronto.ca). We are grateful to Jennifer Riegel, Sarah Kenyon, Charles F. Glass, Jr., and others for guidance on institutional details. Howell and Parker's work on this project received funding from the U.S. Securities and Exchange Commission Office of the Advocate for Small Business Capital Formation.

> "*The key to closing a first fund is to build credibility through social validation. First-time fund managers started with their first-degree connections, collecting checks from high-trust relationships regardless of check size. From there, they expanded their network through referrals from committed LPs.*"
> – Founders of Weekend Fund (Hoover and Jain, 2022)

Information asymmetry in capital markets forces participants to rely on imperfect signals of quality. One important source is soft information via personal and often local relationship networks. A second source is track records, which represent hard information that can be projected across space to strangers. The perceived inadequacy of these market-based means to overcome information asymmetry leads to the key tension in securities regulation: Protecting investors while enabling broader and inclusive capital formation.

This tension is particularly acute in private capital markets, where there is limited disclosure. U.S. securities regulation has relied on two main tools to protect investors in private markets: (a) enforcing relationship-based fundraising by prohibiting public advertisement (also called "general solicitation"); and (b) restricting the eligible investor base to sophisticated or wealthy individuals and financial institutions. This paper examines how these rules affect private fundraising, and in particular whether they create barriers to entry for underrepresented private fund managers, who tend to have weaker personal networks with which to reach eligible investors.

We are motivated by recent policies in the U.S. and abroad that aim to increase access to the burgeoning private capital markets, either by permitting general solicitation or by expanding the eligible investor base (Kiernan, 2019). The ability to publicly advertise eliminates the need for a personal network, but fundraising at arm's length requires hard information to signal quality, especially evidence of past success. This creates a paradox: There are few individuals with strong track records who did not develop strong personal networks along the way. Furthermore, restricting the investor base introduces a cost to arm's length relationships: investor verification. Paying these costs—admitting an inadequate personal network—may serve as a negative signal. We hypothesize that the opportunity to fundraise at arm's length in private markets will be most valuable for managers with weaker networks, yet may not be widely used or enable inclusive entry because only people with established track records can convey quality at a distance.

We focus on venture capital (VC) fundraising. We are interested in investment funds rather than direct issuers because they have a far larger volume of capital, their managers are even less diverse than portfolio company executives (Wang et al., 2023), and they are relatively understudied. VC managers (i.e., General Partners or GPs) are the gatekeepers determining which innovations move forward and are commercialized in the economy; VC-backed startups are perhaps the most im-

portant source of innovation, productivity growth, and job creation in the post-WWII U.S. (Kortum and Lerner, 2000; Gornall and Strebulaev, 2021).

A prospective VC must obtain capital from Limited Partners (LPs). To avoid registering securities with the SEC (essentially, undergoing the regulatory costs of an IPO), VC managers as well as direct issuers such as startups traditionally use an exemption from registration called Regulation D 506(b). This exemption has in recent years accounted for substantially more fundraising than all public equity and debt offerings combined in the U.S. (Bauguess et al., 2018).[1] It bars issuers from publicly advertising, requiring them to have pre-existing personal relationships with their investors. In other words, the law enforces reliance on personal networks.

While personal networks reduce information asymmetry, they have a "taste-based" dimension, driven by homophily and biases, which may present a barrier to prospective managers from underrepresented backgrounds. Existing research documents that VCs are overwhelmingly White, male, and graduates of elite schools, and that this composition affects which innovations get funded (Ewens and Townsend, 2020; Calder-Wang and Gompers, 2021; Garfinkel et al., 2021; Cassel et al., 2022). Rising concentration of fundraising at a few prestigious VC firms and among a narrow pool of financiers may disadvantage startups that are not in the right location or lack the right connections (Lerner and Nanda, 2020; Ewens, 2023). There is growing interest among government and private stakeholders in how securities regulation may affect entry barriers and the participation of traditionally underrepresented groups in the capital markets.[2]

Seeking to open up private markets, the U.S. Congress legislated a new exemption that took effect in 2013.[3] This addition to Regulation D—506(c)—permitted issuers to publicly advertise. Both 506(b) and (c) require investors to have a certain degree of wealth or financial sophistication through "accreditation" requirements. They differ only in that 506(c) permits public advertising but requires the issuer to take reasonable steps to ensure accreditation. Under 506(b), issuers can take investors at their word. The contrast between 506(b) and (c) goes to the heart of the key tension in securities regulation between protecting investors and enabling broad capital formation.

We construct a novel dataset of U.S. VC funds by linking Pitchbook to funds' regulatory filings in Form D, which allows us to observe their exemption type (i.e., 506(b) or (c)). Essentially all VC

[1] More broadly, between 2012 and 2022, the global growth in private capital was more than 2.5 times larger the growth of public equity and fixed income assets, leading to a total of $14.7 trillion in private capital funds (Schwartz et al., 2024).

[2] For example, one SEC request for comment on Regulation D asked: "Would the proposed changes positively impact access to capital by counterbalancing social network effects for underrepresented founders, such as women, minorities, and entrepreneurs in rural areas?" In Senate Hearing 113-178 "The JOBS Act At a Year and a Half", policy makers state that women and minorities could benefit from crowdfunding/general solicitation. See SEC (2020a), SEC (2020b), SEC (2023), Chang (2024), and 113th Congress (2013).

[3] As an example of Congress' motivation, this letter emphasized that the Senate believed general solicitation "provide opportunities to raise capital from investors that can afford to take risk." (McHenry and Garrett, 2013)

funds use Regulation D, which requires them to file a Form D within 15 days of the first securities sale.[4] The Pitchbook data are supplemented with information collected from managers' LinkedIn pages and with surveys of VCs and lawyers who provide counsel to VC funds. We document that take-up of 506(c) has been relatively low, averaging 8.4% of VC funds across the 10 years since its introduction. In the early years of the policy, take-up was *de minimis*, but has recently accelerated. 506(c) funds tend to be smaller than their 506(b) counterparts. They are also three times more likely to use an intermediary in fundraising, consistent with arm's length relationships.

Our first analysis shows that fund managers who are less likely to have strong personal networks are more likely to use 506(c), conditional on successfully raising a fund. After including state-year fixed effects, which help to control for geographic clustering and macroeconomic shocks, we find that the share of first-time managers is 27% higher in 506(c) funds than in 506(b). The share of female managers is 39% higher and the share of Black or Hispanic managers is 95% higher, relative to the mean. 506(c) fund managers are 8% less likely to have graduated from elite schools than 506(b) managers. They are also 30% more likely to be in a non-top 3 city and 47% more likely to be in a non-top 10 city (in models with only year fixed effects). Variation extends to portfolio company characteristics. 506(c) managers are more likely to fund startups with first-time, female, and non-elite school entrepreneurs. These descriptive results suggest underrepresented managers have weaker personal networks and so make more use of the option to publicly advertise. 506(c) funds if anything perform better than 506(b) funds, pointing away from the differential take-up reflecting adverse selection.

While there is widespread "folk knowledge" that local personal networks matter, we know of little rigorous evidence. We first confirm the importance of personal networks in a survey of fund managers and their lawyers.[5] Among fund managers who have only used 506(b), almost 90% of respondents report sometimes or frequently using their personal network to raise funds. In contrast, 40% of 506(c) users report that they use 506(c) because they lacked a personal network.

We next identify a causal effect. When GPs make use of their local personal networks to raise funds, we expect that they will benefit when their local area experiences a positive wealth shock. There is well-documented home bias among investors in both public and private capital markets as well as the local nature of personal networks (Coval and Moskowitz, 1999; Hochberg and Rauh, 2013; Morkoetter and Schori, 2021; Kuchler and Stroebel, 2021). General solicitation shifts the geography of fundraising from local to national. If 506(c) users exploit public advertising to raise

[4]We focus on funds that appear in Pitchbook, because this is the closest proxy to a universe of legitimate, economically relevant VC funds that have raised a meaningful amount of capital.

[5]We emailed 4,112 VC fund managers and 2,335 lawyers who support VC funds. We obtained responses from 103 unique VC funds and 49 lawyer, representing response rates of 2.5% and 2.1%, respectively. While small, the targeted sample was quite elite and thus likely not to respond. The respondents are reasonably representative of the overall sample.

from outside their local network, local wealth shocks should not affect them. We show that 506(b) fundraising is sensitive to local wealth shocks. In contrast, there is no such relationship for 506(c).

We then explore the implications for underrepresented fund managers. The sensitivity of 506(b) volume to local wealth is significantly higher for male than for female managers, and is higher for White than for Black and Hispanic managers. Meanwhile, there are no sensitivity differentials in 506(c). These results suggest that majority-group managers have better connections with local wealthy individuals. When it is used, general solicitation helps level the playing field and permits managers to escape the limitations of their own geography. Reducing the dependence of private fundraising on local conditions could mitigate geographic concentration and disparities in VC.

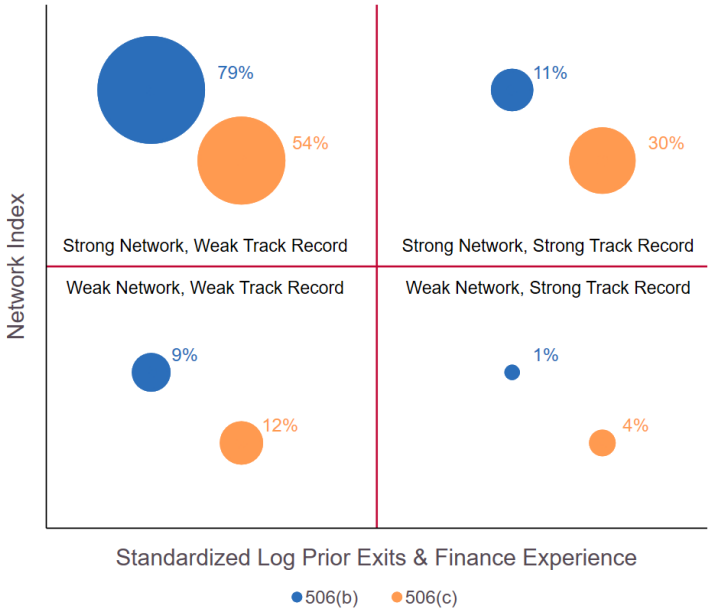
Having established a role for personal networks in our context, we turn to the implications for 506(c) take-up. While the share of underrepresented managers has increased relative to the early 2010s, from a levels perspective, their shares remain far below supply benchmarks. The overall "needle" has not moved much because 506(c) take-up has been low as a share of all Regulation D use and these groups remain underrepresented even within 506(c). For example, the share of Black and Hispanic managers in our overall Regulation D data increased from about 3% in the four years before the policy change in 2013 to about 6% in the five years ending in 2023, far below their 26% share among college graduates. Although we cannot fully rule out supply-side constraints, minority funds do not perform worse than majority funds. These results suggest that minority managers continue to face entry barriers despite the availability of general solicitation, and that their take-up of 506(c) could have been higher without a decline in quality.

The low take-up of 506(c) may seem surprising from a theoretical perspective. All else equal, having the *option* to publicly solicit funding should be weakly better than not. Why don't more fund managers, especially those that are network-constrained, use 506(c)? We identify three non-mutually exclusive mechanisms for low take-up of 506(c): a track record paradox, frictions in accessing the crowd, and investor verification costs. However, it is important to emphasize that there are other barriers facing underrepresented GPs in the entrepreneurial finance ecosystem, such as deal sourcing and discrimination.

The first channel is what we term a "track record paradox." In the absence of soft information via personal relationships, LPs will employ hard information—most importantly, the manager's track record—as a substitute. We expect the use of public advertising in 506(c) to imply more emphasis on a manager's track record, including prior successful exits and finance experience. Yet managers who have accomplished these things have typically also developed a network along the way. In other words, a network and track record are usually coincident. We illustrate this in the diagram below, where the y-axis represents a proxy for how well networked a fund's managers are,

based on demographics and elite school attendance, and the x-axis represents the team's track record, based on prior exits and finance experience. The red lines denote the midpoint of each distribution. The orange bubble size and percent represent the quadrant's share of all 506(c) funds (and similarly for 506(b) in blue).

Joint Distribution of Track Record and Network



Consistent with arm's length financing requiring a track record, the distribution of 506(c) funds is relatively more weighted towards strong track records. We expect that 506(c) will be most helpful in the bottom right quadrant, and indeed it accounts for 33% of funds in that quadrant (vs. 8.4% of all funds). Yet the quadrant is sparsely populated: Few fund managers have a strong track record while lacking a strong personal network. In contrast, those with a strong network but a weak track record—top left—tend to raise through personal relationships using 506(b) (95% of funds in that quadrant). These statistics point to the track record paradox as one explanation for low 506(c) take-up.

We offer further evidence for the track record paradox by testing the sensitivity of fundraising success to track record. For both 506(b) and 506(c) funds, fundraising success (measured as the ratio of actual fund size to targeted amount) significantly increases with a strong track record, yet this sensitivity is three times higher for 506(c) than for 506(b). This supports the idea that 506(c) enables arm's length financing, which in turn requires hard information. We also show that underrepresented managers who use 506(c) tend to have stronger track records relative to both majority 506(c) managers and underrepresented 506(b) managers. The two phenomena of (a) needing to signal quality in arm's length financing; and (b) a co-dependence between personal

networks and a track record together constrain 506(c) take-up by underrepresented managers.

The second challenge is accessing the "crowd." General solicitation is best suited to fundraising beyond one's network from a large number of small-time investors who lack connections to traditional VC funds. Accessing retail investors is especially important for GPs without connections to institutions, family offices, or very wealthy individuals. Indeed, 506(c) funds and underrepresented managers typically have more LPs. Yet this may conflict with a policy tool that regulators use to limit the scope of harm from fraud: A 100-investor cap for each fund. This cap should be especially binding for marginal managers who might use 506(c). We test this using a 2018 policy that raised the investor cap from 100 to 250 for small VC funds. In a difference-in-differences design, we show that the policy caused small funds to increase use of 506(c) relative to larger funds, suggesting the 100-investor cap was binding. The effect is magnified for underrepresented managers. In sum, the investor cap helps to explain low take-up of 506(c) and could be one lever policymakers adjust to increase participation.

A second way that securities law tries to limit the social harm of scams and high-risk investing is to require investors be wealthy or sophisticated. In 506(b), investors could self-certify as meeting accreditation requirements for investing in Regulation D offerings. Since 506(c) would involve more arm's length retail investors, the law required the issuer to take "reasonable steps" to verify accreditation. The available steps are not especially onerous, but they do add some cost to 506(c), which in turn could lead to negative signaling. If high quality GPs tend to have sufficient personal networks and need not pay 506(c)'s transaction costs, a negative signaling equilibrium might emerge in which only those that cannot raise under 506(b) use 506(c). To assess this channel, we return to the survey of fund managers and their lawyers. About 75% of fund managers in our survey identified the time and money required to verify investor's accreditation status as having at least some influence on their decision to use 506(b) rather than (c). About 60% reported that the negative signal of 506(c) had at least some influence. This suggests that verification costs and their accompanying signaling problems can also help explain low take-up of general solicitation.

This paper offers two insights that are broadly relevant to securities regulation and to financial intermediation. First, efforts to protect investors from fraud—for example, by capping investors or installing verification requirements—can come at the expense of higher barriers to entry for issuers. Second, track record matters at arms' length while strong networks matter in relationship financing, so public advertising on its own is only helpful to the small fraction of prospective issuers with a strong track record but weak personal networks.

We contribute to several strands of the literature. The first is economic analysis of securities regulation, which has focused on incentives for disclosure and agency problems (Admati and

Pfleiderer, 2000; La Porta et al., 2006; Zingales, 2009; Jackson and Roe, 2009). Disclosure requirements are associated with financial development and economic growth (Rajan and Zingales, 1998; La Porta et al., 2002; Shleifer and Wolfenzon, 2002; Greenstone et al., 2006; Christensen et al., 2016). However, regulation can also impose burdensome costs and favor special interests (Mahoney, 2003; Chhaochharia and Grinstein, 2007; Mulherin, 2007; Hochberg et al., 2009; Iliev, 2010; Ewens et al., 2024). This literature, however, focuses on public equity, with little work on private capital markets, where information asymmetry is more severe. One exception is Ewens and Farre-Mensa (2020), who study the 1996 deregulation of private capital markets. As policymakers seek to increase access to private markets, our paper informs regulatory design, in particular the trade-off between investor protection and broader capital formation. To our knowledge, this paper is the first to study the implications of securities regulation for diversity in capital markets.

Our paper joins research on arm's length vs. relationship-based financing. The literature emphasizes the benefits of information and monitoring in relationship lending, but also the benefits of ex-ante contracting in arm's length financing (Rajan, 1992; Chemmanur and Fulghieri, 1994). In choosing between private placement and public issuance, firms trade off the costs and benefits of control, privacy, liquidity, capital market depth, and regulatory oversight (Kaplan, 1989; Eckbo et al., 2007; Lim et al., 2021). Private placements are traditionally more optimal when information asymmetry is high; this is clearly the case for startup financing (Cronqvist and Nilsson, 2005), but it has not been studied in the context of the GP-LP relationship.

General solicitation in fundraising is related to but distinct from the rise of marketplace financing, or "crowdfunding."[6] While general solicitation is a necessary condition for crowdfunding, it encompasses a much broader range, including, for example, simply announcing to a small gathering of institutional investors that one is fundraising. The literature on crowdfunding, such as Agrawal et al. (2015) and Xu (2018), has not addressed financial intermediaries raising capital. Nevertheless, our findings are relevant for designing policies for marketplace financing.

We also contribute to research on the importance of personal networks and location in VC fundraising (Hochberg et al., 2007, 2010; Chen et al., 2010), which has not focused on implications for underrepresented managers. The extensive literature on startup investing shows that investment in startups relies on personal trust, face-to-face due diligence, and reputation (Bernstein et al., 2016; Hu and Ma, 2021). Less is known about the GP-LP relationship; exceptions include Goyal et al. (2021), Abuzov et al. (2022), and Goyal et al. (2023), who find mixed evidence that personal networks and privacy matter. Geographical distance plays a central role in a wide range of investment markets (Van Nieuwerburgh and Veldkamp, 2009). However, it is especially central to understanding the

[6]Work on information problems in crowdfunding and marketplace lending include Agrawal et al. (2015), Iyer et al. (2016), Hildebrand et al. (2017), Balyuk and Davydenko (2019), and Vallee and Zeng (2019).

dynamics of startup investing. A long literature documents that startups and their investors tend to be co-located (Sorenson and Stuart, 2001), and Hochberg and Rauh (2013) document home-state bias among pension fund LPs. There is relatively little work on how the GP location and fundraising method matters for geographic diversity. More broadly, research has focused mostly on information frictions between startups and VCs, with less work on such frictions between GPs and LPs.[7]

There is growing attention to diversity in private capital markets (Gompers and Wang, 2017; Ewens, 2023). Much of this work has focused on minority- and women-owned small businesses and startups, and has shown that they face greater challenges raising both debt and equity capital (Howell and Nanda, 2019; Ewens and Townsend, 2020; Fairlie et al., 2022; Cook et al., 2022; Hebert, 2023; Howell et al., 2024). Gompers et al. (2016) show that VCs who share affinity characteristics in terms of school, ethnicity, and gender are more likely to syndicate together on deals, yet this leads to worse performance due to poor post-investment decision-making. Related to our paper, Cassel et al. (2022) show that Black and Hispanic fund managers struggle to enter the private fund market. We consider a broader set of emerging and underrepresented managers as proxies for being relatively less well-networked and address the role of securities regulation in improving diversity in the private fund market.

1 Regulatory Background and Economic Context

Information asymmetry creates regulatory pressure to protect investors from fraud and conflicts of interest, for example between sales intermediaries and their clients (Bolton et al., 2007; Bergstresser et al., 2008; Inderst and Ottaviani, 2009). U.S. securities laws have long struggled with the need to balance protecting retail investors with supporting capital formation. On the one hand, giving retail investors access to a wider scope of opportunities may expose them to deception or excessive risks. On the other hand, the ability to make investments in risky enterprises or alternative assets is both core to the U.S. economic engine and an important source of wealth creation, especially since the U.S. tax structure favors capital gains. In this section, we describe the regulatory infrastructure that has grown over time in face of this trade-off.

Securities regulation in the U.S. primarily takes the form of mandating disclosure of material information, especially of financial positions. It is widely believed that left to their own devices, issuers will suboptimally disclose and deception-plagued markets will be illiquid and inefficient

[7]For example, Howell (2020) show how venture competitions mitigate information frictions between startups and investors. Sørensen (2007) shows that experienced VCs tend to fund higher quality companies in part because of selection. Bernstein et al. (2017) study what information about startups matters to angel investors. Notable exceptions are Cain et al. (2020), who study intermediation by placement agents in PE fundraising, and Colonnelli et al. (2024) who study the role government affiliation in GP-LP matching.

(Admati and Pfleiderer, 2000). Securities regulation helps to resolve commitment, agency, self-dealing, and other problems that arise naturally in the private market (Zingales, 2009). Requiring substantial disclosure, alongside other private and public enforcement regimes, has been shown to be central to the success of U.S. capital markets, which in turn is tied to financial development and economic growth (Rajan and Zingales, 1998; Reese Jr and Weisbach, 2002; La Porta et al., 2002; Shleifer and Wolfenzon, 2002; La Porta et al., 2006; Jackson and Roe, 2009; Christensen et al., 2016). Most empirical literature finds positive effects of mandatory disclosure, such as Greenstone et al. (2006) and Christensen et al. (2016).

However, these same regulations can also create burdensome costs for issuers, a point emphasized following new disclosure mandates in the 2002 Sarbanes-Oxley Act (Chhaochharia and Grinstein, 2007; Doidge et al., 2009; Hochberg et al., 2009; Iliev, 2010; Ewens et al., 2024). A dimmer view of securities regulation—going back to Stigler (1964)—emphasizes the costs and special interests that are often behind particular rules (Posner, 1974; Easterbrook and Fischel, 1984; Mulherin, 2007). For example, Mahoney (2003) explores the origins of state blue-sky laws, the earliest form of securities regulation in the U.S., and shows that they were primarily motivated by small banks which sought to erect barriers to competition.

Context for Regulation D. The longstanding compromise in private capital markets—codified in the Securities Act of 1933—has been to require that any offer or sale of a security must either be registered with the SEC or rely on an exemption.[8] Registering securities involves a large amount of regular disclosure, obligations to investors, and legal costs. Private capital markets, by definition, avoid this disclosure and its accompanying costs by relying on various exemptions. The relevant exemption from the 1933 Act is Section 4(a)(2), which allows issuers to conduct small, non-public offerings.[9] The law does not define these terms, which initially left private placements using this exemption to rely on convoluted suggestions from case law. To address the regulatory uncertainty and encourage small business capital formation, the SEC adopted Regulation D in 1982.[10]

The Baseline Exemption under Regulation D: Rule 506(b). Regulation D's key element is paragraph (or Rule) 506(b), which offers a "safe harbor" under Section 4(a)(2) for private securities to be sold with no limit on the offering amount or the number of investors, so long as three conditions

[8] While there is some debate about the scope of "security", for our purposes selling ownership in a VC fund certainly qualifies.

[9] VC funds also comply with the Investment Company Act of 1940 either by registering as investment advisors or, more commonly, by making use of the Act's exemptions 3(c)(1) or 3(c)(7), which are carveouts for VC and PE funds that exempt them if they meet certain conditions.

[10] SEC Adoption of final rules, rule amendments, and form, and rescission of rules and forms: Revision of Certain Exemptions from Registration for Transactions Involving Limited Offers and Sales, Release No. 33-6389, 47 FR 11251, March 16, 1982.

are met. First, there can be no general solicitation (i.e., public advertising, which we discuss further below). Second, resale of the securities is restricted. Unlike registered equity such as publicly traded stocks, an investor cannot easily resell securities purchased under the Form D exemption.[11] Third, there is a restriction on who may invest. Limiting eligible investors departs from most securities regulation in the U.S., which seeks to protect investors by mandating disclosure. It stems from a Supreme Court interpretation of the law decreeing that investors who can "fend for themselves" do not need the protection of mandated disclosure through registered securities.[12] The SEC rules therefore restrict exempt offerings to:

> "certain sophisticated or 'accredited' investors that are presumed to possess sufficient financial sophistication and ability to sustain the risk of loss of their investment or to fend for themselves to render the protections of the Securities Act's registration process unnecessary" (SEC, 2019).

In an offering that is exempt under 506(b), investors must be accredited (except for a maximum of 35 unaccredited investors). Accredited investors must satisfy one of the following: (a) individuals with income of at least $200,000 or joint marital income of at least $300,000 in each of the last two years who reasonably expect to meet this income threshold in the current year; (b) individuals with net a worth of at least $1 million outside their primary residence; or (c) institutions with at least $5 million in assets. The thresholds for individual accreditation are not especially high. According to one estimate using data from the Federal Reserve's Survey of Consumer Finances, in 2023 about 15% of Americans were eligible, or about 20 million people, a 40% increase from a similar exercise four years earlier and double the 2013 number.[13] Investors may self-certify that they meet accreditation standards. If they falsely self-certify, the issuer is not liable.

In 1996, Regulation D became applicable to state laws, allowing issuers to file a single form in order to comply with federal and any state securities regulations (i.e., blue sky laws) (Ewens and Farre-Mensa, 2020).[14] Once exemption under Regulation D preempted state securities laws, it became the dominant exemption. Regulation D requires that issuers file a Form D with the SEC within two weeks of completing the the offering (Rule 503). The Form D is not a disclosure document. It notifies the SEC that the offering is occurring, who is conducting it for what general purpose (e.g., to raise a VC fund), and when. It also requires them to furnish investors with some

[11] Resale is governed by Rule 144, which requires among other things that resale has to meet certain requirements such as volume limitations and a minimum holding period.

[12] SEC v. Ralston Purina; 346 U.S. 119 (1953)

[13] See PK (2023).

[14] The 1996 change was part of the National Securities Markets Improvement Act (NSMIA), which also created a new category of private funds under Section 3(c)7 of the Investment Company Act that may exceed the 100-investor limit if all investors are "qualified purchasers" (natural persons who own at least $5 million in investments or institutions that own at least $25 million). See Appendix A.2 for details.

sort of disclosure through a private placement memorandum, but this is not audited by the SEC and is typically far less comprehensive than for a registered offering. Issuers do not always comply with the requirement to file a Form D, since the Form Ds are publicly available. This comes with some risk, however, as Rule 507 (in its modern form) threatens that issuers who fail to file Form D will lose their Regulation D rights in the future.[15]

Regulation D is today the basis for the enormous private capital industry; the asset classes of PE, VC, real estate, and hedge funds rely on it, as do many large companies, startups, and small businesses.[16] In order to raise a fund from U.S. investors that does not rely on Regulation D, the manager and her investors must typically all reside in the same state, in which case they can comply only with that state's securities laws (a Section 3(a)(11) offering). Because of the onerous costs of complying with state securities laws and restriction on fundraising locations, the vast majority of VC funds choose Regulation D. The amount raised through Regulation D offerings substantially exceeds combined U.S. public equity and debt offerings (Bauguess et al., 2018). The disparity between public and private markets has grown over time, as public equity fundraising has modestly declined and public debt has not grown as fast as private capital. Moreover, nearly all Regulation D capital is raised by investment vehicles such as VC, PE, and hedge funds. For example, investment vehicles raised $1.7 trillion in 2017, compared to $105 billion for non-financial issuers (Bauguess et al., 2018).

Allowing General Solicitation: Rule 506(c). The focus of this paper is an amendment to Rule 506 that allowed issuers to generally solicit their offering (i.e., publicly advertise). General solicitation includes activities such as posting on a public website, making a statement at an event where strangers are present, or reaching out to someone with whom the manager does not already have a personal relationship. To avoid generally soliciting, a manager must have a pre-existing, substantive relationship with the prospective investor. Therefore, 506(b) requires pre-existing personal networks, and is likely to entrench well-networked incumbents, creating a barrier to emerging and less well-networked types of managers.

The JOBS Act of 2012 created Rule 506(c) precisely in order to reduce this incumbency benefit and expand capital formation to support more small businesses. (SEC, 2013; Zeidel, 2016) Other than general solicitation, Congress made the new exemption the same as 506(b) except for

[15] See CFR (1989)

[16] There are several exemptions besides Regulation D, but they exclude investment companies, and therefore are not relevant to VC funds. For example, both Rule 504 under Section 3(b) of the Securities Act as well as Regulation A allow companies to raise up to $10 million and $50 million, respectively, within a 12-month period if they meet certain requirements, which include not being an investment company. Another is Regulation S for offerings outside the U.S. A third is 3(a)(11), which requires all issuers and investors to be in the same state and to comply with that state's securities laws. The JOBS Act also created Regulation Crowdfunding, effective starting in May 2016, which allows non-investment companies to raise up to $5 million through an SEC-registered crowdfunding intermediary.

two restrictions. First, issuers could only raise from accredited investors, while 506(b) permits a maximum of 35 unaccredited investors. Second, issuers using 506(c) would need to "take reasonable steps to verify that purchasers of the securities are accredited investors, using such methods as determined by the Commission." (112th Congress, 2012) This contrasts with the ability to self-certify under the ongoing 506(b).

Based on this legislation, the SEC developed Rule 506(c). It was effective on September 23, 2013, at which point the pre-existing exemption that had been termed 506 became 506(b). The full text of Rule 506 is in Appendix A.1. The additional verification burden imposed by 506(c) on issuers is not *prima facie* very high (Harrison, 2022). The issuer need not represent that the investor is actually accredited. If the investor turns out not to be, any test would focus on whether the issuer's verification passed the "reasonable steps" standard.[17] The SEC offers a list of "reasonable steps", which can take the form of one of their "safe harbors" or reflect a "principles-based" method. The safe harbors for verifying income or net worth can rely on written confirmation from a broker-dealer, investment adviser, licensed attorney, certified public accountant, investor in a prior 506(b) offering, or previously verified investor. (SEC, 2013) For example, if the manager obtains an email from a previously verified investor that confirms a new investor is wealthy enough to be accredited, the manager is in the clear from a legal perspective. The "principles-based" method is vague, but can range from inferences about wealth based on past personal interactions to asking for tax filings.

2 Data Sources

In this section, we describe the core data and variables used in this paper. Other more ancillary sources are introduced where they are used in analysis.

Form D Data. All Regulation D filings (Form D) from 2008 are publicly available.[18] We obtained filings under the 506(b) and (c) exemptions in which the filer has identified themselves as a Venture Capital fund, which is one option within the pooled investment fund category. We drop amendments, retaining only initial filings. This leaves a dataset of about 37,000 Regulation D filings between 2008 and 2022.

Fund Data. To capture the universe of legitimate angel and VC funds, we restrict analysis to Form D funds that we can match to Pitchbook or AngelList. This is also practically necessary since Form D contains very little about the fund or its managers. Pitchbook is the leading commercial

[17] See CDI 260.06 here: `https://www.sec.gov/corpfin/securities-act-rules`

[18] They can be accessed here: `https://www.sec.gov/dera/data/form-d`

provider of data on private capital markets, and we believe it offers the most comprehensive venture universe, including funds that raise from individual investors. Indeed, existing on Pitchbook is an important credibility signal for future fundraising and deal sourcing. This incentivizes fund managers to report basic information.

In Table A.1 we describe the matching process. We are able to match 9,005 unique funds to Pitchbook's VC universe, which includes angel funds, venture general, venture early stage, and venture later stage. Nearly all the unmatched filings are in various categories that make them irrelevant to our analysis, such as those matching other PB deal types, duplicate funds, funds that are not based in the U.S., or REITs. After excluding these, as shown in Table A.1, there are 4,862 funds that we do not match, most of which likely have not successfully raised funding. Below, we test whether underrepresented groups are more prevalent in these unmatched funds.

We collect from Pitchbook information on fund characteristics, LPs, and managers. For a subset of the funds, Pitchbook provides returns data in the form of Internal Rate of Return (IRR) and Total Value to Paid-In (TVPI, or multiple). We also collect information about portfolio company characteristics, which we aggregate to the fund level. For rolling funds, we manually identify fund managers, their demographics, and fund location from their AngelList page or the fund website. This collection results in more limited data compared to Pitchbook. We also identify the top five industries and top ten cities across all portfolio companies in our data.[19] Summary statistics, discussed in more detail below, are presented in Table 1.

Demographic Variables. We are interested in proxies for being less well-networked and traditionally underrepresented. We focus on gender, race, education, and being a first-time fund manager. To identify gender, we use the first name and the publicly available Gender package in R. To identify education, we use data from Pitchbook and LinkedIn.[20] To identify race, we take multiple steps. First, we use surname distributions to identify Hispanic and East Asian managers. Second, we use LinkedIn pictures to identify Black managers, since surname and geography-based algorithms perform especially poorly in this group (Greenwald et al., 2024).[21]

[19]The industries are Software, Commercial Services, Pharma and Biotech, Media, and Healthcare Tech. The cities are San Francisco, New York City, Boston, Los Angeles, Chicago, Austin, Denver, Seattle, DC, and Atlanta (Table A.2).

[20]Further, we identify if a manager attended one of the following 10 "elite" universities at any point: University of California, Berkeley, University of Chicago, Columbia University, Cornell University, Harvard University, University of Michigan, New York University, University of Pennsylvania, Stanford University, Yale University.

[21]An American handcoded each picture as Black or not Black. For portfolio company leadership, we only use gender as there were too many individuals to handcode pictures.

3 Diversity & Personal Networks in Take-up of General Solicitation

In this section, we examine take-up of general solicitation—i.e., 506(c)—in private fundraising and how it relates to measures of diversity and strength of personal networks. The key message is that take-up has been low but is higher among managers who are likely to have weaker personal networks.

Take-up of General Solicitation The first stylized fact we present is that use of the 506(c) exemption is relatively low, and the pre-existing 506(b) has remained the overwhelmingly dominant exemption for VC funds. This is somewhat surprising, since one might expect that the option to publicly advertise—which includes, for example, the ability to mention fundraising at a conference—ought to be valuable, and a careful reading of the rule suggests that the additional investor verification requirement need not be very costly. Between the policy's effective date in late 2013 and the end of 2023, 506(c) has accounted for 8.4% of all VC funds in our sample in terms of count, and 11% weighted by fund size (Table 1 Panel A; note the dollar values in this panel sum across all filings in each category).[22]

This paper focuses on VC fundraising, but it is notable that 506(c) has also not achieved widespread use among direct issuers either. In Figure A.3, we show that the share of 506(c) among companies in the Regulation D data matched to VC-backed startups on Pitchbook is about 6%, even lower than the overall share among funds. We also show the share for all non-investment companies (which includes many non-operating vehicles and real estate entities) is about 10%.

The top chart in Figure 1 highlights how the overall VC industry has grown dramatically as an asset class since the Financial Crisis. It also shows that in the first few years following the introduction of 506(c), there was little take-up (Panel A), with the share at about 5% on a count basis and around 2% on a volume-weighted basis (Panel B). During the Covid-19 pandemic, the 506(c) share expanded substantially, and remained elevated amid the broader market downturn in 2023. Over the past five years, 506(c) has accounted for a little over 9% of funds on a count basis and about 14% on a volume-weighted basis. In sum, 506(c) has not yet made significant inroads into the VC industry. This is one motivation for the analyses in the remainder of this paper.

Fund Characteristics We next explore how 506(c) funds are differentiated in terms of size, returns, and LPs, among other characteristics. Figure A.2 shows that 506(b) funds tend to be larger than 506(c) funds, both over time (using median fund size in each year, Panel A) and across

[22]Fund size is from Pitchbook. In Table A.4 we show that this pattern also holds in the complete Regulation D VC universe, not only in the Pitchbook-matched sample. Similarly, Figure A.1 shows that the number of total VC funds in Pitchbook (including those not matched to Regulation D filings) track our matched set (Panel A), and the 506(c) share dynamics in the full Regulation D data are similar to the matched set (Panel B).

the distribution (Panel B).[23] The median 506(b) fund size in our sample is almost $30 million, compared to $8.7 million for 506(c) funds (Table 1 Panel B). The mean fund size is similar for 506(c) and (b), consistent with 506(c) funds having a fatter right tail in size.

The VC industry is sensitive to macroeconomic trends and clusters in a small set of cities. To study take-up of 506(c) after partially controlling for these factors, we use regressions that condition on state-year fixed effects (for geographic outcomes, we condition on year fixed effects only). The first set of results are in Table 2. Column 1 of Panel A shows that with these controls, 506(c) funds are about 49% smaller.[24] 506(c) funds are 47% more likely to be outside a top-10 city, and 30% more likely to be outside the top-3 hub cities (i.e., SF, NYC, Boston) (Columns 2 and 3). Figure 2 presents the overall geographic distribution of the matched funds in our sample. Larger circles indicate higher volumes while darker blue indicates higher 506(c) share. As expected, offerings under both exemptions are generally concentrated in the major hubs. However, 506(c) exhibits some exceptions, such as a few locations in the Midwest, Deep South, as well as Manchester, New Hampshire, where the large 506(c) issuer Alumni Ventures is located.[25].

We further observe in Table 2 Panel A that 506(c) funds are 36% more likely to be a VC firm's first fund (Column 4). They are more than three times more likely to use an intermediary in fundraising (Column 5), consistent with arm's length relationship. 506(c) funds are also more likely to have a DEI objective (i.e., investing in women and minority-owned businesses), as well as an ESG objective (Columns 6 and 7). Their investor base is also different. Pension funds are the traditional stalwart source of capital for the VC industry, and typically raising large funds depends on some institutional LPs. Within the subset of Pitchbook funds with LP information, 506(c) funds have 14% more non-pension LPs and 88% more individual LPs (Columns 8-9).

We observe financial returns for a subset of the VC funds. Figure 3 shows that using both IRR and TVPI, the distribution of returns in 506(c) funds is right-shifted. Table 2 Panel B finds that 506(c) funds are significantly more likely to be top-quartile, using both IRR and TVPI (Columns 3-4). These facts suggest that 506(c) funds tend to perform better. Reflecting the skewed nature of returns in the industry, we do not see a significant effect using continuous measures, both in Columns 1-2 and in the raw data in Table 1.

[23] We use Pitchbook data to measure fund size. In practice, the raised amounts in Form D filings are almost always lower than those in Pitchbook, because the former reflect the amount raised as of the filing, rather than final fund size. This suggests that using Form D filings to summarize private capital raising (e.g., Bauguess et al. (2018)) may suffer from downward bias.

[24] As the outcome is logged, this percent change represents $e^{-0.68}$.

[25] Alumni Ventures uses 506(c) to raise from many small retail investors—alumni of elite schools

Fund Manager Demographics We consider a set of manager characteristics that we expect to be associated with underrepresentation and relatively lower access to traditional LPs via personal networks: whether the manager is a woman, is Black or Hispanic, has an elite school education, and is raising their first fund. We are motivated by existing literature. For example, Gompers and Wang (2017) document that women compose less than 9% of VCs active between 2010 and 2015, contrasting with their almost even share in the overall labor force and 34% share among investment bankers. Black and Hispanic managers are also highly underrepresented, at 1% and 2% of GPs during the same period, respectively, with each group accounting for more than 10% of the overall labor force. Lerner and Nanda (2020) show that among top VC GPs, 91% are men and 75% attended an Ivy League+ school.

To identify a fund as being managed by individuals from a particular group, we use the majority so that statistics are not contaminated by big funds. For example, we define a fund as "Male" if the GPs are majority male. In the raw data, we see a significant difference for Black and Hispanic and elite school fund managers, though all the groups that we expect to be less well-networked have higher means in 506(c) (Table 1). Tables A.9 to A.12 compare the networked and non-networked groups sequentially using the same format as Table 1. We find that female and Black/Hispanic funds tend to be smaller and have a weaker track record, relative to their counterpart groups. They are also more likely to raise from non-pension or individual LPs, suggesting a greater reliance on the "crowd." Finally, female and Black/Hispanic funds are more likely to have DEI impact targets, and tend to invest in a more diverse set of portfolio companies in terms of industry (less likely to be in top-5 industries), location (less likely to be local), and leadership (more female and first-time CEOs).

In the regression models, there are more striking results. In Table 3, we use two types of outcome variables: continuous share of the fund team (Panel A) and an indicator for the majority of the fund team having a certain characteristic (Panel B). The estimates show that 506(c) funds have a 5.7 p.p. higher share of female managers and a 5.8 p.p. higher share of minority (i.e. Black or Hispanic) managers, representing 39% and 95% of their respective means (Panel A Columns 1-2). 506(c) funds also have a lower share of managers from elite schools (8% of mean) and first-time managers (27% of mean). These results persists using the majority indicator (Panel B). Notably, the estimates for Black managers are very large, at more than 200% of the mean in both panels (Column 3). These results are not driven by angel funds, as they are similar when angel funds are excluded (Appendix Table A.6).

Recall that there are funds in the Regulation D data that we are not able to match to Pitchbook or rule out as irrelevant to VC. While we think Pitchbook captures the universe of meaningful VC and plays an important certification role in the industry, we test whether underrepresented groups

are more prevalent in the unmatched funds. Table A.3 shows that the female share of related individuals (usually the fund partners) in the unmatched funds is actually smaller than in the matched funds. While we cannot do this for race as we do not have the LinkedIn websites for these unmatched individuals, the result for gender offers comforting evidence that unmatched funds are not a reservoir of underrepresented managers.

Portfolio Companies The differences in take-up extend to portfolio company characteristics. Table 4 shows that 506(c) funds are 11% more likely to fund startups outside the top industries (Column 1). They are 16% more likely to invest outside of their own city and 7% more likely to invest outside their own state (Columns 2-3). Startups invested by 506(c) funds are more likely to have first-time or female entrepreneurs (columns 5-6) (we did not collect race for portfolio company leaders). Finally, 506(c) funds are also more likely to meet their portfolio companies through the latter's general solicitation (column 4). These relationships also appear in the raw means shown at the bottom of Table 1. These results suggest that general solicitation may have implications for real outcomes, potentially making capital deployment more inclusive.

4 How Arm's Length Fundraising Reduces Reliance on Place and Networks

We have thus far shown that fund managers whose geographic location and demographic characteristics are associated with weaker personal networks are more likely to use general solicitation. This suggests that a shift to arm's length fundraising—which is by construction what 506(c) enables—should enable prospective managers to escape the confines of their local resources and especially their local personal network of wealthy investors. In this section, we first provide causal evidence that conventional VC fundraising responds to local wealth shocks while 506(c) fundraising does not, and show that local wealth benefits groups we expect to have stronger personal networks. Second, we directly survey fund managers about their personal networks. These two approaches complement each other in that the first is causal but indirect, while the second is direct but not causal.

The Role of Local Networks. A large literature has shown that personal networks tend to be local (Granovetter, 2018; Small and Adler, 2019; Kuchler and Stroebel, 2021). Geographic proximity facilitates soft information production that helps overcome information asymmetry, especially in financial contracting and VC.[26] In the Pitchbook data, which has poor coverage of individual LPs,

[26]See Sorenson (2005); Gertler and Levitte (2005); Agarwal and Hauswald (2010); Chen et al. (2010); Knyazeva and Knyazeva (2012); Bellucci et al. (2013); Hollander and Verriest (2016).

48% of funds have at least one LP in the same state, and 21% in the same city. Gocmen et al. (2024) show that, in VC and PE, high-net worth individual investors are much more likely to invest locally than institutional investors. Private fundraising activities may thus be particularly sensitive to local wealth shocks. Such local sensitivity could contribute to regional inequality and geography clustering of wealth. General solicitation has the potential to change this by making it easier to raise funds from LPs nationwide, reducing the need to rely on a local wealthy network. We expect that sensitivity to local conditions is stronger for relatively better-networked managers.

To test this hypothesis, we proxy for local wealth shocks using the interaction of local dividend share and lagged stock returns, following Crane et al. (2024). We focus on stock wealth because it is the key large, liquid, and risky asset for most accredited investors. In the 2022 Survey of Consumer Finances, 56 percent of families in the top decile of net worth owned stocks, with the median family in the top decile holding $309,000 in stock accounts (Board of Governors, 2023). Relative to housing wealth, stock wealth can be more easily deployed for private fund investment. Stocks are also more volatile than other assets, such as bonds, money market funds, or bank savings. Note that local stock wealth shocks affect not just the wealth of individual LPs, but also that of local family offices and pensions whose funding is often from local households.

For the period from 2010 to 2022, we obtain county-level local dividend shares from the IRS and quarterly stock returns from the S&P 500 index. For counties with at least one wage earner in a given year, we calculate the sum of dividends, qualified dividends, and capital gains as a fraction of the adjusted gross income (AGI) of residents of the county.[27] This ratio, Local Dividend Share$_{c,q-1}$, proxies for local stock market participation. It is mapped in Figure A.4. We estimate the following model at the county-quarter level:

$$\begin{aligned}\Delta\text{Fundraising}_{c,q-1\to q} = \alpha_c + \beta_q + \theta \times \text{Local Dividend Share}_{c,q-1} \times \text{Stock Return}_{q-1} \\ + \delta \times \text{Local Dividend Share}_{c,q-1} + \epsilon_{c,q}.\end{aligned} \tag{1}$$

Here, α_c represents county fixed effects and β_q year-quarter fixed effects. The dependent variable is the change in log number of 506(b) or 506(c) funds in a county-quarter relative to the previous quarter (i.e., log growth rate). The independent variables are lagged by one quarter.

The results are in Table 5, Panel A. For brevity, we label *Local Dividend Share* × *Stock Return* as *Local Wealth Shock*. We find that positive local wealth shocks significantly increase the local volume of 506(b) funds. A one standard deviation higher local wealth shock increases 506(b) volume growth by 1.7 pp (column 1), which is large compared with the mean growth rate of 0.15pp. In contrast, the impact is reversed for 506(c) funds: a one standard deviation higher local wealth shock

[27]For missing county-years, we back-fill and forward-fill using the nearest non-missing observation, as the ratios are stable temporally (specifically, they have an autocorrelation of 0.89).

decreases 506(c) volume growth by 0.6 pp (column 2). This offers evidence that 506(b) fundraising is highly dependent on relationships with a local wealthy network, while 506(c) fundraising is more arms length and thus less so, and indeed the negative result even suggests some substitution between 506(b) and (c) depending on local wealth. Indeed, a one standard deviation increase in local wealth reduces the 506(c) share by 11% relative to the mean (column 3). These results imply that general solicitation may have the potential to reduce the importance of local conditions for fundraising, thereby reducing regional fundraising disparities.

We next show that the sensitivity varies with fund manager demographics. The results are in Panel B of Table 5. shows that, for traditional 506(b) funds, male and White fund managers benefit more from local wealth increases than female or Black/Hispanic mangers (columns 1-4). We first consider gender in columns 1-2; here, "Male" in the column header indicates funds whose team is majority male. The 506(b) fundraising sensitivity to local wealth is 3.6 times higher for male funds than female funds, with the latter being near-zero. The difference between the two coefficients is statistically significant, as shown in the p-value below the two columns. We see a more dramatic difference for race, where the sensitivity is high for White funds but zero for Black/Hispanic funds, a difference that is significant at the 1% level. These results are consistent with the majority groups having stronger local networks when raising through 506(b). Last, in columns 5-6, we show that non-elite school 506(b) managers are more sensitive to local wealth shocks than those from elite schools, suggesting that elite school-educated managers have broader, less local networks. Arm's length fundraising through 506(c) eliminates the sensitivity and the gaps across groups, which is shown in columns 7-12. In a robustness test, we obtain similar results after omitting funds for which we do not observe any individuals LPs (Table A.15).[28]

Overall, these results suggest that underrepresented groups benefit less from local wealth and that general solicitation helps to level the playing field, to the degree that it is used. General solicitation could, therefore, reduce the geographic concentration of private capital, spreading out the benefits of the asset class across space. To the degree that general solicitation can help fund managers escape the limitations of their own geography, it may lower entry barriers for underrepresented fund managers from non-hub areas.

Survey Evidence Personal networks are one explanation for the differential sensitivity to local wealth shocks. There are others, however, such as financial constraints of the managers themselves. To gather direct evidence and to help understand 506(c) take-up more broadly, we conducted two

[28]Our results cannot be explained by local wealth shocks increasing deal supply by relaxing entrepreneurs' financial constraint and increasing their entry. This is because such supply side results should manifest with a few years delay, rather than at the next quarter. The typical firm age at Series A is 1.5-3 years. There is also a delay from VC fundraising to capital deployment to portfolio firms.

surveys. The first targets VC fund managers who appear in our sample (the complete survey is in Appendix B.1). After a common first page, the survey branches to ask different questions depending on whether the respondent indicated that their funds have used 506(b), (c), or both. We asked 506(b)-only users to explain why they did not use 506(c) in an open-ended question and then using nine non-mutually exclusive possible reasons. We also asked them how they sourced investors and to provide their opinion about a series of statements concerning 506(c). We asked 506(c) users some of the same questions, but further explored the geographies they targeted and who handled verification.

The second survey was targeted at lawyers who support VC funds (Appendix B.2). Many funds rely on lawyers to determine which exemption to use; indeed, some managers told us that they did not know which exemption they used and advised us to ask their counsel. In addition to being experts in securities law, lawyers usually work for many VC firms and thus have a broader understanding of the market. We asked lawyers the same opinion question as the fund managers (question 2). We also asked them about what kinds of funds 506(c) is appropriate for and whether 506(c) requires more work (i.e. billable hours) than 506(b).

We sent 4,112 emails to VC fund managers that did not bounce, and obtained responses from 103 unique funds, for a response rate of 2.5%.[29] Similarly, we sent 2,335 emails to lawyers that did not bounce, and obtained 49 responses, for a response rate of 2.1%. As we did not wish to unduly spam, we sent no reminders. Therefore, these response rates are reasonable relative to existing survey literature where much more effort was made to obtain responses (e.g., Graham and Harvey (2001) at 8.9% for CFOs, and Da Rin and Phalippou (2017) at 13.8% for LPs). Table A.16 compares survey respondents to the overall emailed sample, and shows that fund manager respondents are equally likely to be female, more likely to come from elite universities, and tend to have smaller funds (though the difference is driven by outlier large funds in the larger sample). The lawyer respondents come from largely the same set of top law firms as the overall emailed sample.

We ask users of 506(b) how they source LP investors. The answer is through personal networks; Figure 6 Panel A shows that almost 90% of respondents report sometimes or frequently using their personal network to raise funds, and over 80% report that investors in their previous funds are a source. In contrast, Figure 6 Panel B shows that 40% of managers report frequently or sometimes using 506(c) because they lacked a personal network, and 55% have some network but are using 506(c) to find new investors.. This suggests that personal networks are generally crucial to private fundraising, but that 506(c) is serving an important role for managers who lack or seek to expand their network.

[29]The emails were sent by Sabrina Howell and are shown in Appendix B.3. This survey did not require IRB approval because it was directed at funds and firms.

5 Has General Solicitation Moved the Needle?

Thus far, we have discussed how 506(c)—by enabling arm's length fundraising—leads to differential take-up and lower dependence on local investor networks. However, it is unclear whether these cross-sectional results matter in the aggregate. A key policy objective of securities regulations is to enable broad and inclusive capital formation. To what extent has general solicitation achieved this? In this section, we evaluate whether the introduction of general solicitation has moved the needle for private funds in the dimensions of demographic and geographic diversity.

Demographics Our results so far indicate that general solicitation has been disproportionately used by underrepresented managers. To what extent has general solicitation improved entry by underrepresented managers since its introduction in 2013? Figure 4 shows how the shares of managers in different demographic categories have changed since the start of our data in 2009. When viewed as a percent change relative to 2009, there has been substantial growth in all categories, with for example the Black/Hispanic share rising 60%, and the female share rising about 100% (Panel A). The non-elite school share also increased by 50% from 2009. While the data do not permit an event study with causal interpretation, it is clear that this growth began mainly after the implementation of 506(c) in late 2013.

When viewed as levels in Figure 4 Panel B, however, we see that 506(c) has not enabled significant entry of new managers and the disproportionate use of 506(c) by traditionally underrepresented groups is not meaningfully contributing to a shift toward parity. For example, while Black/Hispanic fund managers have increased from 0.4% in 2009 to 9% in the two years of 2022 and 2023, this is still far from their 26% share among college graduates in recent years (indicated by the horizontal line), or their share among MBA graduates (18%). As a share of all VC fund managers, 506(c) Black/Hispanic managers were just 0.1% during 2022-23. Similarly, female managers have increased from 9% in 2009 to 19% in 2022/2023, yet the female share among recent college and MBA graduates is 58% and 43%, respectively. Non-elite school managers have increased from 40% to 60%, while 96% of recent college graduates are from non-elite schools.[30]

We do not observe the pipeline of individuals who would wish to become VCs but do not successfully raise a fund, but these results point to remaining entry barriers for underrepresented managers. Consistent with this, we do not see that fund returns for these groups lags that of their majority counterparts, which is what we would expect if supply were the explanation (Tables

[30]Black/Hispanic and female shares among college graduates are from National Center for Education Statistics (NCES) based on 2019-2021 data. Their shares among MBA graduates are from Graduate Management Admission Council (GMAC). The non-elite school share is from various university alumni pages and total degree holders from the US Census.

A.9, A.10, and A.14). What might constrain entry for underrepresented managers? They may face frictions not addressed by general solicitation, such as discrimination. Within our context, the overall low takeup of 506(c) can help explain the limited progress. Recall that 506(c) represents only 8.4% of all funds. Furthermore, despite a higher share of underrepresented managers than in 506(b), the share remains low. For example, Panel B of Table 1 shows that the Black/Hispanic share in 506(c) is only 9%. Based on Column 2 of Table 3 Panel A, if we extrapolated the takeup rates and supposed that 100% of funds used 506(c), the Black/Hispanic share would still be only 11.9%, far from the supply benchmarks. Figure A.5 shows a similar pattern for other manager types in 506(c). We investigate what drives the low takeup of 506(c)—in particular by underrepresented managers—in Section 6.

Geography Venture capital and high-growth entrepreneurship are much more geographically concentrated than other economic activity (Glaeser et al., 2010; Chen et al., 2010). Focusing on our setting of VC, in 2022 the three states of California, New York, and Massachusetts accounted for over 85% of all U.S. fundraising (NVCA, 2023).[31] The returns to investors are also concentrated, leading to ever-increasing buildup of wealth in a few areas; investment in Northern California has traditionally been more lucrative than other regions (Woodward and Hall, 2004). This filters down to technological innovation; Kalyani et al. (2023) show that California and the Northeast Corridor are responsible for more than half of major new technologies, which in turn leads to more high-quality jobs down the road. Motivated by these economic benefits of local VC and the percieved challenges facing high-potential firms born outside the hub cities—which often are pressured to move to VC hubs (Chen and Ewens, 2021)—many policies try to encourage VC activity in traditionally underserved areas. However, this is challenging to accomplish. For example, Denes et al. (2023) find no impact of state-level angel investment tax credits on local entrepreneurial activity.

By removing 506(b)'s requirement of personal relationships with investors and opening up to arm's length, nationwide fundraising, general solicitation may reduce the geographic clustering of funds. Figure 4 Panel A shows that in relative terms, the share of funds in non-top 10 cities increased by 60% between 2009 and 2023, with the increase concentrated in the post-2015 period. However, in levels, this increase has not meaningfully shifted the spatial distribution closer to the benchmark we use, which is the distribution of new firms. In 2023, the non-top 10 city share among VC funds was only 38%, far from the 87% non-top 10 share among new firms. This large gap is due to both the low overall take-up of 506(c) funds, as well as the modest non-top 10 city share within 506(c), which was 49% in 2023.[32] These results suggest that there remain important place-based

[31] The same is true globaly, with the top 10 urban areas accounting for 62% of global venture investment (Florida and Hathaway, 2018).

[32] We find similar patterns with non-top 3 city shares.

frictions constraining the geography of fund formation.

6 Mechanisms for Low Take-up

We consider three possible mechanisms that might explain the relatively low use of 506(c), all of which are relevant to securities regulation broadly and are particularly important for whether emerging or underrepresented managers can enter a market. The first is the paradox presented by the benefits of a track record, which derives from the role of personal networks documented above. The second is frictions to accessing "the crowd" in public solicitation. The third is the presence of verification costs, which could lead to a negative signaling equilibrium. Note that these frictions do not need to be differentially higher for underrepresented managers to explain our results, as they could face higher frictions unrelated to general solicitation (e.g., discrimination or leaky pipeline), leading to their underrepresentation within 506(c) relative to the supply.

6.1 The Track Record Paradox

Arms' length financing makes information asymmetry between prospective fund managers and their targeted investors a greater challenge. In the absence of soft information and the benefits of personal networks, investors must rely on hard information. The most relevant hard information is the firm's and manager's track record. Since the primary benefit of 506(c)—public advertising—is arm's length financing, we expect that success in 506(c) should depend more on a strong track record. In turn, this could explain why it is not widely taken up by emerging managers and why it does not help to meaningfully move the needle for underrepresented managers: *When a person develops a track record, they typically develop a personal network at the same time.* To the degree success in 506(c) requires a track record, it will primarily be available to managers who could alternatively use 506(b) through their network. As we will show below, 506(b) is less costly and avoids a signaling problem, leading managers who do not need 506(c) to avoid it.

This leads to two predictions. First, success in raising 506(c) funds should be more sensitive to track record than 506(b) funds. Second, underrepresented groups (who tend to have relatively weaker personal networks) using 506(c) should have strong firm and personal track records relative to 506(b) users, yet few funds will fall in both categories (low network but high track record), helping to explain overall low take-up.

To test these hypotheses, we develop measures of track record and fundraising success. We use three track record measures, all of which are observed as of the time the focal fund is raised: 1) the firm's number of prior successful portfolio company exits; 2) the firm's number of prior funds;

and 3) the share of the fund team with past work experience in finance.[33] For past VC activity, we use the firm level because it is the most important vector of signaling (and also recall that 506(c) managers are more likely to be first-time from Table 3). We measure fundraising success as ultimate fund size relative to the initially targeted size.[34]

To test the first prediction, we project fundraising success on track record interacted with an indicator for being a 506(c) fund. The results are in Table 6 Panel A. Column 1 shows that one additional prior exit is associated with a 0.17% increase in the amount raised relative to the target (i.e. success) in 506(b), but a 0.4% increase in 506(c)—or 2.5 times more. The difference is also 2.5 times when measured by the number of prior funds (Column 2). The next column uses prior finance experience as the measure. We find that fund team with 10% more finance experience is associated with 13% higher raised amount relative to target for 506(c), while there is no significant relationship for 506(b). These results show that having a track record is significantly more correlated with fundraising success for 506(c) funds than for 506(b) funds. Since female and Black/Hispanic fund managers on average have weaker track records than their majority counterparts (Tables A.9 and A.10), this may deter 506(c) entry among prospective underrepresented managers.

If track record matters more for the fundraising success of 506(c) than 506(b), then conditional on launching a fund, 506(c) fund managers should have (or be at firms with) better track records. We confirm this in Panel B of Table 6 (columns 1, 3, and 5). Consistent with the second prediction, this difference is much larger for underrepresented managers (columns 2, 4, and 6). We define "underrepresented" as a fund team with at least one female, Black, or Hispanic manager. For example, column 4 suggests that being underrepresented and using 506(c) is associated with 7.6 more prior funds, which is more than 100% of the outcome mean (which is 5.7 prior funds). In other words, when underrepresented managers do successfully use 506(c), they tend to possess a stronger track record than both majority 506(c) managers and underrepresented 506(b) managers. We find positive but much weaker (statistically insignificant) results in Panel B if we measure prior exits and funds at the manager level. This seems to reflect underrepresented managers generally having weaker track records at the manager level compared to the firm level, as seen in Table A.8.

The two phenomena of (a) needing to signal quality in arm's length financing; and (b) a co-dependence between personal networks and a track record together create what we call the "track record paradox" constraining 506(c) take-up by underrepresented managers. To document this in the data, we plot funds according to proxies for personal network and track record. The personal

[33]We define exits as acquisitions or IPOs valued at more than $200 million. We define finance as including PE, investment banking, asset management, etc. This information is from LinkedIn, while the firm-level measures are from Pitchbook. Between (1) and (2), our preferred measure is exits because it also captures the success of funds. We do not use returns as fund success measure as return data are sparse.

[34]Note that this analysis examines intensive margin variation in fundraising success, because we not observe funds that failed to launch. Both targeted and actual fund size are from Pitchbook

network index, on the y-axis, is the sum of the fractions of the team being male, White, and elite school graduates. We also create a track record index that is the sum of prior exits plus the fraction of team with finance experience.[35] We plot red lines at the midpoint of each index, creating four quadrants. Panel A of Figure 5 contains a scatterplot of the funds in this space, with orange dots indicating 506(c) funds and blue dots 506(b) funds. We also note the fraction of 506(c) funds within each quadrant. Panel B aggregates the funds by quadrant. The orange bubble size and percent represent the share of all 506(c) funds in each quadrant, and similarly for 506(b) in blue.

It is clear from the figures that funds tend to cluster around and above the 45-degree line; they concentrate in the top-left quadrant and are most sparse in the bottom-right quadrant. In other words, few funds have a strong track record but a weak network. Consistent with arm's length financing requiring a track record, the distribution of 506(c) users is more weighted towards strong track records than that of 506(b) users. 506(c) funds also tend to have lower values of our network proxy, as we showed earlier. The absence of funds in the bottom-right indicates that there are few managers with the characteristics we expect who are most suitable for 506(c): people who lack the demographics associated with a strong network but who do have a strong track record.

Indeed, we see that 506(c) take-up is highest in the bottom-right quadrant. Within this quadrant, 33% of all funds are 506(c) (Panel A). The share of all 506(c) funds that are in this quadrant is 4%, while just 1% of all 506(b) funds are in this quadrant (Panel B). This is consistent with 506(c) being most appealing to the small group of people with weak networks but who possess, typically via their firm, a track record strong enough to overcome information asymmetry in arm's length financing. In contrast, those with a strong network but a weak track record raise through personal relationships via 506(b) (top left). In sum, these figures offer evidence for the track record paradox as an explanation for low 506(c) take-up.

When do underrepresented managers escape the track record paradox? Some do, of course, have strong networks. On average, however, our data suggests that they have weaker networks (see Section 4), and this matters for whether 506(c) might enable broader entry of underrepresented groups—the latent group who would have entered without the strong co-dependence between network and track record. Underrepresented prospective managers who lack a network are more likely to choose 506(c), yielding our results from Table 3. By virtue of using 506(c), they were able to overcome information asymmetry at arm's length. This could reflect a strong track record (as we establish in Table 6 Panel B). One additional channel is the use of impact objectives, which can be transmitted across space, and may exploit investors' non-pecuniary preferences. Table A.7 shows that the stated investment preference of underrepresented 506(c) managers is more likely to include

[35]To facilitate comparison, we standardize each component before summing them up and shift the minimum to zero. Each index is winsorized at the 1% level.

identity-based targeting than other managers. Specifically, they are 2.7 times more likely to target women and minority owned businesses relative to the mean. The effect is insignificant for ESG targeting, suggesting a signaling advantage in targeting through manager-founder homophily (i.e., more credible signals).

6.2 Accessing the Crowd

By virtue of depending on public advertising, 506(c) is thought to be most useful for managers seeking to raise from a large number of small-time retail investors.[36] Access to the "crowd" is especially important for less well-networked GPs who lack connections with institutional LPs, family offices, and very wealthy individuals. They would benefit from the opportunity to raise small amounts from many small-time but accredited retail investors. Indeed, 506(c) funds appear more dependent on the crowd than 506(b) funds. Both Table 1 as well as Table 2 show that 506(c) funds tend to have more LPs and more individual LPs, and are more likely to have non-pension fund investors (note that Pitchbook has poor coverage of non-institutional LPs). This pattern holds even after controlling for fund size (Table A.5). Lawyers for VC funds also told us that institutional and very wealthy LPs are almost always directly solicited and generally do not look for public advertisements. This leaves the accredited retail investor as the most obvious audience for 506(c) fundraising.

However, the Investment Company Act of 1940 restricts 3(c)(1) funds, which most smaller VCs fall under, to no more than 100 investors. This could constrain use of 506(c). On May 25, 2018, the SEC raised the cap from 100 investors to 250 investors for VC funds with less than $10 million assets, while keeping the cap unchanged at 100 for VC funds larger than $10 million.[37] The goal was to allow small funds without access to institutional or very wealthy LPs to raise from many smaller investors. We examine the impact of the 2018 investor cap increase on 506(c) take-up using an event study design. Treated funds are below the $10m cutoff, while funds larger than $10m are the control group. We compare use of 506(c) for each group before and after the second quarter of 2018 using the following difference-in-differences (DID) model at the fund level:

$$\mathbb{1}(506(c))_{i,y} = \alpha_{s,y} + \beta \times \mathbb{1}(\text{Fund}<\$10\text{m})_{i,t} \times \mathbb{1}(\text{Post Policy})_t + \theta \times \mathbb{1}(\text{Fund}<\$10\text{M})_{i,t} + \epsilon_{i,t}. \quad (2)$$

Here, $\mathbb{1}$(Fund<$10m) indicates funds less than $10m, $\mathbb{1}$(Post Policy) indicates filing dates after 2018Q2, and $\alpha_{s,y}$ indicates state × event-year fixed effects, where event year is the number of years

[36] For example, one law firm explains that "Rule 506 c offerings can allow you to collect small sums from a huge number of investors, which add up to a larger capital raise." (Moschetti, 2023; Turbine, 2023) This point is also based on author conversations with practitioners, including investors and lawyers.

[37] See Appendix A.2 for definition of venture capital fund by the SEC.

relative to 2018Q2.

Table 7 Panel A presents the results. We find that after the 2018 policy, smaller VC funds below the $10m regulatory cutoff are much more likely to use 506(c) relative to funds larger than $10m. In particular, column 1 shows that 506(c) take-up rate for treated funds increased by 6.4pp, which is a 52% increase relative to the pre-policy mean. This magnitude is large, suggesting that the 100 investor cap was a much more binding constraint for 506(c) funds than 506(b) funds, and that relaxing this constraint led to large increases in 506(c) take-up. To validate the identification, we estimate a dynamic DID and plot the graph in Figure 9. We observe parallel trends before the policy shock and significant effects afterwards. Note that the estimated treatment effect is for funds below $10m. The investor cap is likely more constraining for larger funds because they tend to have more investors.[38]

The cap raise may have disproportionately benefited underrepresented managers if they depend more on the crowd'. Underrepresented managers have higher fractions of individual or non-pension LPs (Tables A.9 and A.10), and we show in Table A.13 that they tend to have more LPs. With this motivation, we see if they were more responsive to the cap raise. In the remaining columns of Table 7 Panel A, we divide 506(c) funds into groups. In columns 2-3, we divide according whether the team is majority underrepresented (defined as female or Black/Hispanic). We find that 506(c) take-up by underrepresented managers increased by 81% relative to the pre-policy mean (column 2), but only by 36% for male and White managers (column 3). We find similar results for 506(c) take-up by non-elite school managers, which increased by 82% (column 4), but only by 37% for elite school educated managers (column 5). Therefore, the marginal response of 506(c) take-up to the investor cap raise is much larger among underrepresented fund managers. In sum, regulatory frictions in accessing the crowd limited the take-up of 506(c), which is especially binding for underrepresented managers.

We conduct a placebo test using an artificial cutoff of $25m within the sample of funds larger than $10m. We test if there is differential response to the policy shock between funds above and below this placebo cutoff, using the same specification and outcomes as Panel A of Table 7. The results, in Panel B of Table 7, indicate insignificant, near-zero effects of the interaction across all columns. This suggests our baseline results are not driven by unobserved differential trends between larger and smaller funds. Rather, the response is specific to the $10m regulatory threshold.

Accredited Investor Supply It might also be the case that 506(c) is constrained in accessing the crowd because there are insufficient accredited investors. To test this hypothesis, we exploit the

[38]In the Pitchbook data, the number of LPs and log fund size have a correlation coefficient of 0.395 with a significance at the sub 1% level.

December 2020 SEC reform that expanded the definition of accredited investors to include those with professional experience or qualifications, in addition to the traditional income/networth-based definition. If the supply of accredited investors is a constraint in general solicitation, we should observe higher take-up of 506(c) after the reform. We conduct an event study comparing changes in the volume of 506(c) and 506(b) funds around the 2020 reform. To make sure the results are not contaminated by the the 2018 investor cap change for small VC funds, we restrict to funds above $10m, though the results are similar including them. We use the following dynamic DID at the state-year-exemption-type level, with state-exemption-type and state-year fixed effects.

$$\text{Ln(no. of funds)}_{s,y,c} = \alpha_{s,c} + \beta_{s,y} + \sum_{y=2017}^{2023} \theta_y \times \mathbb{1}(506(c))_c \times \mathbb{1}(Year = y)_y + \epsilon_{s,y,c}. \tag{3}$$

Here s, y, and c indicate state, year, and exemption type, respectively. The dependent variable is the log number of funds. Since the reform happened in December 2020, we omit 2020 as the base year. Figure A.13 plots the event study results. We find an null effect of the accreditation rule change on 506(c) take-up; if anything, there is a slight decrease in 506(c) usage two years after the reform. This suggests that low 506(c) take-up is not driven by low supply of accredited investors.

6.3 Verification Costs and Negative Signaling

If the 506(c) rule permitted general solicitation with no additional features and there were no signaling effects, we should expect broad take-up as the new policy would offer a free option. Of course, this is not the case. 506(c) required the issuer to take "reasonable steps" to verify investor accreditation, instead of investor self-verification in 506(b). A positive view is that the additional burden on issuers is not very high. For example, "reasonable steps" to verify accreditation includes an email from an attorney or previously accredited investor confirming that the new prospective investor is accredited. A more negative view is that the requirement might create substantial new paperwork costs, legal liability risk if investors are in fact not accredited, and awkwardness in asking investors for intimate financial information. Legal uncertainty could have a chilling effect, especially in the absence of a body of existing case law.

Our survey results are extremely useful for understanding whether, in practice, the verification costs are relevant. Figure 7, Panel A indicates that the majority of fund managers, especially those who do not use 506(c), agree that investor verification is burdensome and creates risks. There is also some agreement about verification rules being unclear. We observe similar opinions from VC lawyers (Panel B). Figure 8 shows that, when asked about why they do not use 506(c), nearly 80% of fund managers cited the time and money required to verify investor's accreditation status as

having major or some influence on their decision. Legal risk was the second-most. Supporting this, Figure A.10 shows that the majority of VC fund lawyers report that 506(c) takes more legal work than 506(b), and that this is due to more complex compliance and greater legal risks of 506(c).

Because there is a non-negligible additional cost to 506(c), using 506(c) to fundraise could send a negative signal to investors. The most direct way is that using 506(c) could signal that a GP does not have the requisite personal network to fundraise without general solicitation. More broadly, there is likely status quo bias, where experienced VCs default to the option they have used in the past (Samuelson and Zeckhauser, 1988). If most well-reputed VCs use 506(b) and there is adverse selection into 506(c), managers may pool on 506(b) (Spence, 1973). Alternatively, a separating equilibrium could emerge in which low-quality managers use 506(c) and generally solicit, recruiting unsophisticated retail accredited investors, while high-quality managers use 506(b) and recruit sophisticated institutional and very wealthy investors through personal networks. This predicts that generally solicited investments will underperform. Our earlier result that 506(c) funds do not underperform 506(b) in returns speaks against a separating equilibrium. Instead, the low take-up of 506(c) is consistent with many managers who would have benefited from 506(c) pooling into 506(b) to avoid negative signaling.

The fund managers in our survey generally agreed with the proposition that 506(c) sends a negative signal. Notably, this opinion is strongest among managers who do not use 506(c) and their lawyers, with the majority agreeing about the statement of negative signaling (Figure 7). Furthermore, Figure 8 shows that more than 70% of 506(b) users chose not to use 506(c) in part because it sends a negative signal. One VC fund lawyer wrote to us:

> "At a high level, I don't think the underutilization of 506(c) is due to policy/rule construction, but rather selection bias that going out to smaller/potentially less sophisticated investors (the lower end of the market), sends a bad signal to the market (and in turn might impact their ability to line-up desirable portco investments)."

There are demographic differences in these concerns about verification. Female managers are more concerned about verification costs and legal risks than male managers, while Black/Hispanic managers are more concerned about verification costs and negative signaling than White managers (Figure A.9). Overall, these survey results point to substantial costs of investor verification and the concomitant negative signaling, and suggest these that the costs, including negative signaling, may be higher among underrepresented managers.

7 Conclusion and Policy Discussion

With over $13 trillion in private capital assets under management, the issue of who can be a manager and how they can fundraise is economically important (McKinsey, 2024) Meanwhile, public company fundraising has declined, both in dollars and in number of companies (Ewens and Farre-Mensa, 2020). From the LP perspective, there is in one sense endless choice; Pitchbook has identified more than 25,000 GPs across private market classes that have raised funds since 1990, with 10,000 open and seeking LP commitment as of early 2024 (Carmean et al., 2024). However, at the same time, as the industry has matured, fund sizes have increased and the benefits of incumbency, track records, and pre-existing networks with institutional and high-net worth LPs have grown stronger (Carmean et al., 2024). This is especially true in VC, where information asymmetry between GPs and LPs is especially acute.

In theory, permitting general solicitation can help level the playing field for traditionally underrepresented managers, who are less well-networked. This policy—implemented in the U.S. in 2013—sought to address the barriers to entry imposed by the traditional exemption to securities registration, which requires managers in private capital markets fundraise using personal relationships. In this paper, we study an important instance of the how the fundamental tension facing securities regulation—enabling broad and inclusive capital formation while protecting investors—makes it difficult to meaningfully lower barriers for new and underrepresented managers.

We show that permitting general solicitation (506(c)) was disproportionately used by groups who we expect to be less well-networked, including women, Black/Hispanic, first time, and non-elite school managers. The policy also made fundraising less sensitive to local conditions; we show that fundraising using the pre-existing 506(b) exemption was highly sensitive to local wealth shocks while 506(c) is not. This analysis offers some of the first direct, causal evidence that local personal networks matter in investment manager fundraising.

We provide evidence for three, non-mutually exclusive mechanisms that may apply to many types of securities regulation and specifically help to explain the relatively low use of 506(c), and why the policy did not dramatically increase the ranks of underrepresented managers. The first is the paradox presented by the benefits of a track record, which derives from the important role for personal networks; in the absence of personal networks, investors rely on track record, but managers who establish a track record typically build a network along the way, leaving only a relatively small segment with one resource (track record) but not the other (a personal network with which to raise using 506(b)). The second mechanism is frictions to accessing "the crowd" in public solicitation, imposed by a ceiling on the number of investors who may participate. The third mechanism is the presence of verification costs, which are perceived by regulators as necessary at arm's length but

deter participation and lead to a negative signaling equilibrium.

In sum, general solicitation has the potential to make private fundraising more inclusive and competitive, in part by making fundraising less sensitive to local networks of wealthy connections. We document for the first time that underrepresented groups have disproportionately taken up the opportunity to publicly advertise. However, this take-up is largely confined to those with a track record strong enough to signal quality in arm's length fundraising. Further, investor protections designed to mitigate the greater information asymmetry in general solicitation impose high compliance costs and legal risks that dampen take-up, including via both direct dead-weight costs and negative signaling. These factors have prevented general solicitation from significantly "moving the needle" for underrepresented managers and the more diverse portfolio companies they tend to fund.

A caveat to our conclusions is that they are limited to VC fund managers, and do not necessarily apply, for example, to startup founders. However, as mentioned above, we see even lower takeup among VC-backed startups, suggesting that the same mechanisms may be at play. This is a fruitful avenue for future research.

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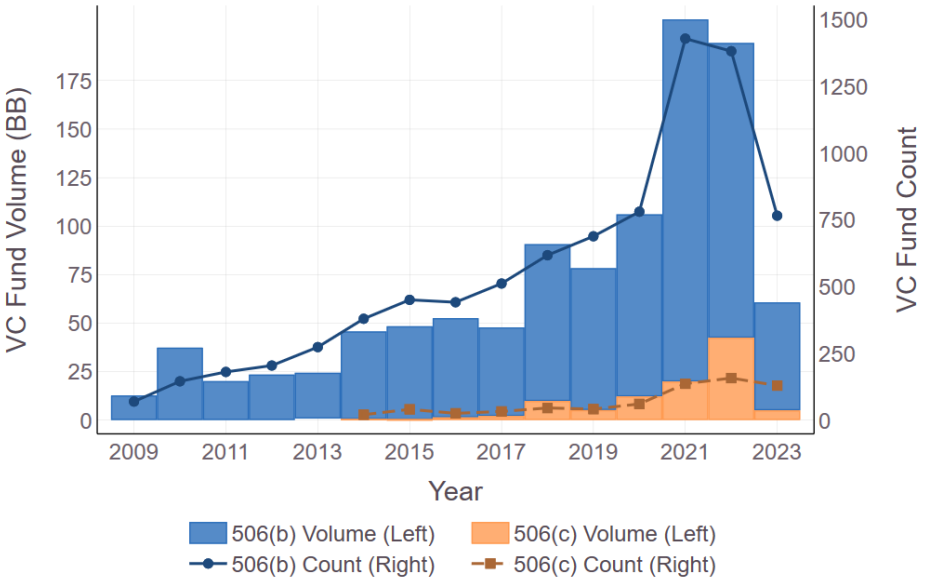
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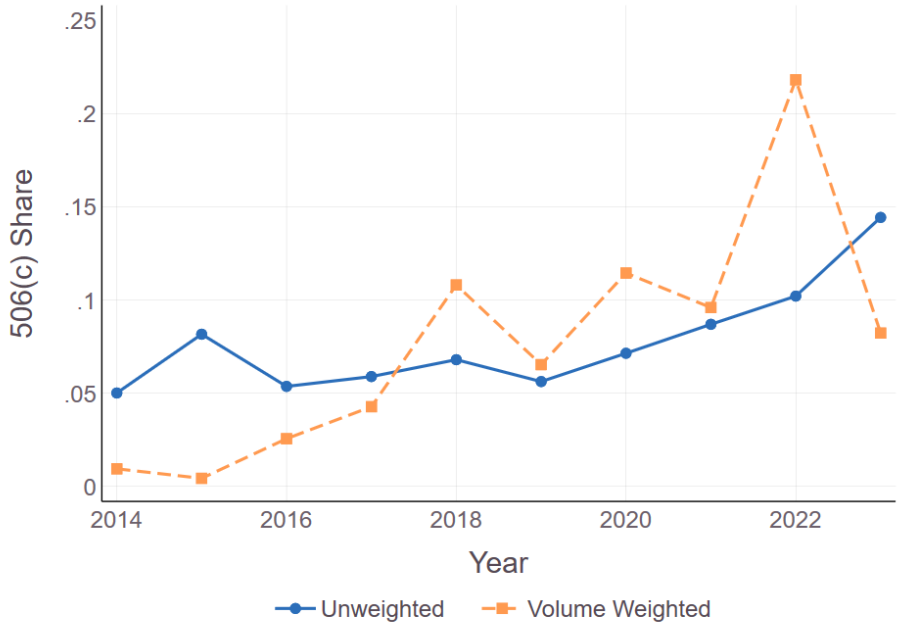
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Figure 1: VC Funds Raised Using General Solicitation (506(c)) vs. the Conventional Exemption (506(b))

(a) Fund Count and Volume

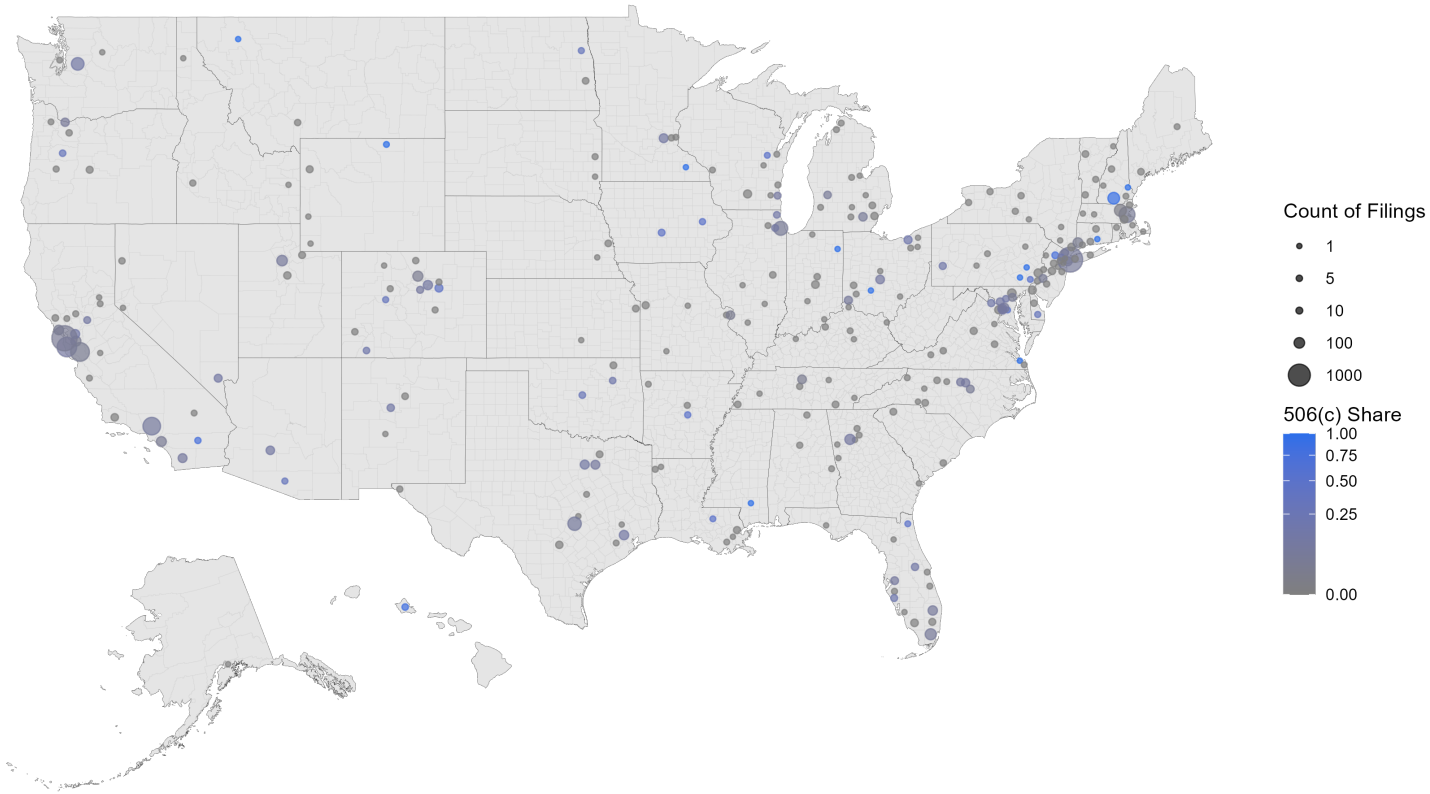


(b) Share of Funds using General Solicitation



Note: Panel A shows the number and total volume (in 2017 US$) of VC funds that used 506(b) or 506(c) exemptions. The sample is limited to the funds from Form D that can be matched to PitchBook. Panel B shows the share of VC funds using 506(c), in terms of the number of funds or dollar volume.

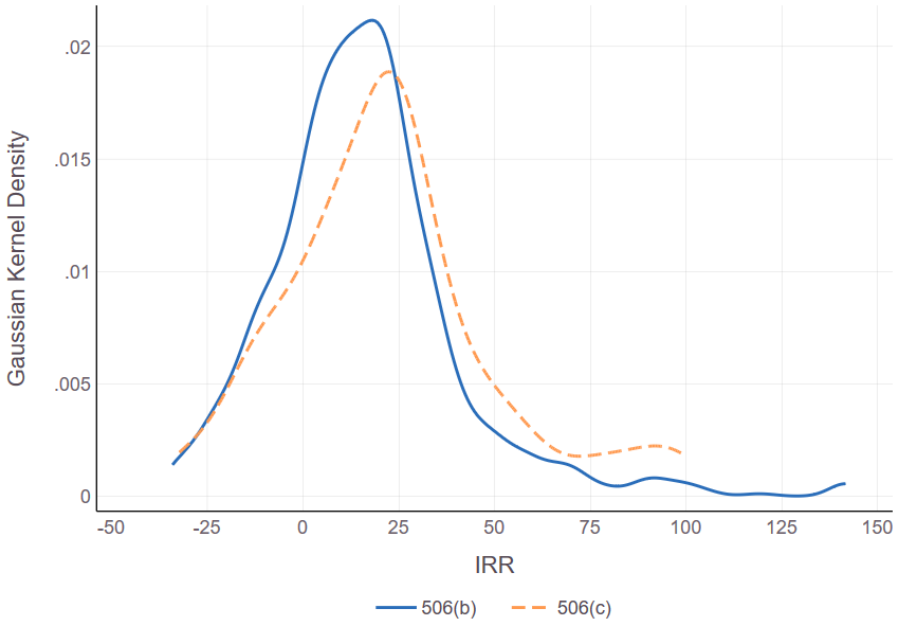
Figure 2: Geographic Distribution of VC Funds



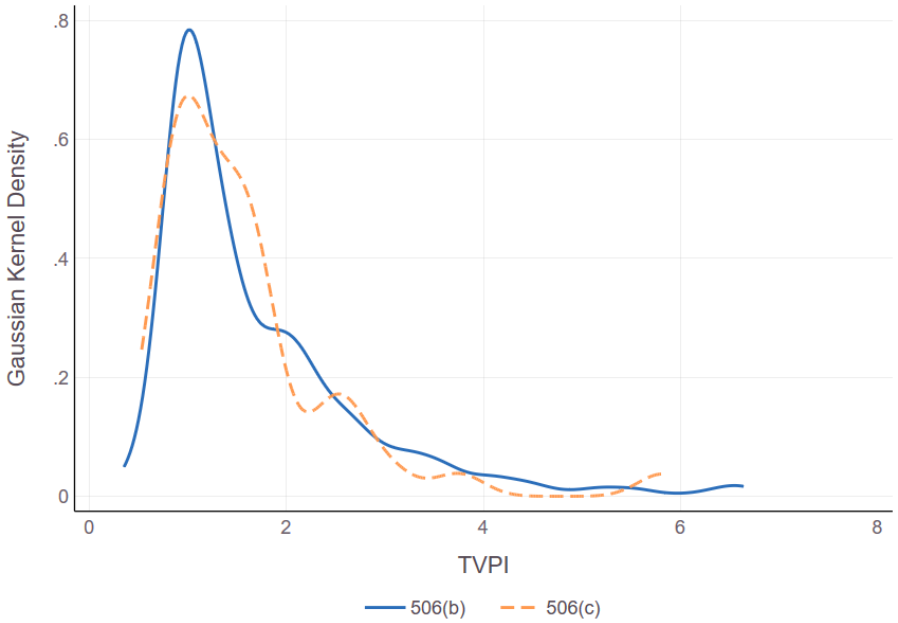
Note: This figure shows the geographic distribution of VC funds in the Pitchbook-Form D universe, with intensity of color representing 506(c) share and size indicating number of filings. Location is aggregated to the county of the city the fund is located in. The period covered is 2014-2023.

Figure 3: Distribution of Returns

(a) IRR



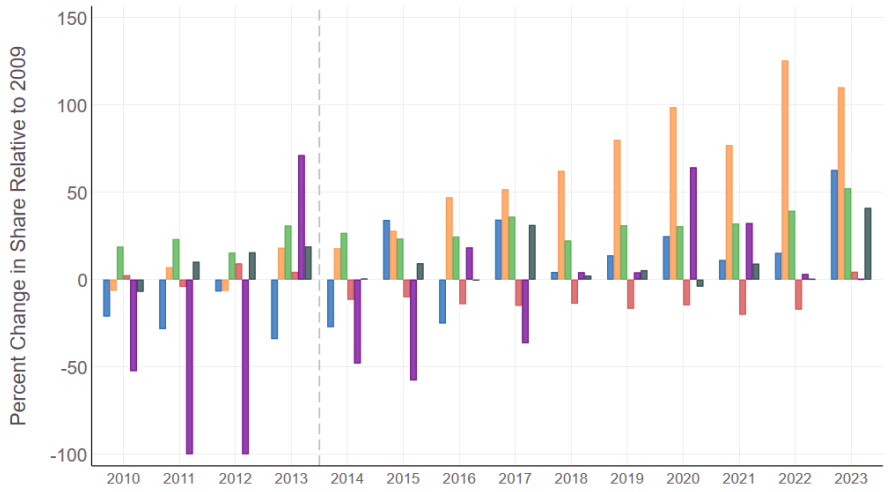
(b) TVPI



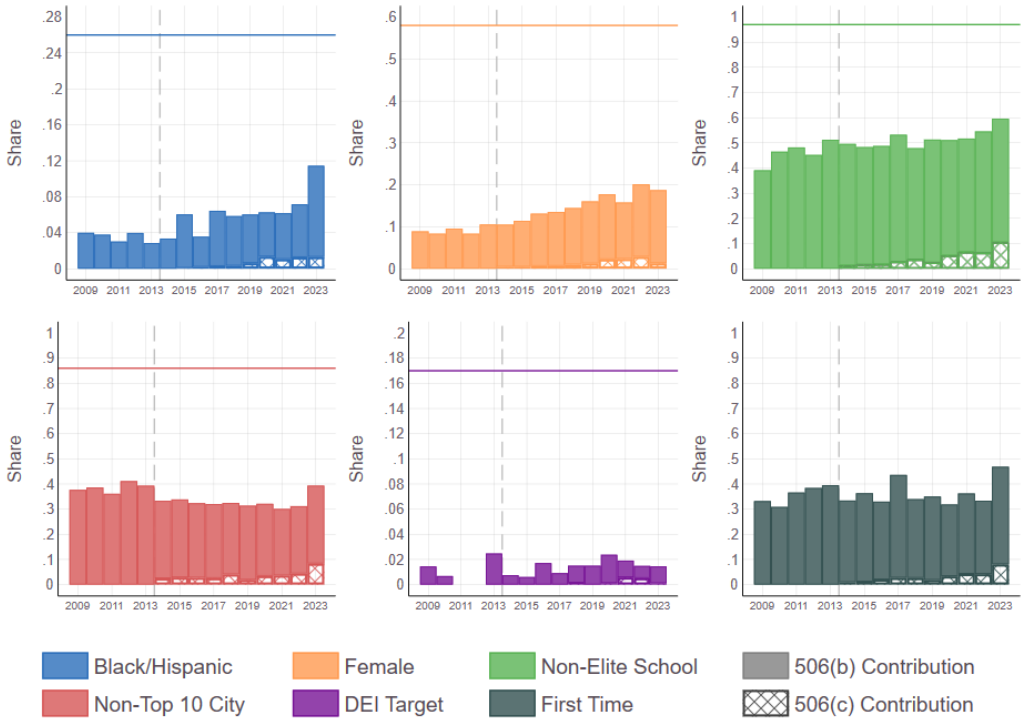
Note: This figure compares the distribution of returns, measured in IRR (Panel A) or TVPI (Panel B), of 506(c) and 506(b) funds. Each variable is winsorized at the 0.5% and 99.5% level across all funds.

Figure 4: Fund Manager Characteristics Over Time and Compared to Benchmarks

(a) Changes Relative to 2009



(b) Levels Compared to Population Benchmarks



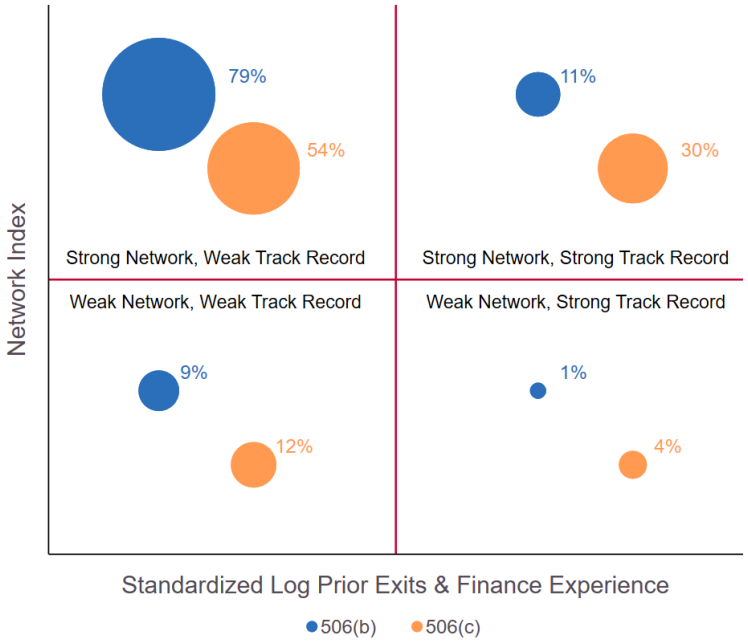
Note: Panel A shows the percent difference between the share of fund managers with each characteristic among all filers within the year and the share in 2009. Panel B shows the level of the share for each year and includes horizontal lines representing the share among university graduates. The Black/Hispanic and Female share among BA graduates are from National Center for Education Statistics over 2019-2021. The Non-Elite School share is from various university alumni pages and total degree holders from the US Census. The non-top 10 city share represents the share of young (0 year old) businesses according to Census Business Dynamics Statistics. The dashed line represents the effective date for the 506(c) General Solicitation exemption. Legend shared across panels.

Figure 5: Joint Distribution of Track Record and Network

(a) Scatterplot of Track Record and Network



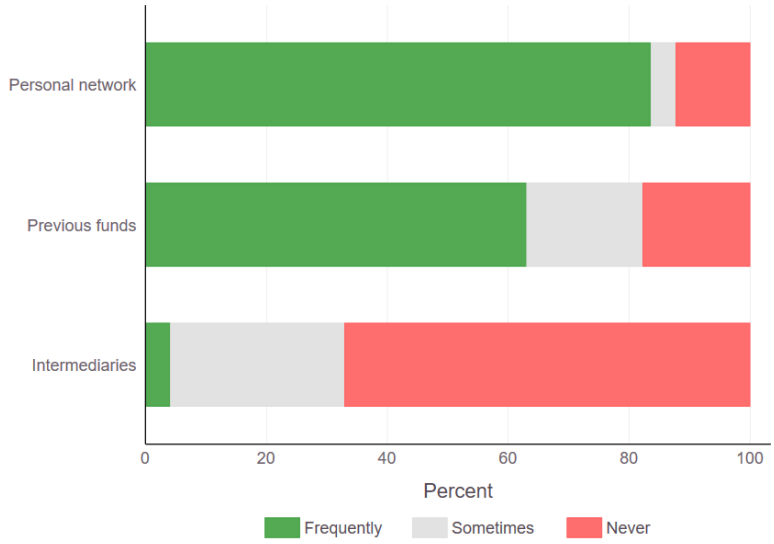
(b) Share of Funds by Quadrant



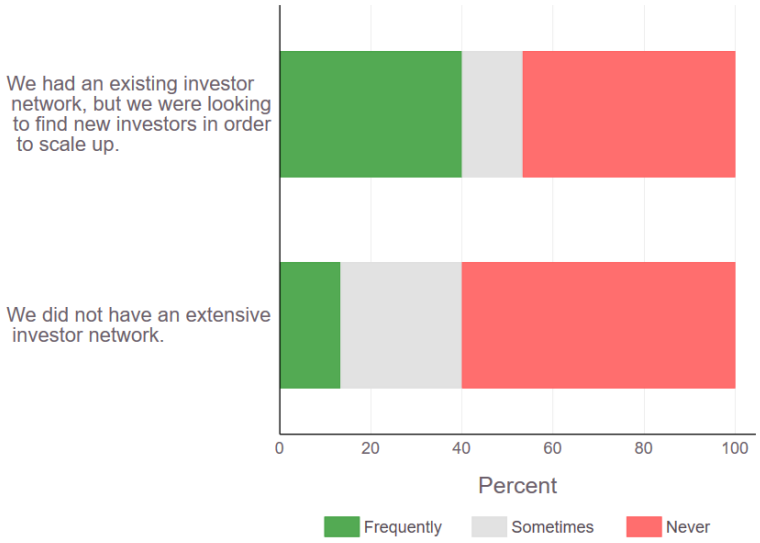
Note: These figures show the location of funds in the distribution of network and track record strength, with red lines at the midpoints of each. Panel A plots each fund as a point. We report the share of all funds that are 506(c) within each quadrant. Panel B aggregates the funds by quadrant. The orange bubble size and orange percent represent the share of all 506(c) funds in the quadrant, and similarly for 506(b) in blue.

Figure 6: Survey Evidence on Role of Personal Networks in Fundraising

(a) 506(b) Fund Manager Source of Investors



(b) 506(c) Fund Managers on Personal Networks as Reason for Using 506(c)



Note: Panel A shows survey responses to Question 4 within the set of fund managers who have used only 506(b). They were asked how they have sourced investors in general across the funds in which they have been involved in fundraising, and given three non-mutually exclusive options. Panel B shows survey responses to Question 2 within the set of fund managers who have ever used 506(c). They were asked whether not having an existing investor network influenced their choice to use 506(c). There were two options and the investors could chose how much influence each had. One option was that they did not have an extensive personal network. The other option was that they had a network but were looking for new investors to scale up. 506(b) $N = 73$, 506(c) $N = 30$

Figure 7: Fund Manager and Lawyer Opinions about 506(c)

(a) VC Fund Managers

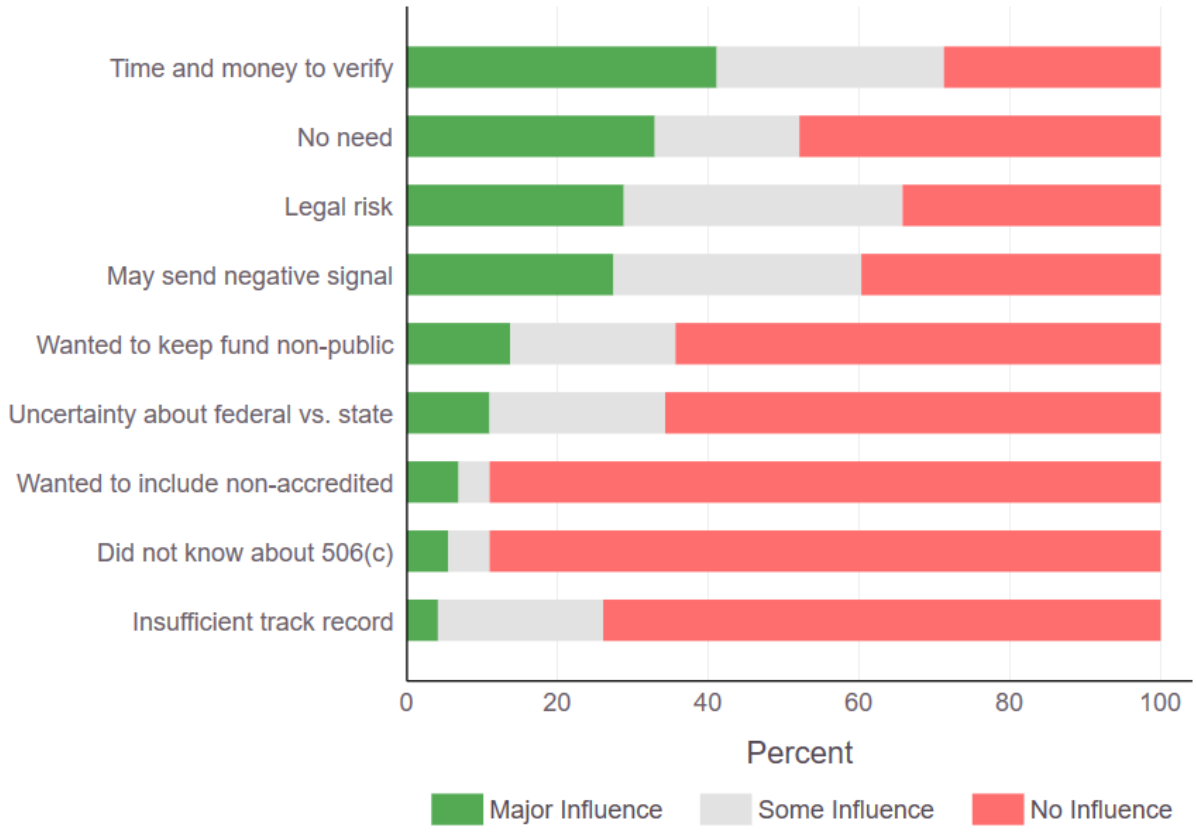


(b) VC Lawyers



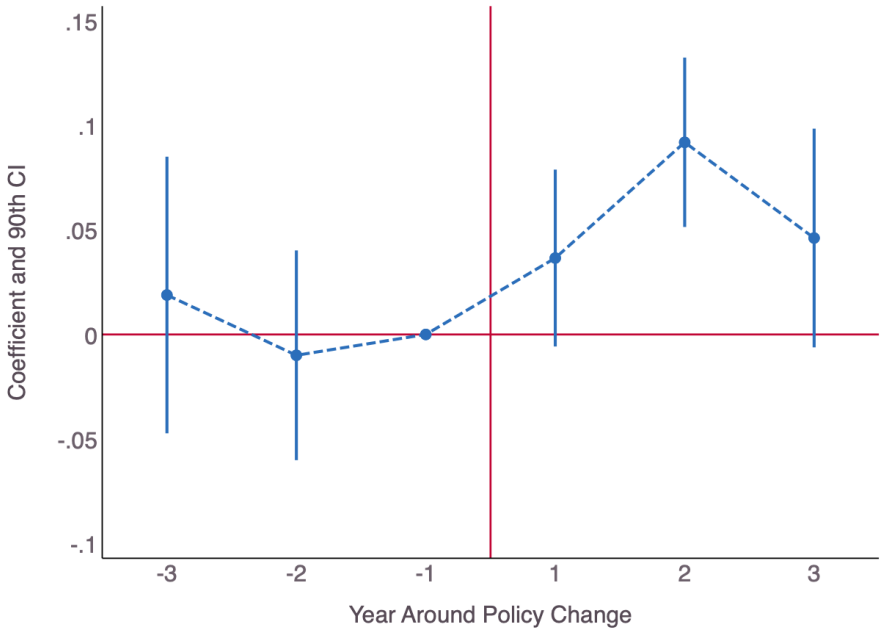
Note: The figure employs data from the surveys. Respondents were asked whether they agreed with a series of statements about 506(c), which are summarized on the y-axis. The statements, in order, are: The 506(c) exemption sends a negative signal about quality/ability; The 506(c) investor accreditation verification requirements create legal risks for the GP; It is burdensome to verify investor accreditation status for 506(c); In principle, the 506(c) exemption should be useful for new fund managers who do not have a pre-existing network of investors (i.e. LPs).; The 506(c) investor accreditation verification requirements are unclear; The 506(c) exemption is underutilized. See Section 2 for a description of the survey and responses. In Panel A, 506(b) $N = 73$, 506(c) $N = 30$. In Panel B, 506(b) $N = 22$, 506(c) $N = 27$

Figure 8: 506(b) Fund Managers' Reasons for Not Using 506(c)



Note: This figures shows survey responses to Question 3 within the set of fund managers who have used only 506(b). Investors were asked whether any of the following non-mutually exclusive options had no influence, some influence, or major influence on their choice to not use 506(c). $N = 73$

Figure 9: Impact of the 2018 Investor Cap Raise on 506(c) Take-up



Note: This figure plots the event study graph for column 1 of Table 7, Panel A. On May 25, 2018, the SEC raised the investor cap for small VC funds below $10m from 100 investors to 250 investors, while keeping the investor cap for VC funds larger than $10m unchanged at 100. The specification is a fund-level difference-in-differences, where we regress 506(c) takeup and fund manager characteristics on the interaction between an indicator for fund size<$10m and indicators for various event years, where event year is the number of years from June 2018. We focuses on the event window from 3 years before to 3 years after June 2018. Event year -1 is omitted as the base year.

Table 1: Comparison of 506(b) vs 506(c) Funds, 2014-2023

Panel A. Total Counts and Volumes

	506(b)	506(c)	506(c) Share
Count of Filings	7440	685	0.084
Offering Amount (Bill $)	574.335	45.109	0.073
Amount Sold, Initial (Bill $)	257.010	22.783	0.081
Amount Sold, with Amendments (Bill $)	377.264	53.665	0.125
Fund Volume (Pitchbook, Bill $)	832.681	98.290	0.106

Panel B. Characteristics

Fund	**506(b)**	**506(c)**	**506(c) - 506(b)**	**N**
Mean Fund Size (Mill $)	120.486	158.788	38.302	7530
Median Fund Size (Mill $)	29.697	8.659	-21.038***	7530
Non-Top 10 City Fund	0.312	0.469	0.157***	8125
Non-Top 3 City Fund	0.500	0.658	0.158***	8125
First Fund of VC Firm	0.256	0.289	0.033*	8125
Commission & Broker	0.004	0.142	0.137***	8125
DEI Target	0.014	0.029	0.015**	8125
ESG Target	0.013	0.034	0.021***	8125
Mean Number Prior Funds	5.252	30.482	25.229***	8125
Mean Number Prior Large Exits	3.826	7.053	3.226**	8120
Fund LP				
Non-Pension Share	0.671	0.739	0.068**	2248
Individual Share	0.092	0.168	0.076***	2248
Fund Return				
Mean IRR	15.961	21.949	5.988	880
Mean TVPI	1.720	1.580	-0.140	946
Fund Manager				
Female Share	0.144	0.169	0.024	4155
Black/Hispanic Share	0.058	0.088	0.031**	4156
Black Share (Picture)	0.015	0.039	0.024**	4155
Hispanic Share (Name)	0.043	0.053	0.010	4155
Elite School Share	0.466	0.470	0.004	3987
First Time Share	0.395	0.417	0.021	4156
Finance Experience Share	0.176	0.458	0.282***	4155
Portfolio Company				
Non-Top 5 Industry Share	0.355	0.384	0.029**	4889
Same City as Fund Share	0.135	0.087	-0.048***	4890
Same State as Fund Share	0.356	0.248	-0.108***	4890
Company Filed 506(c) Share	0.011	0.013	0.003	4817
Portfolio Company Leadership				
Has First Time CEO Share	0.831	0.854	0.023**	4755
Has Female CEO Share	0.143	0.170	0.027**	4755
Has Elite School CEO Share	0.317	0.298	-0.019	4465

Note: Panel A shows total filing counts and measures of fundraising volume in the period 2014 to 2023 across 506(b) and 506(c) filings matched to Pitchbook. The first two columns show the total for each exemption type, and the third column shows the 506(c) amount divided by the sum of 506(b) and 506(c). Panel B compares various characteristics across 506(b) and 506(c) funds. Fund size is in terms of 2017 US Dollars. Panel B uses robust standard errors in conducting a t-test of the sample mean differences between 506(b) and 506(c), except for comparing the medians, which uses a quantile regression. * indicates statistical significance at the 10% level, ** at the 5% level, and *** at the 1% level.

Table 2: 506(b) vs 506(c): Fund Characteristics

Panel A. Fund Characteristics

Dependent Variable:	Fund	Fund Indicator						% LPs	
	Ln(Size)	Non-Top 10 City	Non-Top 3 City	First Fund	Commission & Broker	DEI Target	ESG Target	Non-Pension	Individual
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
$\mathbb{1}$(506(c))	-0.680***	0.153***	0.154***	0.094***	0.060*	0.024***	0.026***	0.095**	0.083**
	(0.086)	(0.021)	(0.016)	(0.020)	(0.035)	(0.006)	(0.006)	(0.043)	(0.034)
Year FE	No	Yes	Yes	No	No	No	No	No	No
State × Year FE	Yes	No	No	Yes	Yes	Yes	Yes	Yes	Yes
N	7445	8125	8125	8041	8041	8041	8041	2176	2176
R^2	0.145	0.011	0.009	0.062	0.409	0.063	0.046	0.113	0.094
Outcome Mean	3.138	0.325	0.513	0.258	0.016	0.015	0.015	0.669	0.094

Panel B. Fund Return Characteristics

Dependent Variable:	Continuous		Above 75th Percentile	
	IRR	TVPI	IRR	TVPI
	(1)	(2)	(3)	(4)
$\mathbb{1}$(506(c))	9.910	0.259	0.259***	0.240***
	(6.267)	(0.156)	(0.050)	(0.063)
State × Year FE	Yes	Yes	Yes	Yes
N	807	876	807	876
R^2	0.265	0.310	0.135	0.119
Outcome Mean	16.694	1.726	0.238	0.243

Note: This table compares fund variables between 506(b) and 506(c) in a regression context. Panel A regresses overall fund characteristics against an indicator for if the filer used 506(c). Fund size is in terms of 2017 US Dollars. Panel B regresses fund return variables against the same indicator. Columns 3 and 4 dependent variable is an indicator for if the fund's return was in the top quartile for a given vintage. Standard errors are clustered at the state level and are reported in parentheses. * indicates statistical significance at the 10% level, ** at the 5% level, and *** at the 1% level.

Table 3: 506(b) vs 506(c): Fund Manager Characteristics

Panel A. Share of Fund Team

	Share of Fund Team					
Dependent Variable:	Female	Black/Hispanic	Black	Hispanic	Elite School	First Time
	(1)	(2)	(3)	(4)	(5)	(6)
$\mathbb{1}$(506(c))	0.057*	0.058***	0.034***	0.029	-0.038*	0.108***
	(0.031)	(0.018)	(0.005)	(0.018)	(0.023)	(0.040)
State × Year FE	Yes	Yes	Yes	Yes	Yes	Yes
N	4067	4068	4067	4067	3897	4068
R^2	0.068	0.068	0.074	0.057	0.122	0.098
Outcome Mean	0.146	0.061	0.017	0.044	0.471	0.396

Panel B. Indicator for Majority of Fund Team

	Majority of Fund Team					
Dependent Variable:	Female	Black/Hispanic	Black	Hispanic	Elite School	First Time
	(1)	(2)	(3)	(4)	(5)	(6)
$\mathbb{1}$(506(c))	0.051**	0.047***	0.031***	0.021*	-0.021	0.107**
	(0.022)	(0.014)	(0.005)	(0.012)	(0.029)	(0.051)
State × Year FE	Yes	Yes	Yes	Yes	Yes	Yes
N	4067	4068	4067	4067	3897	4068
R^2	0.067	0.060	0.069	0.049	0.102	0.094
Outcome Mean	0.075	0.029	0.010	0.019	0.405	0.341

Note: This table compares fund variables concerning manager characteristics in a regression context. Panel A regresses the share of fund managers in levels against an indicator for if the filing used 506(c). Panel B regresses an indicator for if the given group represents at least half of the fund team for a given filing against the same indicator. Standard errors are clustered at the state level and are reported in parentheses. * indicates statistical significance at the 10% level, ** at the 5% level, and *** at the 1% level.

Table 4: 506(b) vs 506(c): Fund Portfolio Company Characteristics

	% not in top	% in same		% filed	% Has CEO that is		
Dependent Variable:	5 Industry	City	State	506(c)	First time	Female	Elite School
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
$\mathbb{1}$(506(c))	0.041***	-0.021**	-0.023*	0.006**	0.026**	0.023*	-0.013
	(0.010)	(0.009)	(0.013)	(0.003)	(0.009)	(0.012)	(0.009)
State × Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	4802	4803	4803	4731	4667	4667	4374
R^2	0.081	0.116	0.256	0.073	0.066	0.081	0.080
Outcome Mean	0.357	0.132	0.349	0.011	0.832	0.145	0.318

Note: This table compares characteristics of portfolio companies the fund has invested in a regression context. Each column regresses the share of portfolio companies of a given fund against an indicator for if the filing used 506(c). Standard errors are clustered at the state level and are reported in parentheses. * indicates statistical significance at the 10% level, ** at the 5% level, and *** at the 1% level.

Table 5: Sensitivity of Fund Entry to Local Wealth Shocks

Panel A. By Exemption Type

Dependent Variable:	ΔLn(# 506(b) Funds)	ΔLn(# 506(c) Funds)	506(c) Share
	(1)	(2)	(3)
Dividend Share × Returns	0.015**	-0.005*	-0.008*
	(0.007)	(0.003)	(0.004)
County FE	Yes	Yes	Yes
Year-Quarter FE	Yes	Yes	Yes
N	7640	7640	1989
R^2	0.016	0.006	0.351
Outcome Mean	0.001	0.001	0.080

Panel B. By Exemption Type and Fund Manager Characteristic

Dependent Variable:	ΔLn(# 506(b) Funds) by						ΔLn(# 506(c) Funds) by					
	Female	Male	Black/Hispanic	White	Non-Elite	Elite	Female	Male	Black/Hispanic	White	Non-Elite	Elite
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Dividend Share × Returns	0.005	0.018***	-0.003	0.020***	0.016***	0.006	0.002	-0.003	0.001	-0.002	0.000	-0.001
	(0.004)	(0.005)	(0.003)	(0.005)	(0.005)	(0.004)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
P-Value of difference	.07		.00		.08		.43		.39		.44	
County FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year-Quarter FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	7640	7640	7640	7640	7640	7640	7640	7640	7640	7640	7640	7640
R^2	0.005	0.019	0.008	0.018	0.013	0.013	0.007	0.007	0.004	0.006	0.005	0.007
Outcome Mean	-0.000	-0.002	0.000	-0.002	-0.002	-0.001	0.000	-0.000	0.000	-0.000	-0.000	-0.000

Note: This table examines sensitivity of fund entry to local wealth shocks, where *Local Wealth Shock = Local Dividend Share × Stock Return*. The sample is at the county-year-quarter level from 2014 to 2023. The dependent variables are log changes in the number of issuing funds in a county-quarter relative to the previous quarter, except in column 3 of Panel A where the outcome is the share of 506(c) funds relative to all funds. Following Crane et al. (2024), we use the interaction between local stock market participation and quarterly S&P 500 returns as shocks to local wealth. Local stock market participation is measured as the share of dividend income among total taxable income in a county, obtained from IRS. Both variables are lagged by one quarter relative the dependent variables. All regressions include the levels of *Dividend Share* and *Stock Return*, county fixed effects, and year-quarter fixed effects . Standard errors are clustered by county and are reported in brackets. * indicates statistical significance at the 10% level, ** at the 5% level, and *** at the 1% level.

Table 6: The Relationship between Track Record and 506(c) Take-up

Panel A. Sensitivity of Fundraising Success to Track Record

Dependent Variable:	100×Ln(Raised/Target)		
	(1)	(2)	(3)
$\mathbb{1}$(506(c))	-54.375***	-56.400***	-35.453**
	(8.250)	(8.493)	(16.410)
Prior Exits	0.170***		
	(0.022)		
Prior Exits × $\mathbb{1}$(506(c))	0.238***		
	(0.051)		
Prior Funds		0.360***	
		(0.113)	
Prior Funds × $\mathbb{1}$(506(c))		0.541***	
		(0.191)	
Finance Experience Share			-1.105
			(4.354)
Finance Experience Share × $\mathbb{1}$(506(c))			28.640*
			(14.649)
State × Year FE	Yes	Yes	Yes
N	5713	5713	3183
R^2	0.118	0.118	0.109
Outcome Mean	-28.644	-28.644	-17.240

Panel B. Comparing Track Record Across Exemption and Manager Types

Dependent Variable:	Prior Exits		Prior Funds		Finance Experience	
	(1)	(2)	(3)	(4)	(5)	(6)
$\mathbb{1}$(506(c))	4.961	1.126	5.989*	1.590	0.167***	0.128**
	(3.965)	(2.238)	(3.084)	(2.425)	(0.042)	(0.050)
$\mathbb{1}$(Underrepresented)		3.438*		0.124		-0.011
		(1.700)		(0.367)		(0.015)
$\mathbb{1}$(506(c)) × $\mathbb{1}$(Underrepresented)		18.133*		7.599***		0.081*
		(10.606)		(2.317)		(0.045)
State × Year FE	Yes	Yes	Yes	Yes	Yes	Yes
N	8119	4155	8124	4155	4155	4155
R^2	0.037	0.069	0.594	0.610	0.167	0.168
Outcome Mean	4.137	7.253	7.410	5.673	0.198	0.198

Note: Panel A examines how the sensitivity of fundraising success to track record differs by exemption type. Panel B presents the two-by-two comparison of track records by exemption type and underrepresentation status. Standard errors are clustered by state and are reported in parentheses. * indicates statistical significance at the 10% level, ** at the 5% level, and *** at the 1% level.

Table 7: Fund Investor Cap and 506(c) Take-up Evidence from the 2018 Policy Change

Panel A: Baseline DID

Dependent Variable:	506(c)	506(c), Underrepresented		506(c), Elite School	
	All	With	Without	Without	With
	(1)	(2)	(3)	(4)	(5)
𝟙(Fund size<$10m)	-0.015	-0.013	-0.002	-0.014	0.000
	(0.012)	(0.008)	(0.008)	(0.011)	(0.007)
𝟙(Fund size<$10m) × 𝟙(PostPolicy)	0.059***	0.032**	0.026*	0.050**	0.021
	(0.016)	(0.015)	(0.014)	(0.020)	(0.013)
State × Event Year FE	Yes	Yes	Yes	Yes	Yes
N	2597	2597	2597	2517	2517
R^2	0.308	0.116	0.293	0.170	0.236
Outcome Mean for Size<$10m	0.118	0.041	0.077	0.062	0.065

Panel B: Placebo DID Around $25m Conditional on Fund Size>$10m

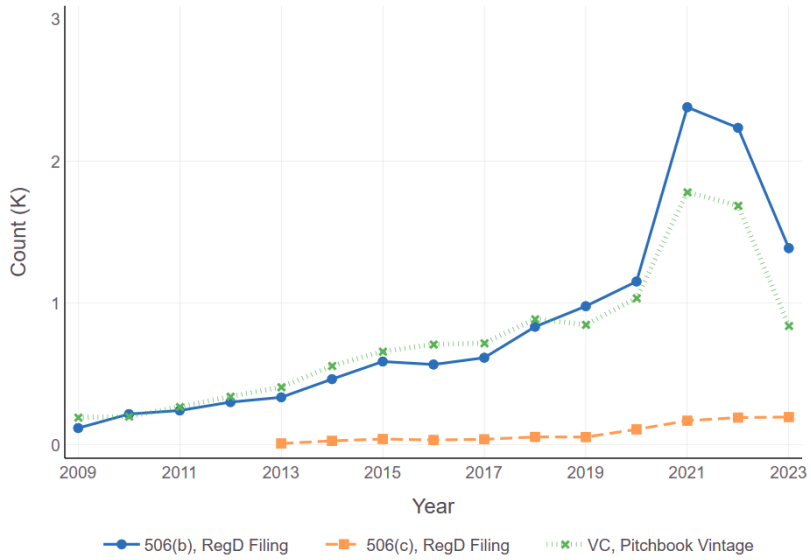
Dependent Variable:	506(c)	506(c), Underrepresented		506(c), Elite School	
	All	With	Without	Without	With
	(1)	(2)	(3)	(4)	(5)
𝟙(Fund size<$25m)	0.045***	0.011	0.034***	0.034**	0.007
	(0.015)	(0.008)	(0.010)	(0.014)	(0.005)
𝟙(Fund size<$25m) × 𝟙(PostPolicy)	-0.004	-0.001	-0.003	0.005	-0.004
	(0.032)	(0.018)	(0.016)	(0.018)	(0.024)
State × Event Year FE	Yes	Yes	Yes	Yes	Yes
N	2115	2115	2115	2067	2067
R^2	0.185	0.127	0.179	0.148	0.170
Outcome Mean for Size<$25m	0.095	0.033	0.062	0.063	0.033

Note: This table examines the impact of the 2018 investor cap raise on fund-level 506(c) takeup and fund managers' characteristics. On May 25, 2018, the SEC raised the investor cap for from 100 investors to 250 investors for VC funds below $10m, while keeping the cap unchanged at 100 for VC funds larger than $10m. Panel A shows the baseline DID results. The specification is a fund-level DID, where we regress 506(c) takeup or fund manager characteristics on the interaction between an indicator for fund size<$10m and a post-2018Q2 dummy. All columns include state-event-year fixed effects, where event year is the number of years from 2018Q2. We use an event window from 3 years before to 4 years after 2018Q2. Panel B presents the DID results around placebo thresholds $25m conditional on funds larger than $10m. Standard errors are clustered by state and are reported in brackets. * indicates statistical significance at the 10% level, ** at the 5% level, and *** at the 1% level.

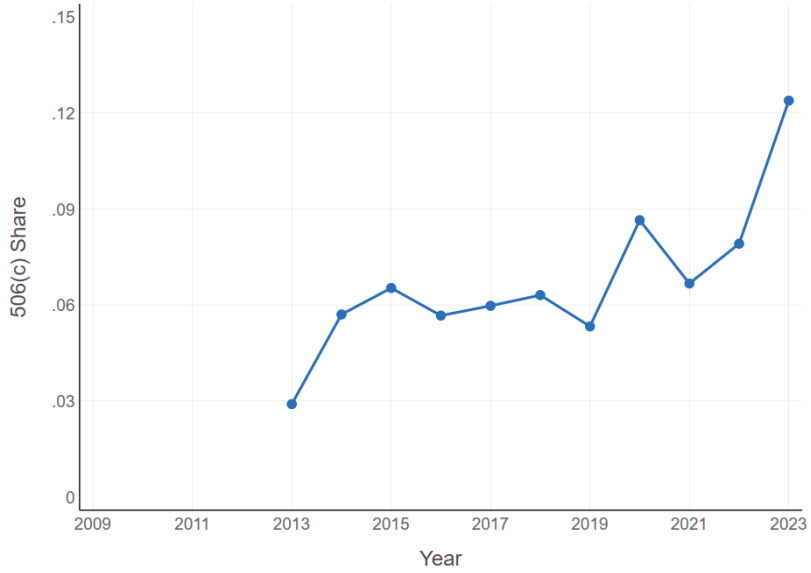
Appendix Figures and Tables

Figure A.1: Count and 506c Share of all Regulation D and Pitchbook Funds Identified as VC

(a) Count of VC Funds by Type



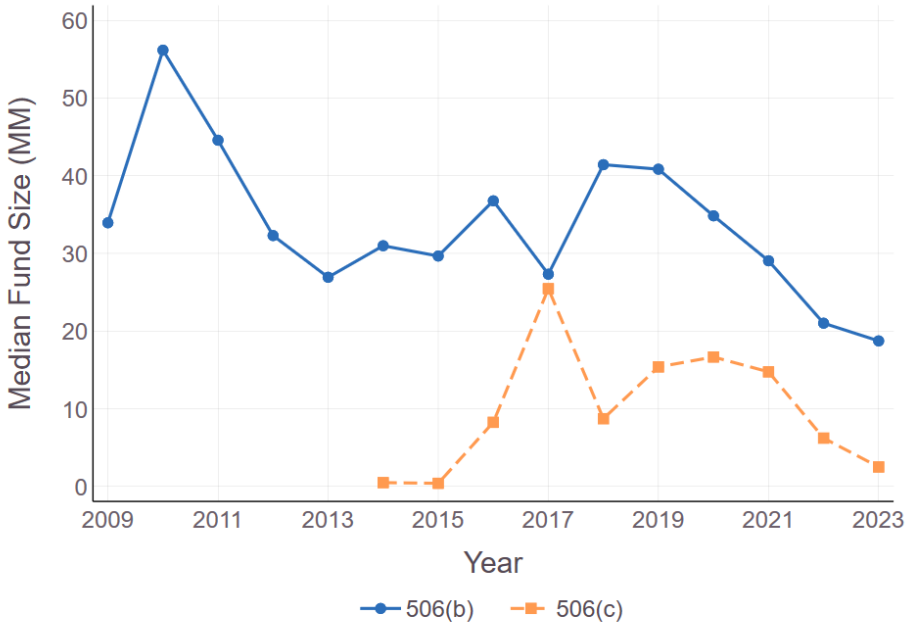
(b) Share of 506c



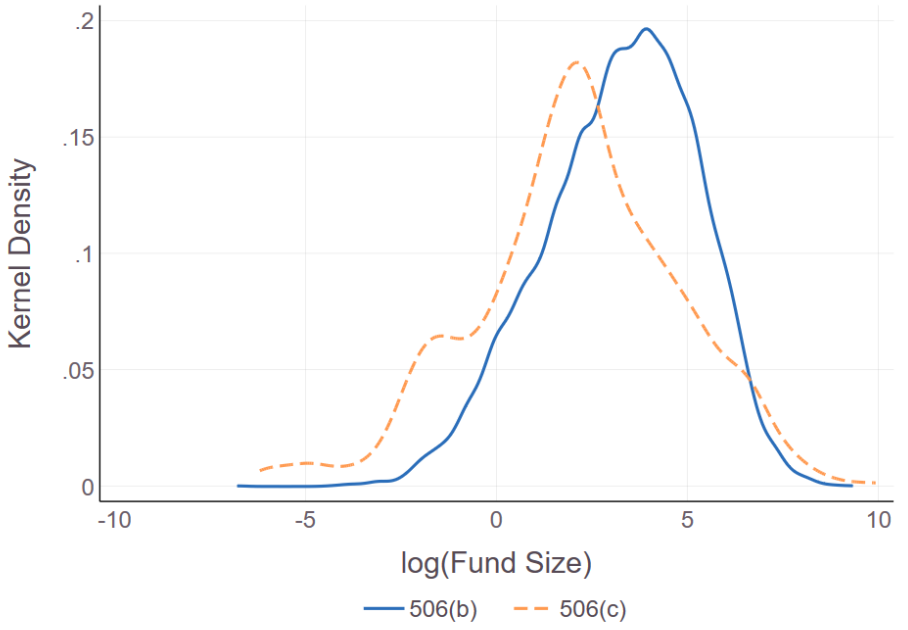
Note: These figures use data from all Reg D filings and Pitchbook Funds, rather than only those that match between the two datasets (which is the sample used in the main text). Panel A shows the count of VC funds using 506b and 506c by year, as well as the number of Pitchbook VC funds of that vintage. Panel B shows the share of 506c funds in terms of count relative to the total number of funds (not restricted to the Pitchbook match).

Figure A.2: Share and Size of VC Funds

(a) Median Fund Size by Year

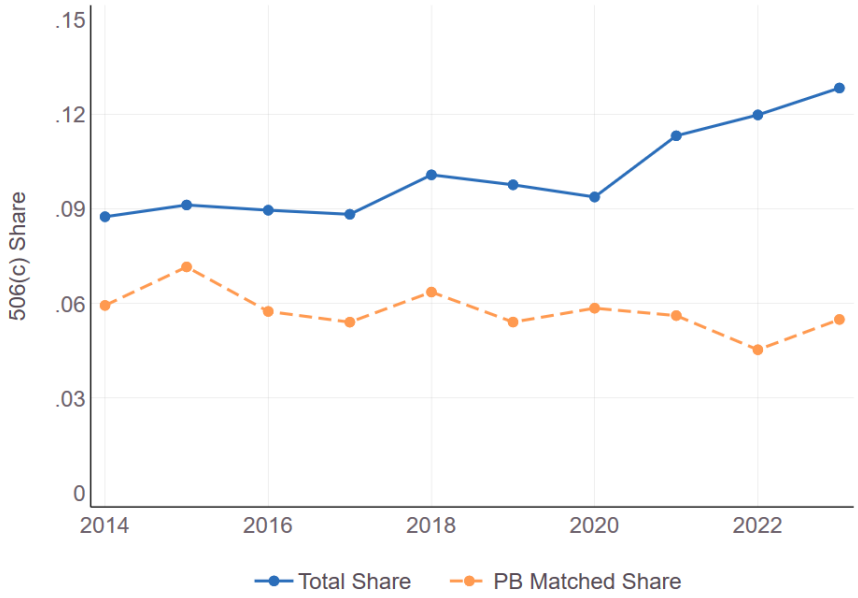


(b) Fund Size Distribution



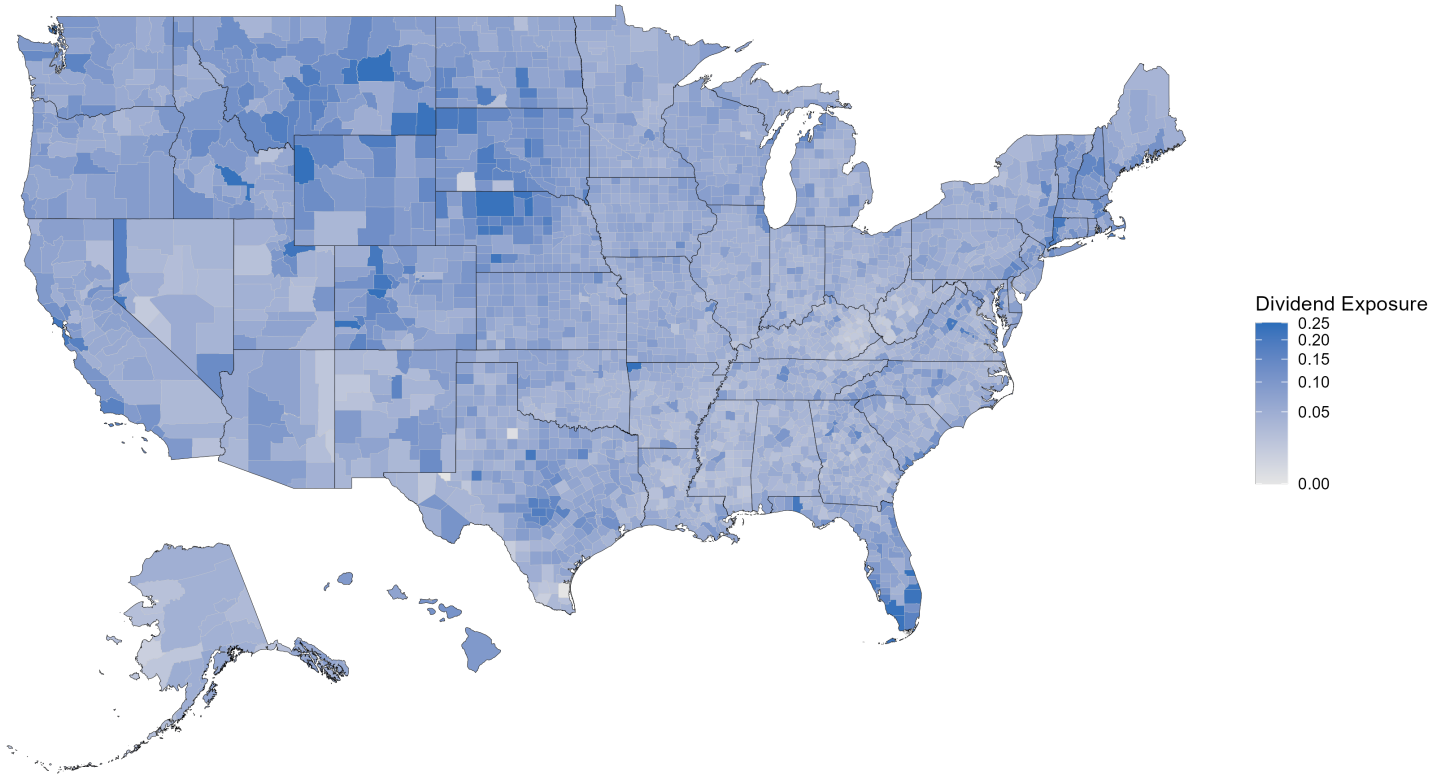
Note: Panel A shows the median fund size by year. Panel B shows the kernel density distribution of fund size for all years post 2014.

Figure A.3: Share of 506(c) Among Non-Investment Companies



Note: This figure shows the share of 506(c) among non-investment companies in overall Regulation D filings and among those companies we can match to companies in Pitchbook. From raw filings, we perform basic cleaning to isolate companies by removing any filings with an investment fund type listed, as well as filings where the entity name contains terms related to investments.

Figure A.4: Geographic Distribution of Dividend Exposure



Note: This figure shows the average level of the dividend exposure measure for each county over the period 2009-2023.

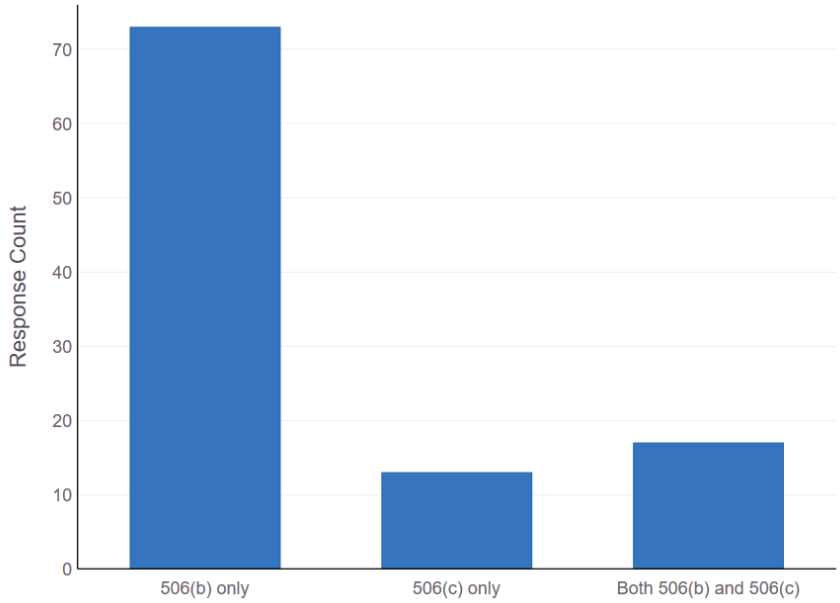
Figure A.5: Levels Compared to Population Benchmarks, 506(c) Only



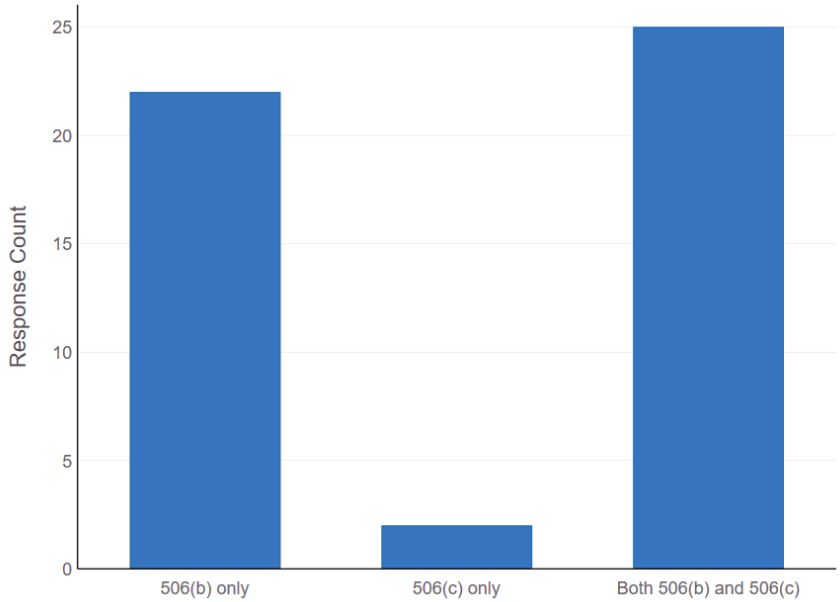
Note: This figure shows the share of fund managers of 506(c) filings within each year. The horizontal lines represent a benchmark share among university graduates. The Black/Hispanic and Female share among BA graduates are from National Center for Education Statistics over 2019-2021. The Non-Elite School share is from various university alumni pages and total degree holders from the US Census. The non-top 10 city share represents the share of young (0 year old) businesses according to Census Business Dynamics Statistics. The dashed line represents the effective date for the 506(c) General Solicitation exemption.

Figure A.6: Number of Respondents per Exemption Use

(a) Fund Managers

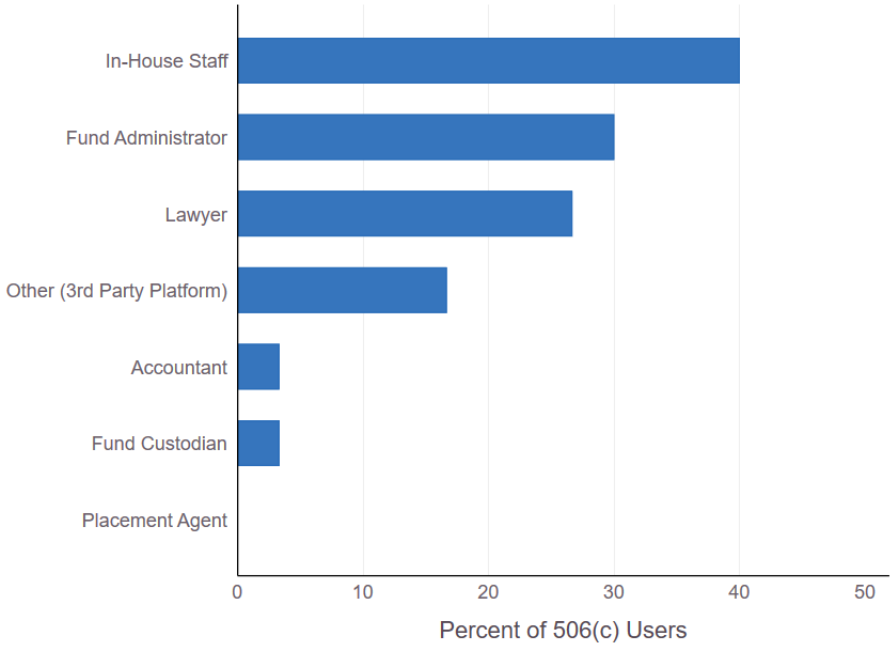


(b) Lawyers



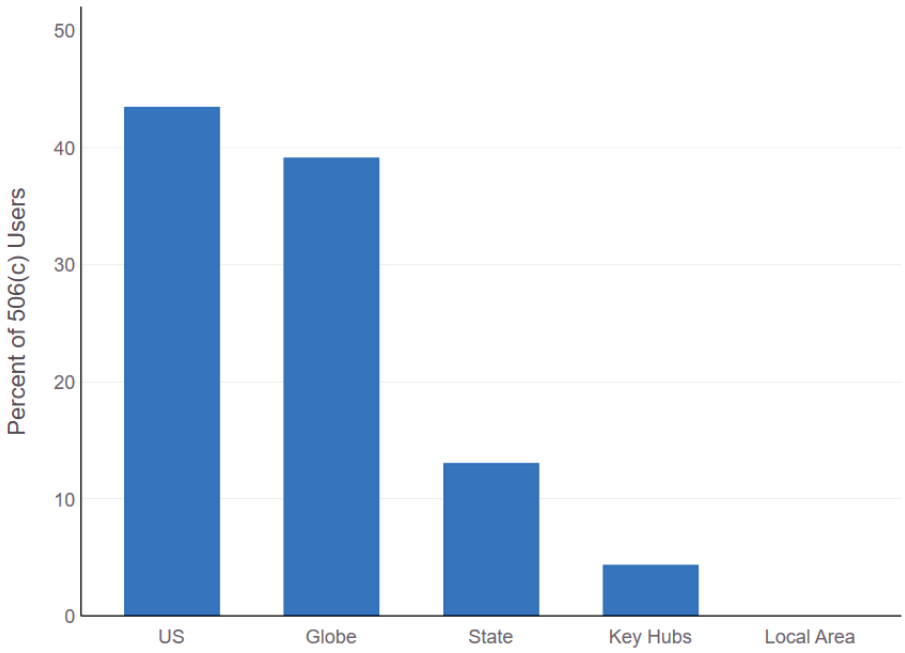
Note: This figure shows the number of respondents to the survey by exemption type. For the fund managers, these refer to the exemptions they have used in their own funds. For the lawyers, these refer to exemptions that funds have used to which they provided legal counsel.

Figure A.7: Verification Method, 506c Fund Managers (Multiselect)



Note: This figure shows responses among 506(c) fund managers regarding how they verify accreditation status of prospective investors. Respondents were allowed to select multiple options.

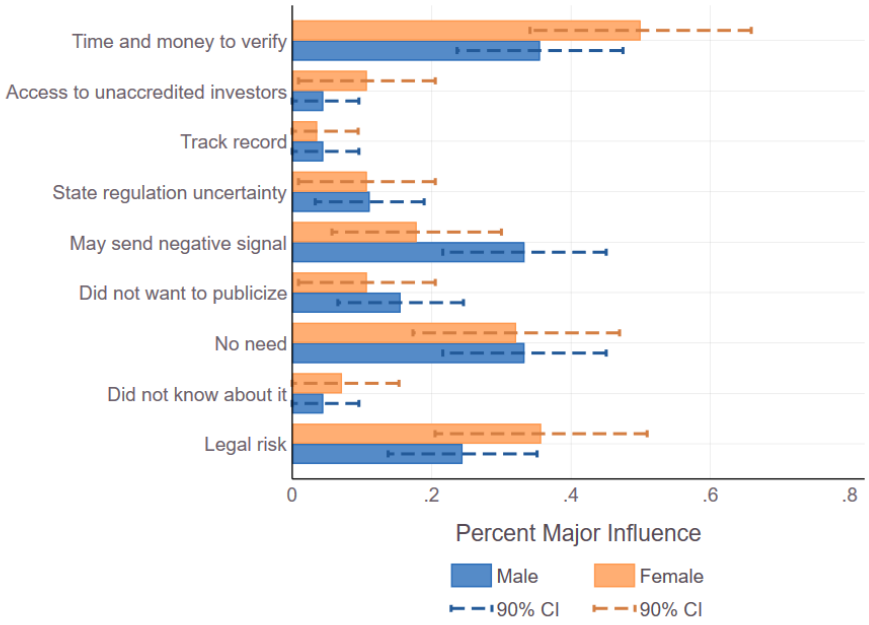
Figure A.8: Largest Target Geography for Public Solicitation, 506c Fund Managers



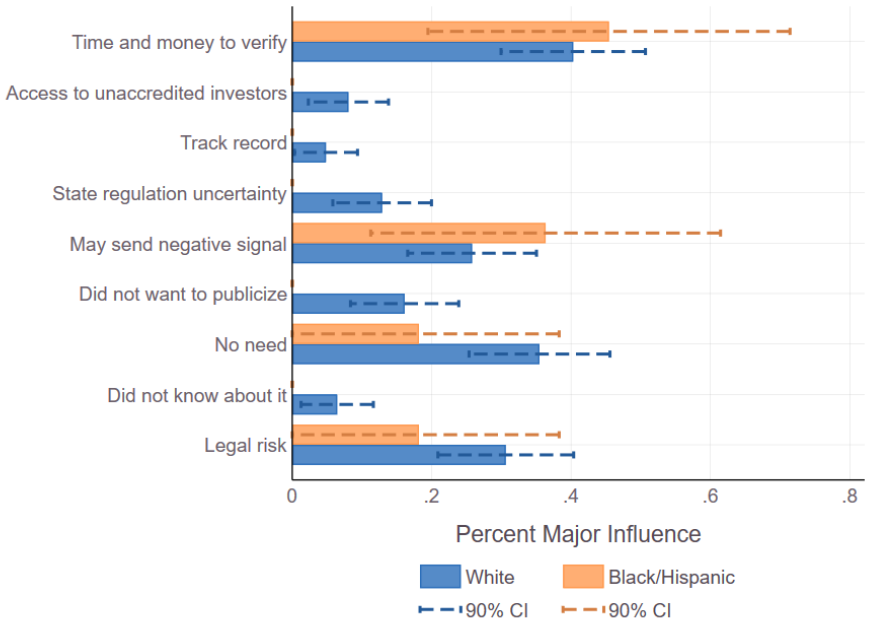
Note: This figure shows responses among 506(c) fund managers regarding where they targeted investors for general solicitation. Respondents were allowed to select multiple options, then the broadest option is assigned as their true response.

Figure A.9: 506(b) Fund Manager Reasons for not using 506(c) Across Demographics

(a) Male vs. Female



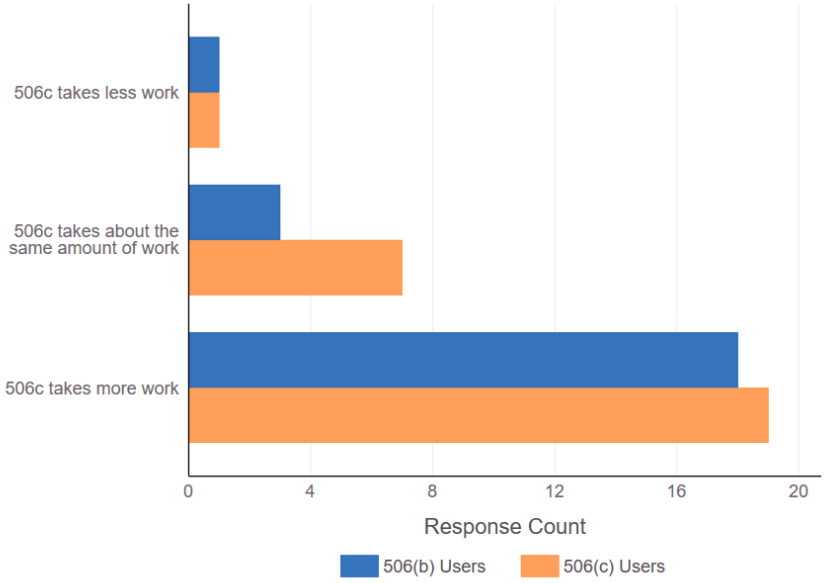
(b) White vs. Black/Hispanic



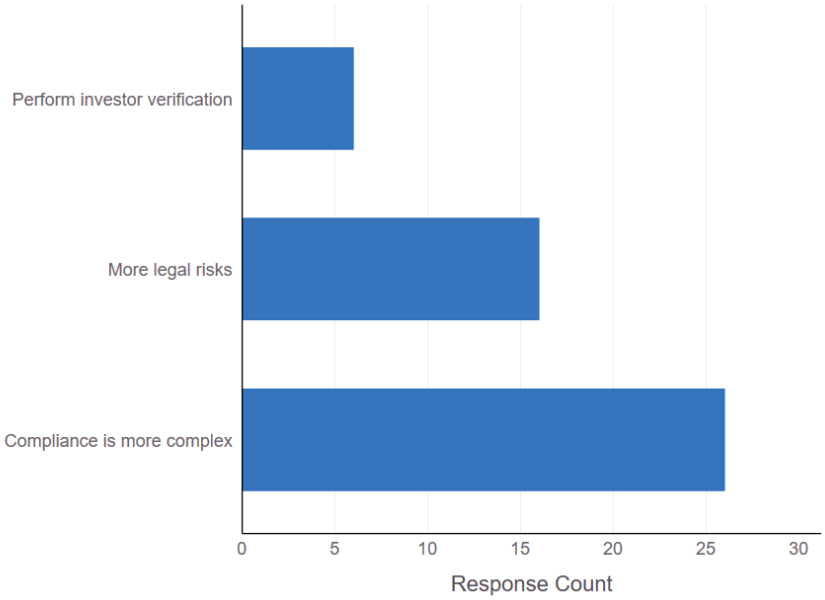
Note: These figures shows the responses of page 2, question 3 of the fund manager survey. The responses show how often fund managers reference various reasons for avoiding using 506(c) split by the characteristics of their fund. For Panel A, Male $N = 45$, Female $N = 28$. For Panel B, White $N = 62$, Black/Hispanic $N = 11$. For Panel C, Elite School $N = 34$, Non-Elite School $N = 39$.

Figure A.10: Investor Verification Burden for 506c (Lawyer Responses)

(a) Amount of Legal Work Required for 506c

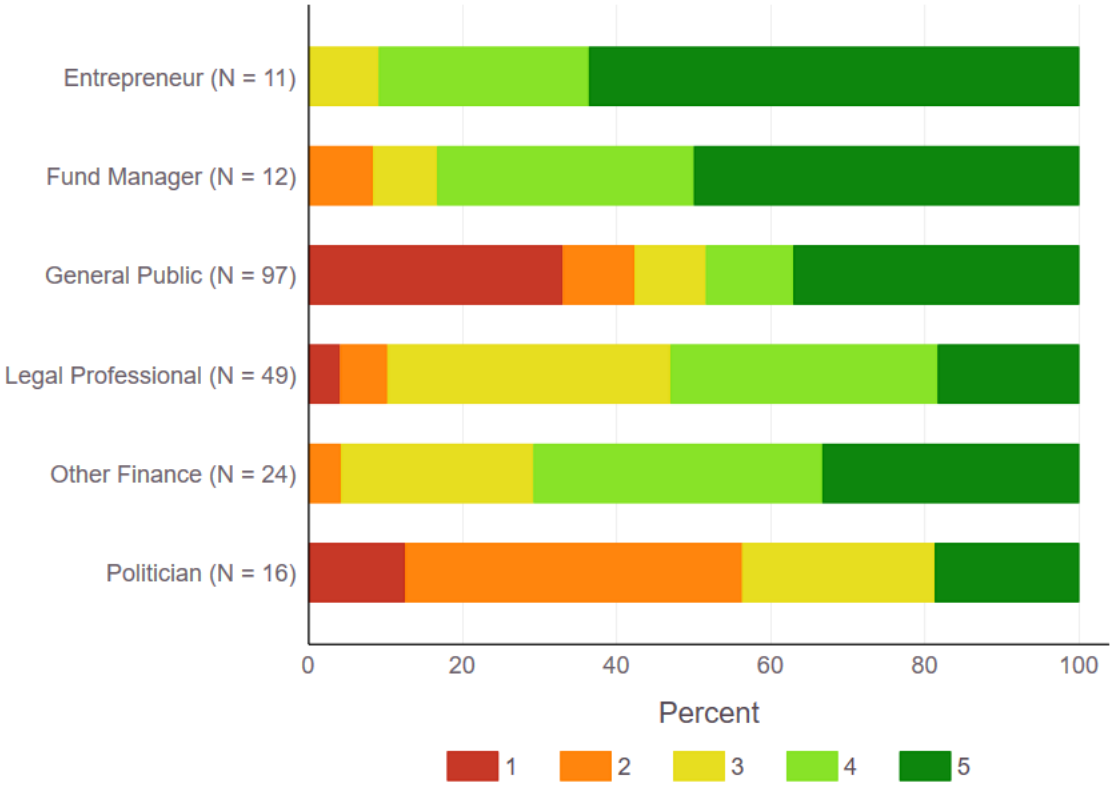


(b) Reason for More Legal Work for 506c



Note: This figure employs data from the lawyer survey about the amount of legal work (i.e. billable hours) required to verify that investors are accredited. Lawyers were first asked if 506(c) required more work. If they said it did, then they were asked why.

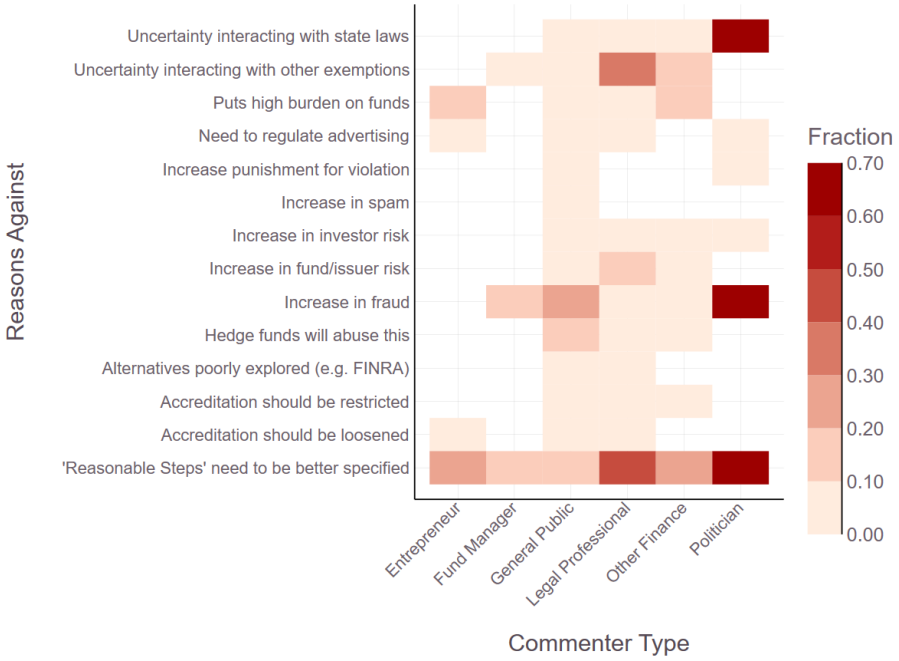
Figure A.11: Comment Agreement Rating



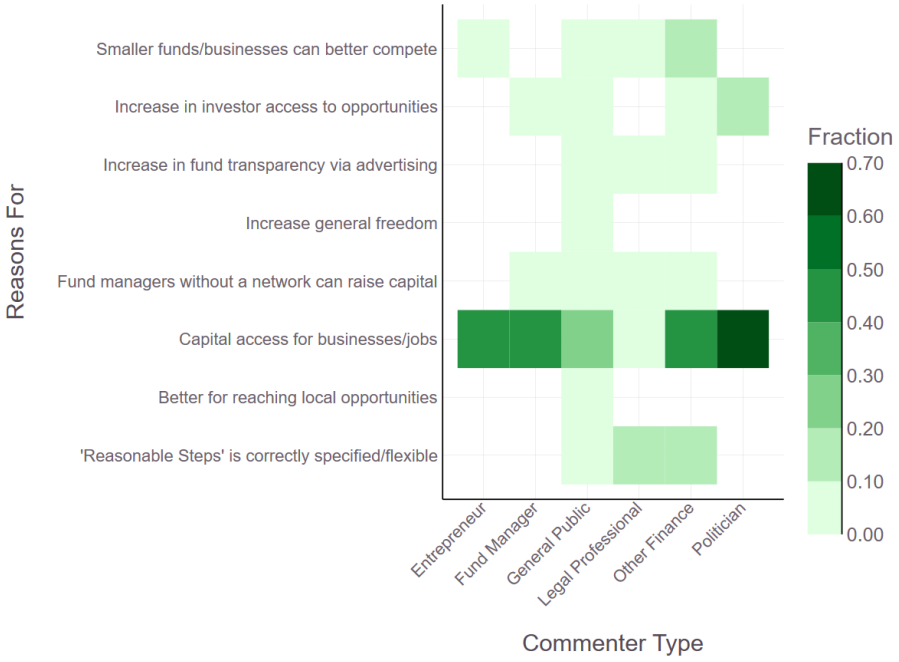
Note: Comments were assigned a value of 1 to 5 indicating level of agreement with the 506(c) proposal, with 5 being the highest level of agreement. $N = 209$

Figure A.12: Comments About the Reform

(a) Comments Against the Reform



(b) Comments For the Reform



Note: Panel A shows reasons a given commenter mentions for opposing the proposed 506(c) rule. Panel B shows reasons a given commenter mentions for supporting the proposed 506(c) rule. In both cases, the fraction represents the share of people within a commenter type that mention the reason (i.e., normalized within column). The fraction within a column may not sum to one because a comment may contain multiple reasons for or against the proposal. $N = 209$

Figure A.13: Impact of the 2020 Investor Accreditation Rule Change on 506(c) Take-up



Note: This figure plots the event study graph examining the impact of the change in investor accreditation rules on 506(c) takeup relative to 506(b). On December 8, 2020, the SEC expanded the definition of accredited investors beyond wealth/income-based to include those with relevant professional experience. We study the impact of this change in a dynamic DID, comparing the volume of 506(b) vs 506(c) funds before and after 2020. The sample is at the state-year-exemption-type level. To avoid contamination by the 2018 fund investor cap change, we restrict to funds above $10M. The dependent variable is the log number of 506(b) or 506(c) funds launched in a state-year. Year 2020 is omitted as the base year. The specification include state-exemption-type fixed effects and state-year fixed effects. The graph plots the point estimate and 95th CI of the interaction between 506(c) dummy and year indicators. Standard error is clustered by state.

Table A.1: Unmatched 506b/c Filing Analysis

	# of Funds
Reg D 506b/c VC Funds Matched to PB	9,005
Final Unmatched Reg D 506b/c VC Funds	4,862
Maching Process Waterfall:	
All Reg D 506b/c VC Funds	37,869
Unmatched 506b/c Filings	28,864
- Less Matched to other PB Fund Types	27,057
- Less Matched to duplicates of PB Funds	24,770
- Less Multiple Filings of Same Fund	14,981
- Less Funds with Address Outside US	14,150
- Less Funds with Cayman Islands in Name	14,140
- Less Other International Funds	14,067
- Less Parallel Funds	14,045
- Less Sidecar Funds	14,023
- Less Feeder Funds	13,997
- Less Rollup Funds	5,495
- Less REITs	5,491
- Less Blocker Funds	5,487
- Less Co-Invest Funds	5,295
- Less Microventure Funds	5,282
- Less Belltower Rollup Funds	5,095
- Less Fundersclub Funds	4,862

Note: This table summarizes the numbers in the matching process between Regulation D filings and PitchBook between 2009 and 2023. The matching process follows three steps. First, we acquire the CIK numbers for funds listed in PitchBook. Second, we match based on CIK to the Regulation D filings. In the case of multiple filings per CIK, we default to the earliest one ordered by accession number and file number. Third, if there is no CIK match, we try a text based matching between cleaned versions of the fund name. Again, in the case of multiple matches, we default to the earliest one. Among the matched sample, 94% are matched based on the CIK code. The upper panel shows the final matched sample number and how many funds remain unmatched from Regulation D following a paring process. This process is shown in the lower panel, in which we show how many filings survive an iterative process of removing filings that are either duplicates of matched filings or filings outside the scope of US VC funds.

Table A.2: Hub City and Industry

Rank	City	Industry
1	San Francisco, CA	Software
2	New York, NY	Commercial Services
3	Boston, MA	Pharmaceuticals and Biotechnology
4	Los Angeles, CA	Media
5	Chicago, IL	Healthcare Technology Systems
6	Austin, TX	
7	Denver, CO	
8	Seattle, WA	
9	Washington, DC	
10	Atlanta, GA	

Note: This table shows the definitions for hub cities and hub industries used in the main body tables.

Table A.3: Female Share within Form D VC Filings

	Executive Officer	Director	Promoter
$\mathbb{1}$(506(b))	0.117	0.125	0.128
$\mathbb{1}$(506(c))	0.071	0.092	0.146
N	21576	12232	4265

Note: This table shows the share of women among associated persons of Form D filings for both 506(b) and 506(c). Each person is identified as female by a first name matching.

Table A.4: Fundraising Volume of 506(b) and 506(c), All Filings, 2014-2023

	506(b)	506(c)	506(c) Share
Count of Filings	11314	923	0.075
Offering Amount (Bill $)	619.154	38.728	0.059
Amount Sold, Initial (Bill $)	277.600	17.545	0.059
Amount Sold, with Amendments (Bill $)	397.685	49.075	0.110

Note: This table shows total filing counts and measures of fundraising volume in the period 2014 to 2023 across 506(b) and 506(c) filers. Excluded are filings deemed erroneous as shown in Table A.1. All dollar volumes are in terms of 2017 US Dollars.

Table A.5: 506(b) vs 506(c): Fund Characteristics with Size Controls

Panel A. Fund Characteristics

	Fund Indicator						% LPs	
Dependent Variable:	Non-Top 10 City	Non-Top 3 City	Firm's First	Commission & Broker	MWBE	ESG	Non-Pension	Individual
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
$\mathbb{1}$(506(c))	0.103***	0.088***	0.064***	0.057*	0.021***	0.029***	0.083**	0.079**
	(0.021)	(0.025)	(0.022)	(0.034)	(0.007)	(0.006)	(0.034)	(0.033)
Mean Log Fund Size	-0.042***	-0.055***	-0.035***	-0.000	-0.001	0.002***	-0.075***	-0.040***
	(0.004)	(0.004)	(0.005)	(0.001)	(0.001)	(0.001)	(0.010)	(0.004)
Year FE	Yes	Yes	No	No	No	No	No	No
State × Year FE	No	No	Yes	Yes	Yes	Yes	Yes	Yes
N	7530	7530	7445	7445	7445	7445	2119	2119
R^2	0.045	0.059	0.086	0.412	0.067	0.051	0.189	0.148
Outcome Mean	0.324	0.517	0.257	0.015	0.016	0.015	0.670	0.094

Panel B. Fund Return Characteristics

	Continuous		Above 75th Percentile	
Dependent Variable:	IRR	TVPI	IRR	TVPI
	(1)	(2)	(3)	(4)
$\mathbb{1}$(506(c))	9.258	0.256*	0.248***	0.237***
	(5.552)	(0.144)	(0.043)	(0.061)
Mean Log Fund Size	-2.602***	-0.064**	-0.041***	-0.032
	(0.564)	(0.026)	(0.013)	(0.019)
Year FE	No	No	No	No
State × Year FE	Yes	Yes	Yes	Yes
N	803	868	803	868
R^2	0.285	0.316	0.152	0.128
Outcome Mean	16.715	1.727	0.238	0.242

Note: This table compares fund characteristics across 506(b) and 506(c) in a regression context controlling for fund size. Fund size is in terms of 2017 US Dollars. Standard are clustered at the state level and are reported in parentheses. * indicates statistical significance at the 10% level, ** at the 5% level, and *** at the 1% level.

Table A.6: 506(b) vs 506(c): Fund Manager Characteristics, Excluding Angel Funds

Panel A. Share of Fund Team

	Share of Fund Team					
Dependent Variable:	Female	Black/Hispanic	Black	Hispanic	Elite School	First Time
	(1)	(2)	(3)	(4)	(5)	(6)
$\mathbb{1}$(506(c))	0.057*	0.058***	0.034***	0.029	-0.038*	0.108***
	(0.031)	(0.018)	(0.005)	(0.018)	(0.023)	(0.040)
State × Year FE	Yes	Yes	Yes	Yes	Yes	Yes
N	4042	4043	4042	4042	3874	4043
R^2	0.065	0.068	0.074	0.058	0.121	0.098
Outcome Mean	0.146	0.061	0.017	0.044	0.472	0.396

Panel B. Indicator for Majority of Fund Team

	Majority of Fund Team					
Dependent Variable:	Female	Black/Hispanic	Black	Hispanic	Elite School	First Time
	(1)	(2)	(3)	(4)	(5)	(6)
$\mathbb{1}$(506(c))	0.052**	0.048***	0.031***	0.021*	-0.022	0.107**
	(0.022)	(0.014)	(0.005)	(0.012)	(0.029)	(0.050)
State × Year FE	Yes	Yes	Yes	Yes	Yes	Yes
N	4042	4043	4042	4042	3874	4043
R^2	0.066	0.061	0.069	0.050	0.102	0.094
Outcome Mean	0.075	0.029	0.010	0.019	0.406	0.340

Note: This table compares fund variables concerning manager characteristics in a regression context excluding angel funds. Panel A regresses the share of fund managers in levels against an indicator for if the filing used 506(c). Panel B regresses an indicator for if the given group represents at least half of the fund team for a given filing against the same indicator. Standard errors are clustered at the state level and are reported in parentheses. * indicates statistical significance at the 10% level, ** at the 5% level, and *** at the 1% level.

Table A.7: Fund Impact Target Comparison

Dependent Variable:	𝟙(DEI Target)		𝟙(ESG Target)	
	(1)	(2)	(3)	(4)
𝟙(506(c))	0.024***	-0.002	0.026***	0.030***
	(0.006)	(0.010)	(0.006)	(0.008)
𝟙(Underrepresented)		0.037***		0.007*
		(0.011)		(0.004)
𝟙(506(c)) × 𝟙(Underrepresented)		0.061*		0.017
		(0.031)		(0.031)
State × Year FE	Yes	Yes	Yes	Yes
N	8041	4067	8041	4067
R^2	0.063	0.123	0.046	0.065
Outcome Mean	0.015	0.023	0.015	0.020

Note: This table compares the indicator if a fund is a given type of targeted fund. A targeted fund is one identified by Pitchbook as describing itself as targeting DEI, i.e., minority-women business enterprises (MWBE), and/or ESG investments. Underrepresented is an indicator for the fund team having at least 1 female, black, or Hispanic manager. Standard errors are clustered at the state level and are reported in parentheses. * indicates statistical significance at the 10% level, ** at the 5% level, and *** at the 1% level.

Table A.8: Underrepresented Track Records, VC Firm vs Manager Level

	Underrepresented			Majority		
	VC Firm	Manager	Manager - VC-Firm	VC Firm	Manager	Manager - VC-Firm
Prior Exits	10.24	7.05	-3.19***	4.95	6.27	1.32**
Prior Funds	5.17	1.89	-3.28***	5.89	2.14	-3.75***

Note: The third column uses robust standard errors in conducting a t-test of the sample mean differences between the VC Firm and Manager columns. * indicates statistical significance at the 10% level, ** at the 5% level, and *** at the 1% level.

Table A.9: Comparison of Female vs Male Funds

Fund	**Male**	**Female**	**Female - Male**	**N**
Mean Fund Size (Mill $)	159.970	100.344	-59.625***	4000
Median Fund Size (Mill $)	29.697	8.659	-21.038***	4000
Non-Top 10 City Fund	0.314	0.272	-0.043	4155
Non-Top 3 City Fund	0.501	0.473	-0.028	4155
First Fund of VC Firm	0.272	0.431	0.159***	4155
Commission & Broker	0.015	0.010	-0.005	4155
DEI Target	0.011	0.163	0.152***	4155
ESG Target	0.019	0.032	0.013	4155
Mean Number Prior Funds	5.738	3.843	-1.894*	4155
Mean Number Prior Large Exits	7.434	3.355	-4.079***	4155
Fund LP				
Number of LPs	3.873	3.338	-0.535*	1654
Non-Pension Share	0.688	0.802	0.115***	1654
Individual Share	0.090	0.149	0.059**	1654
Fund Return				
Mean IRR	18.828	16.757	-2.071	707
Mean TVPI	1.844	1.638	-0.205	730
Fund Manager				
Female Share	0.083	0.928	0.845***	4155
Black/Hispanic Share	0.056	0.112	0.057***	4155
Black Share (Picture)	0.015	0.044	0.029***	4155
Hispanic Share (Name)	0.041	0.069	0.028**	4155
Elite School Share	0.463	0.518	0.056**	3987
First Time Share	0.388	0.501	0.113***	4155
Finance Experience Share	0.199	0.177	-0.022	4155
Portfolio Company				
Non-Top 5 Industry Share	0.349	0.407	0.058***	3953
Same City as Fund Share	0.131	0.138	0.007	3954
Same State as Fund Share	0.357	0.332	-0.025	3954
Company Filed 506(c) Share	0.011	0.009	-0.003	3921
Portfolio Company Leadership				
Has First Time CEO Share	0.827	0.857	0.030***	3893
Has Female CEO Share	0.130	0.343	0.213***	3893
Has Elite School CEO Share	0.312	0.324	0.012	3764

Note: This table compares various characteristics across female and male led funds. Female is an indicator for whether the fund had any women involved with the fund at the time of filing. Each block groups different characteristics by type and the observation count within the category. Fund size is in terms of 2017 US Dollars. The third column uses robust standard errors in conducting a t-test of the sample mean differences between 506(b) and 506(c), except for comparing the medians, which uses a quantile regression. * indicates statistical significance at the 10% level, ** at the 5% level, and *** at the 1% level.

Table A.10: Comparison of Black/Hispanic vs White Funds

Fund	**White**	**Black/Hispanic**	**Black/Hispanic - White**	**N**
Mean Fund Size (Mill $)	157.426	88.333	-69.093*	4001
Median Fund Size (Mill $)	29.697	8.659	-21.038***	4001
Non-Top 10 City Fund	0.311	0.311	-0	4156
Non-Top 3 City Fund	0.498	0.538	0.040	4156
First Fund of VC Firm	0.280	0.429	0.149***	4156
Commission & Broker	0.015	0.000	-0.015***	4156
DEI Target	0.020	0.109	0.089***	4156
ESG Target	0.020	0.008	-0.012	4156
Mean Number Prior Funds	5.694	2.210	-3.484***	4156
Mean Number Prior Large Exits	7.310	0.832	-6.478***	4156
Fund LP				
Number of LPs	3.832	3.676	-0.157	1654
Non-Pension Share	0.691	0.983	0.292***	1654
Individual Share	0.093	0.156	0.063	1654
Fund Return				
Mean IRR	18.771	14.543	-4.228	707
Mean TVPI	1.829	2.134	0.305	730
Fund Manager				
Female Share	0.144	0.229	0.085**	4155
Black/Hispanic Share	0.033	0.964	0.931***	4156
Black Share (Picture)	0.007	0.342	0.335***	4155
Hispanic Share (Name)	0.026	0.637	0.610***	4155
Elite School Share	0.468	0.429	-0.039	3987
First Time Share	0.391	0.613	0.222***	4156
Finance Experience Share	0.198	0.192	-0.005	4155
Portfolio Company				
Non-Top 5 Industry Share	0.351	0.426	0.075**	3953
Same City as Fund Share	0.132	0.099	-0.033**	3954
Same State as Fund Share	0.356	0.328	-0.028	3954
Company Filed 506(c) Share	0.011	0.016	0.005	3921
Portfolio Company Leadership				
Has First Time CEO Share	0.828	0.863	0.035*	3893
Has Female CEO Share	0.144	0.219	0.075***	3893
Has Elite School CEO Share	0.313	0.322	0.009	3764

Note: This table compares various characteristics across black/Hispanic and white led funds. Black/Hispanic is an indicator for whether the fund had a majority of black or Hispanic managers involved with the fund at the time of filing. Fund size is in terms of 2017 US Dollars. The third column uses robust standard errors in conducting a t-test of the sample mean differences between 506(b) and 506(c), except for comparing the medians, which uses a quantile regression. * indicates statistical significance at the 10% level, ** at the 5% level, and *** at the 1% level.

Table A.11: Comparison of Elite School vs Non-Elite School Funds

Fund	**Non-Elite**	**Elite**	**Elite - Non-Elite**	**N**
Mean Fund Size (Mill $)	123.034	213.709	90.675***	3843
Median Fund Size (Mill $)	29.697	8.659	-21.038***	3843
Non-Top 10 City Fund	0.364	0.228	-0.136***	3987
Non-Top 3 City Fund	0.563	0.400	-0.163***	3987
First Fund of VC Firm	0.302	0.227	-0.075***	3987
Commission & Broker	0.013	0.018	0.005	3987
DEI Target	0.025	0.014	-0.011**	3987
ESG Target	0.022	0.017	-0.005	3987
Mean Number Prior Funds	4.647	7.357	2.710***	3987
Mean Number Prior Large Exits	4.247	11.890	7.643***	3987
Fund LP				
Number of LPs	3.398	4.389	0.991***	1623
Non-Pension Share	0.742	0.643	-0.099***	1623
Individual Share	0.105	0.075	-0.030**	1623
Fund Return				
Mean IRR	19.584	17.580	-2.004	702
Mean TVPI	1.832	1.840	0.008	725
Fund Manager				
Female Share	0.138	0.154	0.016*	3987
Black/Hispanic Share	0.059	0.060	0.001	3987
Black Share (Picture)	0.018	0.016	-0.002	3987
Hispanic Share (Name)	0.042	0.044	0.001	3987
Elite School Share	0.191	0.881	0.690***	3987
First Time Share	0.426	0.319	-0.107***	3987
Finance Experience Share	0.197	0.210	0.013	3987
Portfolio Company				
Non-Top 5 Industry Share	0.359	0.337	-0.022***	3805
Same City as Fund Share	0.135	0.124	-0.011*	3806
Same State as Fund Share	0.351	0.361	0.010	3806
Company Filed 506(c) Share	0.012	0.009	-0.003*	3775
Portfolio Company Leadership				
Has First Time CEO Share	0.827	0.830	0.003	3749
Has Female CEO Share	0.142	0.144	0.003	3749
Has Elite School CEO Share	0.279	0.363	0.084***	3636

Note: This table compares various characteristics across elite school and non-elite school led funds. Elite School is an indicator for whether the fund had a majority of elite school educated people (as defined in the main text) involved with the fund at the time of filing. Fund size is in terms of 2017 US Dollars. The third column uses robust standard errors in conducting a t-test of the sample mean differences between 506(b) and 506(c), except for comparing the medians, which uses a quantile regression. * indicates statistical significance at the 10% level, ** at the 5% level, and *** at the 1% level.

Table A.12: Comparison of First Time vs Non-First Time Funds

Fund	**Non-FT**	**FT**	**FT - Non-FT**	**N**
Mean Fund Size (Mill $)	198.686	71.101	-127.585***	4001
Median Fund Size (Mill $)	29.697	8.659	-21.038***	4001
Non-Top 10 City Fund	0.284	0.364	0.080***	4156
Non-Top 3 City Fund	0.467	0.561	0.094***	4156
First Fund of VC Firm	0.080	0.679	0.598***	4156
Commission & Broker	0.019	0.005	-0.014***	4156
DEI Target	0.014	0.039	0.025***	4156
ESG Target	0.016	0.028	0.012**	4156
Mean Number Prior Funds	7.792	1.340	-6.452***	4156
Mean Number Prior Large Exits	10.674	0.256	-10.418***	4156
Fund LP				
Number of LPs	4.130	2.857	-1.273***	1654
Non-Pension Share	0.649	0.854	0.206***	1654
Individual Share	0.071	0.173	0.103***	1654
Fund Return				
Mean IRR	16.180	29.431	13.251***	707
Mean TVPI	1.739	2.254	0.515***	730
Fund Manager				
Female Share	0.135	0.167	0.032***	4155
Black/Hispanic Share	0.048	0.083	0.035***	4156
Black Share (Picture)	0.011	0.029	0.019***	4155
Hispanic Share (Name)	0.038	0.055	0.018***	4155
Elite School Share	0.502	0.392	-0.110***	3987
First Time Share	0.114	0.945	0.830***	4156
Finance Experience Share	0.215	0.163	-0.052***	4155
Portfolio Company				
Non-Top 5 Industry Share	0.332	0.395	0.064***	3953
Same City as Fund Share	0.128	0.137	0.009	3954
Same State as Fund Share	0.359	0.346	-0.013	3954
Company Filed 506(c) Share	0.010	0.014	0.004**	3921
Portfolio Company Leadership				
Has First Time CEO Share	0.823	0.841	0.018***	3893
Has Female CEO Share	0.133	0.171	0.037***	3893
Has Elite School CEO Share	0.321	0.297	-0.024***	3764

Note: This table compares various characteristics across first time and non-first time led funds. First time (FT) is an indicator for whether the fund had a majority of first time fund managers (no prior funds) involved with the fund at the time of filing. Fund size is in terms of 2017 US Dollars. The third column uses robust standard errors in conducting a t-test of the sample mean differences between 506(b) and 506(c), except for comparing the medians, which uses a quantile regression. * indicates statistical significance at the 10% level, ** at the 5% level, and *** at the 1% level.

Table A.13: Number of LPs by Groups

Dependent Variable:	Number of LPs			
	(1)	(2)	(3)	(4)
𝟙(Majority Female)	0.919***			
	(0.229)			
𝟙(Majority Black/Hispanic)		2.122***		
		(0.293)		
𝟙(Majority Non-Elite School)			0.400**	
			(0.175)	
𝟙(Majority First Time)				0.103
				(0.241)
Log Fund Size	1.297***	1.299***	1.291***	1.271***
	(0.153)	(0.149)	(0.150)	(0.144)
State × Year FE	Yes	Yes	Yes	Yes
N	1537	1537	1508	1537
R^2	0.278	0.280	0.281	0.275
Outcome Mean	3.893	3.893	3.922	3.893

Note: This table shows the number of LPs listed by Pitchbook for funds with a majority of their management team led by each group. Standard errors are clustered at the state level and are reported in parentheses. Fund size is in terms of 2017 US Dollars. * indicates statistical significance at the 10% level, ** at the 5% level, and *** at the 1% level.

Table A.14: Fund Returns by Manager Characteristics

Dependent Variable:	IRR				TVPI			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
𝟙(Majority Female)	3.496				-0.095			
	(3.228)				(0.153)			
𝟙(Majority Black/Hispanic)		-6.515				0.639*		
		(3.950)				(0.330)		
𝟙(Majority Non-Elite School)			-1.511				-0.040	
			(1.221)				(0.117)	
𝟙(Majority First Time)				9.124***				0.334***
				(1.427)				(0.101)
Log Fund Size	-3.373***	-3.440***	-3.179***	-2.522***	-0.089**	-0.082**	-0.088**	-0.061*
	(0.381)	(0.384)	(0.359)	(0.393)	(0.032)	(0.032)	(0.032)	(0.029)
State × Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	630	630	625	630	652	652	647	652
R^2	0.275	0.275	0.272	0.290	0.256	0.259	0.255	0.264
Outcome Mean	19.170	19.170	19.064	19.170	1.845	1.845	1.849	1.845

Note: This table shows the return in terms of IRR and TVPI listed by Pitchbook for funds with a majority of their management team led by each group. Standard errors are clustered at the state level and are reported in parentheses. Fund size is in terms of 2017 US Dollars. * indicates statistical significance at the 10% level, ** at the 5% level, and *** at the 1% level.

Table A.15: Sensitivity of Fund Entry to Local Wealth Shocks: Drop GPs without Individual LPs

Panel A. By Exemption Type

Dependent Variable:	ΔLn(# 506(b) Funds)	ΔLn(# 506(c) Funds)	506(c) Share
	(1)	(2)	(3)
Local Wealth Shock	0.014**	-0.003	-0.005
	(0.007)	(0.003)	(0.004)
County FE	Yes	Yes	Yes
Year-Quarter FE	Yes	Yes	Yes
N	6864	6864	1741
R^2	0.017	0.007	0.367
Outcome Mean	0.002	0.001	0.083

Panel B. By Exemption Type and Fund Manager Characteristic

Dependent Variable:	ΔLn(# 506(b) Funds) by						ΔLn(# 506(c) Funds) by					
	Female	Male	Minority	White	Non-Elite	Elite	Female	Male	Minority	White	Non-Elite	Elite
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Local Wealth Shock	0.002	0.020***	-0.001	0.022***	0.017***	0.008**	0.002	-0.002	0.001	-0.001	-0.000	-0.001
	(0.003)	(0.005)	(0.003)	(0.005)	(0.005)	(0.004)	(0.001)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
P-Value of difference	0.003		0.000		0.093		0.898		0.798		0.427	
County FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year-Quarter FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	6864	6864	6864	6864	6864	6864	6864	6864	6864	6864	6864	6864
R^2	0.005	0.020	0.008	0.019	0.015	0.012	0.009	0.008	0.005	0.008	0.007	0.005
Outcome Mean	0.000	-0.001	0.000	-0.001	-0.001	-0.001	0.000	0.000	0.000	-0.000	-0.000	0.000

Note: This table examines sensitivity of fund entry to local wealth shocks. Panel A examines sensitivity by exemption type and Panel B further breaks down by fund managers' gender and race. The sample is at the county-year-quarter level from 2014 to 2023. The dependent variables are log changes in the number of issuing funds in a county-quarter relative to the previous quarter, except in column 3 of Panel A where the outcome is the share of 506(c) funds relative to all funds. Following Crane et al. (2024), we use the interaction between local stock market participation and quarterly S&P 500 returns as shocks to local wealth. Local stock market participation is measured as the share of dividend income among total taxable income in a county, obtained from IRS. Both variables are lagged by one quarter relative the dependent variables. All columns include county fixed effects and year-quarter. Standard errors are clustered by county and are reported in brackets. * indicates statistical significance at the 10% level, ** at the 5% level, and *** at the 1% level.

Table A.16: Survey Respondent GPs and Law Firms Compared to Population

Panel A: VC Firms

Variable	Population	Respondents
Fund Size (MM)	122.19	57.95
Pct Female Fund Managers	0.12	0.12
Pct Minority Fund Managers	0.07	0.03
Pct Elite University Fund Managers	0.32	0.47

Panel B: Law Firms

	Population		Respondents	
Rank	Firm	Count	Firm	Count
1	DLA Piper	287	Cooley	9
2	Kirkland & Ellis	281	Latham & Watkins	5
3	Goodwin Procter	250	Gunderson Dettmer	4
4	Latham & Watkins	249	DLA Piper	3
5	Sidley Austin	183	Perkins Coie	3
6	King & Spalding	168	Sidley Austin	3
7	Gottlieb Steen & Hamilton	157	Foley&Lardner	2
8	Cooley	156	Goodwin Procter	2
9	Ropes & Gray	144	K&L Gates	2
10	Hogan Lovells	123	Kirkland & Ellis	2

Note: This table compares the makeup of survey respondents to the overall population in Pitchbook. Panel A shows characteristics of the population of VC Firms and respondent VC Firms. Panel B shows the top 10 names of law firms in the population and among the respondents.

A Appendix: Regulations and Institutional Details

A.1 Complete Rule 506 Text

Below, we copy the entire Rule 506 from the Code of Federal Regulations.[39] We omit the "bad actor" disqualification material at the end, which essentially bars issuers who have previously done something illegal from relying on the exemptions identified in Rule 506.

§230.506 Exemption for limited offers and sales without regard to dollar amount of offering.

(a) Exemption. Offers and sales of securities by an issuer that satisfy the conditions in paragraph (b) or (c) of this section shall be deemed to be transactions not involving any public offering within the meaning of section 4(a)(2) of the Act.

(b) Conditions to be met in offerings subject to limitation on manner of offering

(1) General conditions. To qualify for an exemption under this section, offers and sales must satisfy all the terms and conditions of §§230.501 and 230.502.

(2) Specific conditions

(i) Limitation on number of purchasers. There are no more than, or the issuer reasonably believes that there are no more than, 35 purchasers of securities from the issuer in offerings under this section in any 90-calendar-day period.

Note 1 to paragraph (b)(2)(i):

See §230.501(e) for the calculation of the number of purchasers and §230.502(a) for what may or may not constitute an offering under paragraph (b) of this section.

(ii) Nature of purchasers. Each purchaser who is not an accredited investor either alone or with his purchaser representative(s) has such knowledge and experience in financial and business matters that he is capable of evaluating the merits and risks of the prospective investment, or the issuer reasonably believes immediately prior to making any sale that such purchaser comes within this description.

(c) Conditions to be met in offerings not subject to limitation on manner of offering

(1) General conditions. To qualify for exemption under this section, sales must satisfy all the terms and conditions of §§230.501 and 230.502(a) and (d).

(2) Specific conditions

[39] Available here: https://www.ecfr.gov/current/title-17/chapter-II/part-230/subject-group-ECFR6e651a4c86c0174

(i) Nature of purchasers. All purchasers of securities sold in any offering under paragraph (c) of this section are accredited investors.

(ii) Verification of accredited investor status. The issuer shall take reasonable steps to verify that purchasers of securities sold in any offering under paragraph (c) of this section are accredited investors. The issuer shall be deemed to take reasonable steps to verify if the issuer uses, at its option, one of the following non-exclusive and non-mandatory methods of verifying that a natural person who purchases securities in such offering is an accredited investor; provided, however, that the issuer does not have knowledge that such person is not an accredited investor:

(A) In regard to whether the purchaser is an accredited investor on the basis of income, reviewing any Internal Revenue Service form that reports the purchaser's income for the two most recent years (including, but not limited to, Form W-2, Form 1099, Schedule K-1 to Form 1065, and Form 1040) and obtaining a written representation from the purchaser that he or she has a reasonable expectation of reaching the income level necessary to qualify as an accredited investor during the current year;

(B) In regard to whether the purchaser is an accredited investor on the basis of net worth, reviewing one or more of the following types of documentation dated within the prior three months and obtaining a written representation from the purchaser that all liabilities necessary to make a determination of net worth have been disclosed:

(1) With respect to assets: Bank statements, brokerage statements and other statements of securities holdings, certificates of deposit, tax assessments, and appraisal reports issued by independent third parties; and

(2) With respect to liabilities: A consumer report from at least one of the nationwide consumer reporting agencies;

(C) Obtaining a written confirmation from one of the following persons or entities that such person or entity has taken reasonable steps to verify that the purchaser is an accredited investor within the prior three months and has determined that such purchaser is an accredited investor:

(1) A registered broker-dealer;

(2) An investment adviser registered with the Securities and Exchange Commission;

(3) A licensed attorney who is in good standing under the laws of the jurisdictions in which he or she is admitted to practice law; or

(4) A certified public accountant who is duly registered and in good standing under the laws of the place of his or her residence or principal office;

(D) In regard to any person who purchased securities in an issuer's Rule 506(b) offering as an

accredited investor prior to September 23, 2013 and continues to hold such securities, for the same issuer's Rule 506(c) offering, obtaining a certification by such person at the time of sale that he or she qualifies as an accredited investor; or

(E) In regard to any person that the issuer previously took reasonable steps to verify as an accredited investor in accordance with this paragraph (c)(2)(ii), so long as the issuer is not aware of information to the contrary, obtaining a written representation from such person at the time of sale that he or she qualifies as an accredited investor. A written representation under this method of verification will satisfy the issuer's obligation to verify the person's accredited investor status for a period of five years from the date the person was previously verified as an accredited investor.

Instructions to paragraph (c)(2)(ii): of this section.

1. The issuer is not required to use any of these methods in verifying the accredited investor status of natural persons who are purchasers. These methods are examples of the types of non-exclusive and non-mandatory methods that satisfy the verification requirement in §230.506(c)(2)(ii).

2. In the case of a person who qualifies as an accredited investor based on joint income with that person's spouse, the issuer would be deemed to satisfy the verification requirement in §230.506(c)(2)(ii)(A) by reviewing copies of Internal Revenue Service forms that report income for the two most recent years in regard to, and obtaining written representations from, both the person and the spouse.

3. In the case of a person who qualifies as an accredited investor based on joint net worth with that person's spouse, the issuer would be deemed to satisfy the verification requirement in §230.506(c)(2)(ii)(B) by reviewing such documentation in regard to, and obtaining written representations from, both the person and the spouse.

A.2 Private Fund Categories under the 1940 Investment Company Act

Private Fund Categories Private funds are not required to be registered or regulated as investment companies under the federal securities laws. Private funds are structured to qualify for one of the following exclusions from the definition of investment company:[40]

1. Traditional 3(c)(1) funds: Any fund not publicly offered with fewer than 100 beneficial owners who are all accredited investors

2. Qualifying venture capital 3(c)(1) funds: venture capital funds managing less than $10M with fewer than 250 beneficial owners (fewer than 100 beneficial owners before May, 2018).

[40]See `https://www.sec.gov/education/capitalraising/building-blocks/private-fund` for details.

3. 3(c)(7) funds: Any fund not publicly offered whose investors are qualified purchasers. The fund is limited to 1,999 investors to avoid SEC registration under the Securities Exchange Act of 1934. Most qualified purchasers are directly solicited by the fund sponsors and thus would fall under 506(b).

A qualified purchaser is an investor that meets certain financial and sophistication standards, as defined in the Investment Company Act and its rules. For example, an individual may be a qualified purchaser if the investor owns $5 million or more in investments, and an entity may qualify if it owns and invests on a discretionary basis at least $25 million in investments. Note that qualified purchase is much higher bar than accredited investors.

Definition of venture capital funds The 1940 Act defines a fund as venture capital fund if it satisfies the following criteria:

1. Does not invest more than 20% of the fund's committed capital in non-qualifying investments, such as debt, secondaries, public issuances, fund-of-fund investments, or digital assets.
2. Restricts borrowing and all other leverage to 15% of the fund size, and repays any leveraged debts within 120 days.
3. Limits LP redemption rights (their ability to cash out of the fund) to "extraordinary circumstances".
4. Represents to investors and potential investors that it pursues a venture capital strategy.

Venture funds

These are the larger, traditional VC funds on AngelList. They are mostly 506(b). There are only more than a hundred of these funds in Form D and we keep them in our sample.

Roll up vehicles (RUV)

AngelList introduced roll up vehicles in 2021. They are direct financing vehicles for startups without the involvement of any GPs or fund managers.[41] RUVs are used by founders to raise money from a single entity (RUV), that pools money from a number of LPs. There are no GPs or fund managers involved other than AngelList, who helps set up the vehicle. The main benefit of RUV is that it offers a clean, easier-to-manage cap table. There is also no need to chase signatures and reconcile wirings from dozens of LPs. Instead, startup deals with the RUV directly and have a single RUV on cap table. Because these are not intermediated financing, we remove them from our sample.

[41] See `https://www.angellist.com/ruv` for details.

B Appendix: Surveys

B.1 Fund Manager Survey

B.1.1 Common First Page

Survey on Private Fund Use of the Reg D 506c Exemption

Introduction

We are studying use of the Rule 506(c) exemption under Regulation D. Our aim is to learn about challenges to private capital market fundraising. In particular, we wish to better understand why Rule 506(c) is used far less frequently than Rule 506(b).

As you may know, fundraising in private capital markets traditionally made use of the 506(b) exemption from securities registration. Under 506(b), public solicitation (e.g., posting information about a raise on an unrestricted website) is not allowed. The 506(c) exemption, which was introduced in 2013, permits GPs to publicly solicit investments from accredited investors. However, the GP must also take reasonable steps to verify that investors are accredited, and non-accredited investors cannot participate.

This research is academic in nature and will include an analysis of Form D filings, cross-referenced with other databases, as well as feedback obtained in this survey. We will not be sharing any non-aggregated data from this survey with anyone outside of our research team.

* 1. Your Name:

* 2. Your Firm's Name:

* 3. Considering all of the funds you have been involved in raising, which of the following exemptions were used?

- ◯ 506(b) only
- ◯ 506(c) only
- ◯ Both 506(b) and 506(c)

B.1.2 Remainder of Survey for 506(b)-Only Users

* 1. Have your funds ever considered using the 506(c) exemption?

◯ Yes

◯ No

* 2. In cases where 506(c) was not chosen, why not? Please write your response below:

* 3. Consider the most recent fund that you were involved in raising. Did any of the following reasons influence the decision not to use 506(c)? (Select on option for each reason.)

	No Influence	Some Influence	Major Influence
Verification of investors' accreditation status would have taken additional time and money.	◯	◯	◯
There was potential legal risk in verifying investor accreditation status.	◯	◯	◯
There was uncertainty about federal vs. state regulations.	◯	◯	◯
We wanted to include unaccredited investors.	◯	◯	◯
We didn't have an adequate track record for public solicitation.	◯	◯	◯
Since we already had plenty of incoming investor demand, the fund didn't need public solicitation.	◯	◯	◯
We did not know about the 506(c) exemption when fundraising.	◯	◯	◯
We do not want to publicize our fundraising (i.e., want to stay in stealth mode)	◯	◯	◯
Using 506(c) may send a negative signal about our fund's quality	◯	◯	◯

* 4. In general, for the funds in which you have been involved in fundraising, how were potential investors sourced?

	Never	Sometimes	Frequently
Our personal network.	◯	◯	◯
Through intermediaries, such as investment banks or placement agents.	◯	◯	◯
Contacting investors from the firm's previous funds.	◯	◯	◯

Other (please specify if you believe none of the above were relevant):

* 5. Please indicate an opinion about the following statements:

	Disagree Completely	Disagree Somewhat	Neither Agree nor Disagree	Agree Somewhat	Agree Completely
In principle, the 506(c) exemption should be useful for new fund managers who do not have a pre-existing network of investors (i.e. LPs).	◯	◯	◯	◯	◯
The 506(c) investor accreditation verification requirements are unclear.	◯	◯	◯	◯	◯
The 506(c) investor accreditation verification requirements create legal risks for the GP.	◯	◯	◯	◯	◯
It is burdensome to verify investor accreditation status for 506(c).	◯	◯	◯	◯	◯
The 506(c) exemption is underutilized.	◯	◯	◯	◯	◯
The 506(c) exemption sends a negative signal about quality/ability.	◯	◯	◯	◯	◯

* 6. In general, what are the biggest challenges facing new or emerging fund managers? Please write your response below:

B.1.3 Remainder of Survey for 506(c)-Only Users

* 1. Why did the funds you were involved in raising use 506(c) instead of 506(b)?

* 2. Did the following influence the decision to choose 506(c) rather than 506(b)? Select one option for each reason:

	No Influence	Some Influence	Major Influence
We did not have an extensive investor network.	◯	◯	◯
We had an existing investor network, but we were looking to find new investors in order to scale up.	◯	◯	◯

* 3. When the fund publicly advertised, what geographic region was targeted? Check all that apply:

- ☐ Local area (i.e., city)
- ☐ Local state
- ☐ The key "hubs" of Silicon Valley, Boston, New York City, etc.
- ☐ The whole U.S.
- ☐ Global

* 4. Who handled investor accreditation verification and related paperwork for the 506(c) fund(s)? Select all that apply:

- ☐ Placement agent/financing advisor
- ☐ Fund administrator
- ☐ Fund custodian
- ☐ Accounting firm/auditor
- ☐ Lawyer/law firm
- ☐ In-house department/Self
- ☐ Other (please specify):

* 5. Please indicate an opinion about the following statements:

	Disagree Completely	Disagree Somewhat	Neither Agree nor Disagree	Agree Somewhat	Agree Completely
The funds I was involved in that used 506(c) wouldn't have launched or raised as much money if they had used 506(b).	◯	◯	◯	◯	◯
In principle, the 506(c) exemption should be useful for new fund managers who do not have a pre-existing network of investors (i.e. LPs).	◯	◯	◯	◯	◯
The 506(c) investor accreditation verification requirements are unclear.	◯	◯	◯	◯	◯
The 506(c) investor accreditation verification requirements create legal risks for the GP.	◯	◯	◯	◯	◯
It is burdensome to verify investor accreditation status for 506(c).	◯	◯	◯	◯	◯
The 506(c) exemption is underutilized.	◯	◯	◯	◯	◯
The 506(c) exemption sends a negative signal about quality/ability.	◯	◯	◯	◯	◯

* 6. For future fundraising that you may be involved with, which exemption will the fund(s) use?

◯ 506(b)

◯ 506(c)

◯ Depends

* 7. Why? Please write your response below:

* 8. In general, what are the biggest challenges facing new or emerging fund managers? Please write your response below:

B.1.4 Remainder of Survey for both 506(b) & 506(c) Users

* 1. In cases where 506(c) was used, why was it used as opposed to 506(b)?

* 2. Did the following influence the decision to choose 506(c) rather than 506(b)? Select one option for each reason:

	No Influence	Some Influence	Major Influence
We did not have an extensive investor network.	◯	◯	◯
We had an existing investor network, but we were looking to find new investors in order to scale up.	◯	◯	◯

* 3. When the fund publicly advertised, what geographic region was targeted? Check all that apply:

- ☐ Local area (i.e., city)
- ☐ Local state
- ☐ The key "hubs" of Silicon Valley, Boston, New York City, etc.
- ☐ The whole U.S.
- ☐ Global

* 4. Who handled investor accreditation verification and related paperwork for the 506(c) fund(s)? Select all that apply:

- ☐ Placement agent/financing advisor
- ☐ Fund administrator
- ☐ Fund custodian
- ☐ Accounting firm/auditor
- ☐ Lawyer/law firm
- ☐ In-house department/Self
- ☐ Other (please specify):

* 5. Please indicate an opinion about the following statements:

	Disagree Completely	Disagree Somewhat	Neither Agree nor Disagree	Agree Somewhat	Agree Completely
The funds I was involved in that used 506(c) wouldn't have launched or raised as much money if they had used 506(b).	◯	◯	◯	◯	◯
In principle, the 506(c) exemption should be useful for new fund managers who do not have a pre-existing network of investors (i.e. LPs).	◯	◯	◯	◯	◯
The 506(c) investor accreditation verification requirements are unclear.	◯	◯	◯	◯	◯
The 506(c) investor accreditation verification requirements create legal risks for the GP.	◯	◯	◯	◯	◯
It is burdensome to verify investor accreditation status for 506(c).	◯	◯	◯	◯	◯
The 506(c) exemption is underutilized.	◯	◯	◯	◯	◯
The 506(c) exemption sends a negative signal about quality/ability.	◯	◯	◯	◯	◯

* 6. What type of funds most suit 506(b), and what type of funds most suit 506(c)? Please write your response below:

* 7. For future fundraising that you may be involved with, which exemption will the fund(s) use?

- ◯ 506(b)
- ◯ 506(c)
- ◯ Depends

* 8. Why? Please write your response below:

* 9. In general, what are the biggest challenges facing new or emerging fund managers? Please write your response below:

B.2 Lawyer Survey

Legal Counsel Survey on Private Fund Use of the Reg D 506c Exemption

Introduction

We are studying use of the Rule 506(c) exemption under Regulation D. Our aim is to learn about challenges to private capital market fundraising. In particular, we wish to better understand why Rule 506(c) is used far less frequently than Rule 506(b). We understand that companies often rely on their legal counsel to choose an exemption, and so in this survey we are hoping to get your opinions on the matter.

As you may know, fundraising in private capital markets traditionally made use of the 506(b) exemption from securities registration. Under 506(b), public solicitation (e.g., posting information about a raise on an unrestricted website) is not allowed. The 506(c) exemption, which was introduced in 2013, permits GPs to publicly solicit investments from accredited investors. However, the GP must also take reasonable steps to verify that investors are accredited, and non-accredited investors cannot participate.

This research is academic in nature and will include an analysis of Form D filings, cross-referenced with other databases, as well as feedback obtained in this survey. We will not be sharing any non-aggregated data from this survey with anyone outside of our research team.

* 1. Considering all of the VC funds you have been involved with as legal counsel, which of the following exemptions were used?

- ◯ 506(b) only
- ◯ 506(c) only
- ◯ Both 506(b) and 506(c)

* 2. Please indicate an opinion about the following statements:

	Disagree Completely	Disagree Somewhat	Neither Agree nor Disagree	Agree Somewhat	Agree Completely
In principle, the 506(c) exemption should be useful for new fund managers who do not have a pre-existing network of investors (i.e. LPs).	◯	◯	◯	◯	◯
The 506(c) investor accreditation verification requirements are unclear.	◯	◯	◯	◯	◯
The 506(c) investor accreditation verification requirements create legal risks for the GP.	◯	◯	◯	◯	◯
It is burdensome to verify investor accreditation status for 506(c).	◯	◯	◯	◯	◯
The 506(c) exemption is underutilized.	◯	◯	◯	◯	◯
The 506(c) exemption sends a negative signal about quality/ability.	◯	◯	◯	◯	◯

* 3. Is there a fund size for which you think 506(c) as opposed to 506(b) is most appropriate?

◯ Small funds (<$25 mill)

◯ Medium funds

◯ Big funds (>$1 bill)

◯ Fund size doesn't matter for the choice of 506(c) vs. 506(b)

* 4. What kind of investment track record is needed to effectively use 506(c)?

◯ A strong track record

◯ Track record doesn't matter for the choice of 506(c) vs. 506(b)

* 5. Is there a policy change that you think would increase takeup of 506(c)?

* 6. Do you do investor verification for 506(c) funds?

- ◯ Yes
- ◯ No

* 7. Holding all else equal, does using 506(c) require more legal work (i.e., more billable hours)?

- ◯ It requires more work.
- ◯ It requires about the same amount of work.
- ◯ It requires less work.

* 1. If you answered that it requires more work in the previous question, why did you choose that answer?

- ☐ We do investor verification for 506(c) funds.
- ☐ 506(c) funds have more legal risks.
- ☐ 506(c) fund compliance is more complex.
- ☐ Other reason (please specify):

B.3 Emails Requesting Survey Participation

1. Email to VC Fund Managers:



Sabrina Howell <sth7@nyu.edu> Mon, Jan 29, 3:42 PM

to [redacted]

Dear [redacted]

I'm a Professor at NYU Stern researching use of the Rule 506(c) exemption under Regulation D, which allows for public solicitation in fundraising.

I'd really like your perspective on this based on the funds you've raised in the past, regardless of which exemption (if any) those funds employed. If you could take a few minutes to fill out this survey, I would be extremely grateful.

https://www.surveymonkey.com/r/G9WPRZZ.

As we explain in the survey, this research is academic in nature. All published material based on the survey will be aggregated and anonymous. We will not be sharing any non-aggregated data from this survey with anyone outside of our research team.

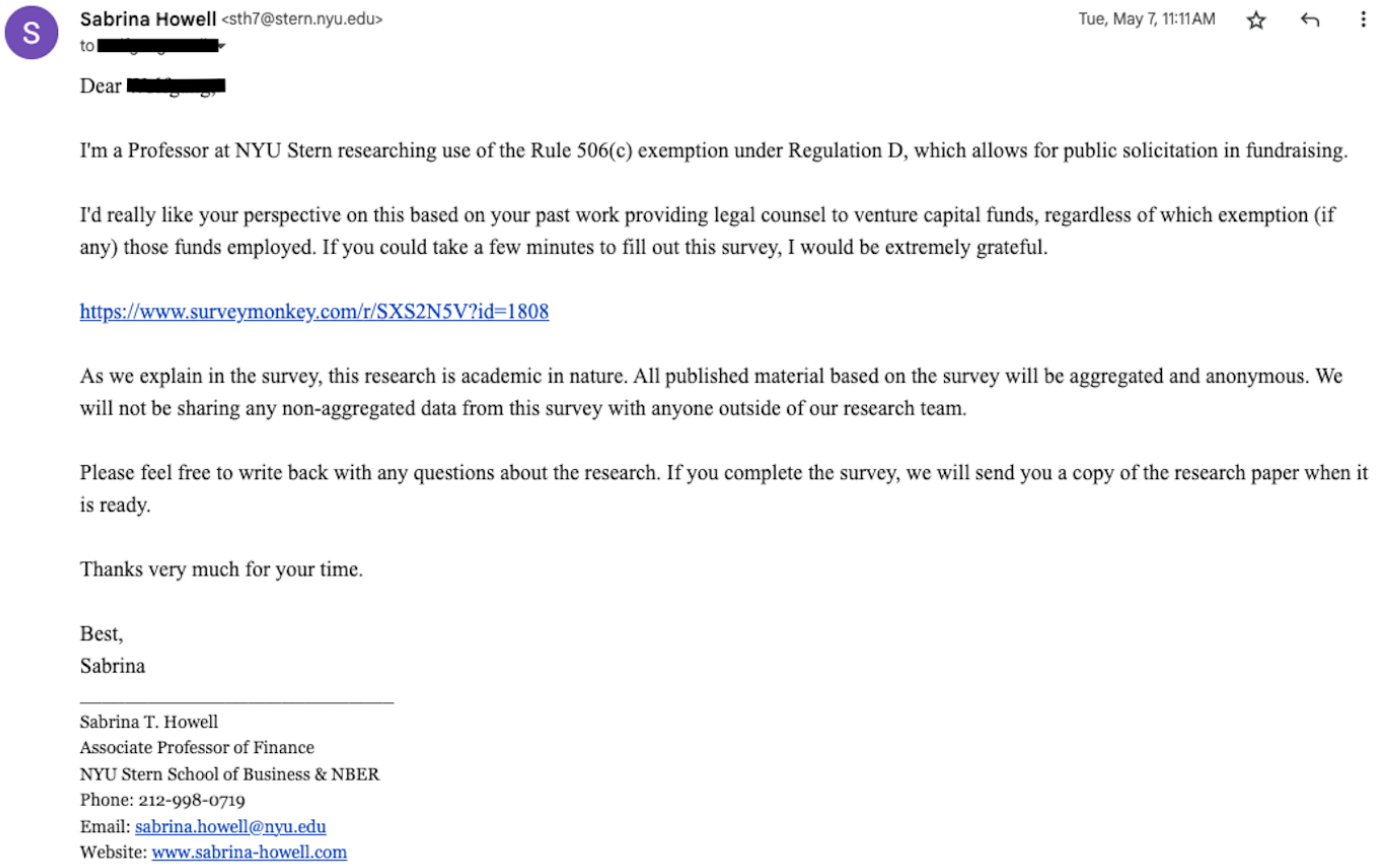
Please feel free to write back with any questions about the research. If you complete the survey, we will send you a copy of the research paper when it is ready.

Thanks very much for your time.

Best,
Sabrina

Sabrina T. Howell
Associate Professor of Finance
NYU Stern School of Business & NBER
Phone: 212-998-0719
Email: sabrina.howell@nyu.edu
Website: www.sabrina-howell.com

2. Email to Lawyers:



Sabrina Howell <sth7@stern.nyu.edu> Tue, May 7, 11:11AM

to [redacted]

Dear [redacted]

I'm a Professor at NYU Stern researching use of the Rule 506(c) exemption under Regulation D, which allows for public solicitation in fundraising.

I'd really like your perspective on this based on your past work providing legal counsel to venture capital funds, regardless of which exemption (if any) those funds employed. If you could take a few minutes to fill out this survey, I would be extremely grateful.

https://www.surveymonkey.com/r/SXS2N5V?id=1808

As we explain in the survey, this research is academic in nature. All published material based on the survey will be aggregated and anonymous. We will not be sharing any non-aggregated data from this survey with anyone outside of our research team.

Please feel free to write back with any questions about the research. If you complete the survey, we will send you a copy of the research paper when it is ready.

Thanks very much for your time.

Best,
Sabrina

Sabrina T. Howell
Associate Professor of Finance
NYU Stern School of Business & NBER
Phone: 212-998-0719
Email: sabrina.howell@nyu.edu
Website: www.sabrina-howell.com