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

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Abstract

U.S. securities regulators have sought to protect investors in private markets by forcing issuers to fundraise via personal networks. Focusing on VC fund managers, we study a 2013 policy permitting public advertising in private markets ("506(c)"). Less well-networked and underrepresented managers disproportionately use 506(c). Yet its take-up is limited because arm's length fundraising depends on hard information, especially a track record, and few managers establish a track record without developing a network. Arm's length fundraising also imposes costs—to access the "crowd" and verify investors—leading it to send a negative signal.

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> "*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. These signals can represent soft information via personal and often local relationship networks, or hard information—especially about track records—that can be projected across space to strangers. The perceived inadequacy of these market-based signals leads to the key tension in securities regulation: Protecting investors while enabling broad 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 whether they create barriers to entry for 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 ïŒi.e., public advertising) or by expanding the eligible investor base (Kiernan, 2019; Gara, 2025; SEC, 2013, 2020). Public advertising eliminates the need for a personal network, but fundraising at arm's length requires hard information—in particular evidence of past success—to signal quality. 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 costs to arm's length relationships: accessing the "crowd" and 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.[1] 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 important source of innovation, productivity growth, and job creation in the post-WWII U.S. (Kortum

[1]We do not examine private equity (PE) funds because information asymmetry there is lower than in VC, and because their relationships with sponsoring banks complicate our analysis.

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 requirements of an IPO), VC managers as well as direct issuers, such as startups, traditionally use an exemption from registration called Regulation D Rule 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).[2] However, 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. Growing concentration of fundraising at a few prestigious VC firms creates concern that startups and LPs who lack the right connections or who are not in the right locations or demographics are disadvantaged in the capital markets, to the detriment of the economy (Lerner and Nanda, 2020; Ewens, 2023).

Seeking to open up private markets, the U.S. Congress legislated a new exemption that took effect in 2013. 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 Form D regulatory filings, which contain the fund's exemption type (i.e., 506(b) or (c)). Nearly all VC funds use Regulation D (the non-filing rate is much lower among VC funds than among startups), and they must file within 15 days of the first securities sale. Pitchbook funds represent the best proxy for the universe of legitimate, economically relevant VC funds that have raised a meaningful amount of capital. We supplement the Pitchbook data 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, more likely to be located in a non-top city for VC activity, and more likely to be a firm's first fund. They also tend to have more LPs and higher fractions of non-pension and individual LPs. Finally, we find some evidence that 506(c) can serve as a gateway to subsequent 506(b) funds, as about 13% of 506(c) managers transition to 506(b) funds, while only 2% of 506(b) managers transition to 506(c) funds. These initial facts are consistent with managers using arm's length financing via 506(c) to reach a

[2]More broadly, between 2012 and 2022, the global growth in private capital was more than 2.5 times larger than 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).

broader set of investors and to overcome a weaker network.

Next, we identify proxies for network strength, which are also interesting in their own right. The first two are directly and mechanically related to network: the number of co-directors a manager has sat on boards with in the past ("board network") and being a first-time manager. We further consider three characteristics that research has associated with weaker personal networks in the entrepreneurial ecosystem. VCs are overwhelmingly male, White, and graduates of elite schools, and this composition affects which innovations get funded (Ewens and Townsend, 2020; Calder-Wang and Gompers, 2021; Garfinkel et al., 2021; Cassel et al., 2022). Motivated by this, we consider whether the manager is female, Black/Hispanic, or attended a non-elite school. We verify that all three are associated with a weaker board network, which is our most direct measure of network strength. However, the measures are not the same.

We first show that across all these measures, less well-networked managers are more likely to use 506(c) than 506(b), indicating a preference for general solicitation. For example, after including state-year fixed effects to help control for geographic clustering and macroeconomic shocks, 506(c) managers have 37% fewer past board connections, relative to the mean. The share of female, Black or Hispanic, and non-top three city managers are 39%, 95%, and 30% higher in 506(c) than in 506(b), relative to their respective means. Variation extends to portfolio company characteristics: 506(c) managers are more likely to fund startups with female, non-elite school, and first-time entrepreneurs. These descriptive results suggest that managers with weaker networks benefit more from the ability to publicly advertise. Differential take-up does not appear to reflect adverse selection, because 506(c) funds if anything perform better in terms of IRR and multiple.

While there is widespread "folk knowledge" that local personal networks matter, we know of little rigorous evidence. We confirm the importance of personal networks in a survey of fund managers and their lawyers. 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 used 506(c) because they lacked a personal network. We also show that 506(b) fundraising is sensitive to local wealth shocks, but 506(c) is not, consistent with general solicitation shifting the geography of fundraising from local to national.

Underrepresented managers seem to benefit from the ability to publicly advertise, and since the early 2010s their shares have increased among fund managers. Yet 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 from their 26% share among college graduates. Although we cannot fully rule out supply-side constraints, underrepresented managers' funds do not perform worse than other funds, suggesting they continue to face entry barriers 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, regulatory barriers to 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.

We call the first channel a "track record paradox." In the absence of soft information via personal relationships, LPs employ hard information—most importantly, the manager's track record—as a substitute. Therefore, public advertising in 506(c) should increase LPs' reliance on the manager's prior successful exits, funds, and financial sector experience. Yet managers with these accomplishments typically developed a network along the way. In other words, network and track record are usually coincident.

We illustrate the track record paradox by plotting track record against network strength for the two exemptions. Relative to 506(b), the distribution of 506(c) managers is more heavily weighted towards stronger track records. Among the managers with above-median network strength but below-median track records, 98% raise using relationships through 506(b). In contrast, managers with weaker networks but stronger track records are heavily biased towards 506(c), which accounts for 35% of funds in this space, compared to 8% in the overall sample. Yet this space is sparsely populated, with just 7% of all funds. Few fund managers have a strong track record while lacking a strong network—the ideal profile for 506(c). We also test the sensitivity of fundraising success to track record. For both 506(b) and 506(c) funds, fundraising success—measured as actual fund size conditional on targeted amount—significantly increases with a strong track record, yet this sensitivity is two times higher for 506(c) than for 506(b). In other words, arm's length financing imposes a higher hard information burden. The two phenomena of (a) needing to signal quality in arm's length financing; and (b) co-dependence between personal networks and track record together constrain 506(c) take-up by underrepresented managers.

The second challenge is accessing the "crowd" outside one's network. General solicitation is most relevant to retail investors: From the investor side, we expect that people who lack connections to traditional VC funds will be more responsive to public advertisements. From the GP side, accessing retail investors may be crucial if the manager lacks connections to institutions, family offices, or very wealthy individuals. Retail investors tend to invest small amounts, so a manager needs many of them to form a fund. However, one way the SEC seeks to minimize the scope of harm from fraud is a 100-investor cap for each fund. Such a limit on the number of investors who may participate in a fund may constrain the deployability of 506(c).

Our data are consistent with this narrative. First, 506(c) funds and underrepresented managers have more retail-based LPs. Second, we test whether the cap is binding using a 2018 policy

that raised the investor cap from 100 to 250 for VC funds with less than $10M in assets under management. In a difference-in-differences design, we show that the policy caused small funds to increase the use of 506(c) relative to larger funds, suggesting the cap was binding. An event study shows no pre-trends and indicates a strong positive effect starting in the first year after the policy change. The effect is magnified for less well-networked managers across all our measures of network strength. 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 harm of scams and high-risk investing is to require investors to be wealthy or sophisticated. In 506(b), investors can self-certify as meeting accreditation requirements. Since 506(c) would involve more arm's length retail investors, issuers must take "reasonable steps" to verify accreditation. Many of the SEC's "safe harbor" steps—such as an email from another investor, advisor, or lawyer—are not onerous, yet even small costs 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.

Finally, we explore whether 506(c) has more fraud using data on SEC enforcement actions. Of 74 enforcement actions regarding Regulation D since 2014, only 3 directly concern 506(c) filers, a fraction lower than the take-up rate of 8.4%. Further, only 9 of the 74 mention investor verification. Therefore, it does not seem that either 506(c) on its own or the investor verification issue generally are important sources of observable fraud. This is important to policymakers who wish—as part of the central tension in securities regulation introduced above—to minimize fraud, as it suggests that experiments to relax the investor cap or verification requirements to reach more retail investors might be warranted.

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 require-

ments 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 focuses on public equity, with little work on private capital markets, where information asymmetry is more severe. Several exceptions are Ewens and Farre-Mensa (2020), who study the 1996 deregulation of private capital markets, and Lindsey and Stein (2019) and Xu (2023), who show how a 2011 policy change that raised the bar for investor accreditation policy affected angel 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.

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, capital market depth, and regulatory oversight (Kaplan, 1989; Eckbo et al., 2007; Lim et al., 2021). Such a choice 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."[3] 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 (2019), 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 studied 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 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

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

frictions between startups and VCs, with less work on such frictions between GPs and LPs.[4]

Finally, there is growing attention to diversity in private capital markets (Gompers and Wang, 2017; Ewens, 2023). Much of this work shows that minority startup founders face challenges raising both debt and equity capital (Howell and Nanda, 2019; Ewens and Townsend, 2020; Fairlie et al., 2022; Cook et al., 2022; Bennett and Robinson, 2023; 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 deal performance. Related to our paper, Cassel et al. (2022) show that Black and Hispanic fund managers struggle to enter the private fund market. To our knowledge, this paper is the first to study the implications of securities regulation for diversity in capital markets.

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 the 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 (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.[5]

However, these same regulations can also create burdensome costs for issuers, a point em-

[4]For example, Howell (2020) shows 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.

[5]See 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), and Christensen et al. (2016). Most empirical literature finds positive effects of mandatory disclosure, such as Greenstone et al. (2006) and Christensen et al. (2016).

phasized following new disclosure mandates in the 2002 Sarbanes-Oxley Act.[6] 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.[7] 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.[8] 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.[9]

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 are met. First, there must 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.[10] Third, only accredited investors—who meet longstanding thresholds for income and wealth—may invest. This restriction on who is eligible departs from most securities regulation in the U.S., which seeks to protect investors by mandating disclosure.[11] The accreditation thresholds

[6] See Chhaochharia and Grinstein (2007), Doidge et al. (2009), Hochberg et al. (2009), Iliev (2010), and Ewens et al. (2024).

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

[8] 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. See Appendix A.2.

[9] 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.

[10] 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.

[11] This rule 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 (see SEC v. Ralston Purina; 346 U.S. 119 (1953)). The SEC rules therefore restrict exempt offerings to investors who 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). 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

are not especially high, however; in 2022 roughly 15% of Americans were eligible, or about 20 million people (Board of Governors, 2023). Investors may self-certify that they meet accreditation standards, and if they falsely self-certify, the issuer is not liable. Also, since 1982, a 506(b) offering may have as many as 35 unaccredited investors.

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).[12] Once Regulation D preempted state securities laws, it became the dominant exemption. This is because if the manager does not use Regulation D and wishes to raise a fund backed by U.S. investors, she 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), though these laws are often more onerous than Regulation D.

Regulation D is 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.[13] In recent years, 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. By our calculations, investment vehicles raised $1.38 trillion in 2023, compared to $88 billion for non-financial issuers.

Regulation D requires that issuers file a Form D with the SEC within two weeks of completing the offering (Rule 503). The Form D is not a disclosure document, but rather notifies the SEC that the offering is occurring, who is conducting it and for what general purpose (e.g., to raise a VC fund), and when. Issuers must also provide investors some 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 forms become publicly available (Hanley and Yu, 2023; Ewens and Malenko, 2020), though such non-filing rate is much lower among funds than among startups (see Footnote 18 below). This comes with some risk, however, as Rule 507 (in its modern form) threatens that issuers who fail to

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.

[12]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.

[13]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.

file Form D will lose their Regulation D rights in the future.[14]

Allowing General Solicitation: Rule 506(c). The focus of this paper is an amendment to Rule 506—the introduction of 506(c)—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. Figure A.1 provides examples of general solicitation by a 506(c) fund through social media and fund website. 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) to reduce this incumbency benefit and expand capital formation to support more small businesses (SEC, 2013; Zeidel, 2016).[15] Other than general solicitation, there are two other differences from 506(b). 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 became effective on September 23, 2013, at which point the pre-existing exemption that had been termed 506 became 506(b). The current 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.[16] 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.

[14] See CFR (1989).

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

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

2 Data Sources & Network Measures

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.[17] We obtain filings under the 506(b) and (c) exemptions in which the filer has identified themselves as a VC fund, which is one option within the pooled investment fund category. We drop amendments, leaving a dataset of about 37,000 initial Regulation D filings between 2008 and 2023.

Pitchbook Data. To capture the universe of legitimate angel and VC funds, we restrict analysis to Form D funds that we can match to Pitchbook. This is also practically necessary since Form D contains very little information about the fund or its managers. Pitchbook is the leading commercial 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 can 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.[18] 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. We 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.

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

[18] There are also some funds in Pitchbook that are not in our Form D data. Many of these funds either do not use Reg D 506 exemption, are not real VC funds (e.g., CVC, non-profit), or are old funds that filed before electronic Form D data were available. After removing these funds, the unmatched rate is 13%, which is much lower than the 58% non-filing rate of Form D among startups documented in Hanley and Yu (2023). See Table A.2 for details.

[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.

Form ADV. In order to more directly measure the number of LPs a fund has, we turn to Form ADV filings (Easton et al., 2024; Gaver et al., 2023). These yearly filings are required for both Registered Investment Advisors (RIAs) that manage more than $110 million in assets and Exempt Investment Advisors (ERAs) that manage more than $25 million in assets. If an RIA or ERA advises a private fund, they are directed to fill out Schedule D for each fund. On this Schedule, they are required to answer Section 7B, Question 13, which concerns the "approximate number of beneficial owners", i.e., the number of LPs for the fund. In addition, the Advisor identifies each private fund with its associated Form D file number, which allows for direct mapping to our Form D data. As these are sourced from yearly updated filings, we take the most recently updated number for each fund. In total, we have ADV owner data for approximately 59% of the Form D filings.

Network and Demographic Variables. To measure network strength, we employ a range of measures that are independently interesting and capture different dimensions of a person's potential network. First, following Fracassi and Tate (2012), we measure managers' networks using their past board co-directorships. For each person, Pitchbook provides board membership data by company and tenure. With this information, we count the number of co-directors on the boards where a fund manager has had a seat. This includes boards of established companies, startups, LPs, and other organizations (e.g. venture capital associations). The measure specifically excludes board memberships for the GP of the focal fund (i.e. sitting on your own firm's board). We construct this measure as of the point in time that a fund raised capital by limiting to board positions that started prior to the fund closing date. This eliminates the concern that success in the focal fund will enable the managers to develop a larger network in the future. Out of 13,857 manager-fund observations, 73% have at least one board co-director, with an overall mean (median) of 30 (12). Conditional on having at least one co-director, the mean (median) is 43 (27).

Second, we use traditionally underrepresented groups as proxies for network strength, focusing on gender, race, education, and whether the manager is raising his or her first fund. A recent literature documents disparities along these dimensions. Gompers and Wang (2017) show that women compose fewer than 9% of active VCs 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 a top school. These groups are also underrepresented among investors and entrepreneurs.[20] Since homophily is known to be widespread—including in the networking context—we expect underrepresentation among LPs to translate to networking barriers for these managers (McPherson et al., 2001; Currarini et al., 2009; Stolper and Walter, 2019; Howell and Nanda, 2019; Ewens and Townsend, 2020; Garfinkel et al., 2021; Cullen and Perez-Truglia, 2023).

[20]See Ibarra (1993); Bennett and Robinson (2023); Han et al. (2021); Lu et al. (2022); Lagaras et al. (2022).

To identify gender, we use the Pitchbook provided male/female indicator. To identify education, we use data from Pitchbook and LinkedIn. We classify the top 10 U.S. universities that LPs in Pitchbook attended as the most relevant for manager networks, and call them "elite schools."[21] To identify Hispanic managers, we use surname distributions. To identify Black managers, we use LinkedIn pictures because surname and geography-based algorithms perform poorly in this group (Greenwald et al., 2024).[22]

We validate in Table A.4 that these demographic proxies correlate intuitively with the board network measure at both the fund and the manager levels. For example, female and Black/Hispanic managers have 50% fewer past board connections than male and White managers, while elite school managers have 49% more board connections than managers from non-elite schools. Fund managers outside hub cities and first-time managers also have fewer board relationships. In sum, the board measure captures one important dimension of a manager's network, while the demographic variables capture network strength in a broader sense.

3 Personal Networks & Take-up of General Solicitation

In this section, we examine take-up of general solicitation—i.e., the 506(c) exemption from securities registration—in private fundraising and how it relates to measures of personal network strength. The key message is that take-up has been low but is higher among managers with weaker personal networks.

Take-up of General Solicitation Our first stylized fact is that take-up of 506(c) has been low among VC funds; the pre-existing 506(b) remains overwhelmingly dominant. 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).[23] This is 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 as discussed earlier, a careful reading of the rule indicates that additional investor verification steps are not very costly.

While the share of the 506(c) is low, it might serve as a gateway to subsequent 506(b) funds. To

[21] These are: 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.

[22] A native-born American clerically coded each picture as Black or not Black. For portfolio company leadership, we only use gender because there are too many individuals to gather data on pictures.

[23] Fund size is from Pitchbook. In Table A.3 we show that this pattern also holds in the complete Regulation D VC universe, not only in the Pitchbook-matched sample. Similarly, Figure A.2 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).

explore this, we examine manager transitions between exemption types across funds. The resulting matrix is in Table A.5, with all funds in the left-hand columns and funds with pre-2021 vintages in the right-hand columns (giving more time to observe transitions). Managers tend to stick with their initial exemption; focusing on funds raised before 2021, about 50% of managers in both 506(b) and (c) transition to the same fund type in the follow-on fund. Among 506(c) managers, 13% transition to 506(b), which is much higher than the 2% of 506(b) managers who transition to 506(c). The remaining 45% of 506(b) and 40% of 506(c) managers do not raise a follow-on fund. There is no meaningful difference for managers with weaker networks (Panels B-C).

The top chart in Figure 1 highlights how the overall VC industry has grown 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, use of 506(c) has expanded recently, but it has not yet made significant inroads into the VC industry. This is one motivation for our subsequent analyses.

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 startups 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%. Note that startups can use 506(c) to solicit investment from either intermediated funds or direct angels. As such, it does not appear that the low take-up of 506(c) by VC funds is due to startups using 506(c) to raise directly from angels and circumvent VC funds.

Fund Characteristics We next explore how 506(c) funds are differentiated in terms of size, returns, and LPs, among other characteristics. Figure A.4 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 the distribution (Panel B).[24] 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), because with 506(c) funds have a fatter right tail.

While we study take-up in a descriptive sense, we wish to address two important sources of endogeneity when it comes to the manager network measures and 506(c) take-up. First, the share of underrepresented managers has generally grown over time, and 506(c) take-up has also grown over

[24]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.

time. Second, 506(c) tends to be used outside of hub states, but underrepresented managers tend to be in hubs. Meanwhile, there has been an increase in geographic diversity of VC funds over time. Finally, the VC industry is generally sensitive to macroeconomic trends and clusters in a small set of cities. Therefore, to study take-up of 506(c) while partially controlling for these factors, we use regressions that condition on state-year fixed effects.

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% ($=e^{-0.68}$) smaller. 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, note we exclude state fixed effects here). Figure A.5 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 about three times more likely to use an intermediary to fundraise (Column 5), consistent with arm's length relationships (Yimfor, 2021). Their investor base is also different. Based on complete investor count from Form ADV, 506(c) funds have on average 28 more investors than 506(b) funds, a 49% difference (Column 6). This difference also shows up in the overall distribution of investor count, as shown in Figure 2. This finding, together with the fact that 506(c) funds are smaller, suggests that they tend to raise smaller amounts from a larger number of investors—a more retail-oriented investor base. Indeed, within the subset of Pitchbook funds for which we observe LPs' identities, 506(c) funds have a 14% higher share non-pension LPs and a 88% higher share individual LPs relative to the mean (Columns 7-8).

We observe financial returns for a subset of the VC funds. These data are subject to selection concerns, though our main interest is in comparing 506(b) and 506(c) funds, and it is not obvious why they would be differentially selected. We first present the distribution of returns in Figure 3. For both performance measures—IRR and TVPI—the distribution of returns in 506(c) funds is right-shifted relative to 506(b), suggesting 506(c) performs better. In Table 2 Panel B, we present regression results using continuous performance in Columns 1-2 and an indicator for being top-quartile for the vintage year in Columns 3-4. The coefficients are positive across all specifications, but only significantly so using the top quartile indicator, which reflects the highly skewed nature of VC fund returns. In Table A.6, we show that these results are robust to controlling for fund size, to using year fixed effects only rather than state-year fixed effects, and to restricting to vintage years before 2019. Overall, while these results come with caveats about sample selection, they point strongly away from the most poorly performing managers choosing 506(c). Also consistent

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

with little adverse selection into 506(c) is the fact that roughly the same share of 506(b) and (c) managers fail to raise a follow-on fund (see "To None" columns in Table A.5).

Fund Manager Demographics We next turn to our measures of network strength. To identify a fund as being managed by individuals from a particular group, we use the majority so that large funds do not contaminate the statistics. For example, we define a fund as "Female" if the majority of the GPs are female. In the raw data (Table 1), we see a significant difference in 506(c) take-up for Black and Hispanic relative to their majority counterparts, though all the groups that we expect to be less well-networked have higher means in 506(c). We see a more striking difference using the board network measure: 506(c) fund managers' network is only half of the size of 506(b) managers'. Tables A.7 to A.11 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).

We turn to the regression models in Table 3. Here, we use two types of outcome variables: continuous value or share within the fund team (Panel A) and an indicator for the majority of the fund team having a certain characteristic (Panel B). Panel A Column 1 shows that 506(c) fund managers have 37% fewer past board connections than 506(b) fund managers, indicating their much weaker network. Further, 506(c) funds have a 5.7 percentage point (p.p.) higher share of female managers and a 5.1 p.p. higher share of minority (i.e. Black or Hispanic) managers, representing 39% and 86% of their respective means (Panel A Columns 2-3). 506(c) funds also have a lower share of managers from elite schools (8% of mean) and a higher share of first-time managers (27% of mean) (Panel A Columns 4-5). These results persist using the majority indicator (Panel B). These results are not driven by angel funds, as they are similar when angel funds are excluded (Table A.12).

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 of their own state (Columns 2-3). Startups that receive investment from 506(c) funds are more likely to have first-time or female entrepreneurs (Columns 5-6; note we did not collect race for portfolio company leaders). Finally, 506(c) funds are 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. They suggest that general solicitation may have implications for real outcomes by making capital deployment more inclusive.

4 Arm's Length Fundraising Reduces Reliance on 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 directly survey fund managers about their personal networks.

To gather direct evidence and to help understand 506(c) take-up more broadly, we conducted two surveys, which are presented in full in Appendix B.1 and Appendix B.2. The first targets VC fund managers who appear in our sample. 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. 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 when 506(c) is appropriate for a fund 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%.[26] 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). Figure A.6 shows respondent counts by fund exemption type. Table A.13 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 full sample). The lawyer respondents come from largely the same set of top law firms as the overall emailed sample.

[26]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.

We asked users of 506(b) how they source LPs. Figure 4 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 4 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. We split these figures by network strength using the board measure in Figure A.7. Notably, Panel B shows that just over 50% of managers with weaker networks reported using 506(c) because they lacked an extensive network, while *none* of the networked managers reported this to be the case. This heterogeneity also validates our board network measure. In sum, personal networks are crucial to private fundraising, and 506(c) tends to be more useful for managers who seek to expand their network.

The survey results also corroborate our data showing greater geographic dispersion in 506(c) (from Table A.17, described above). Figure A.8 shows that 82% of 506(c) fund managers report that they target investors beyond their own state (U.S. or global), and only 4% of funds target investors from hub cities. This supports the idea that general solicitation—to the degree it is used—can help reduce regional disparities in VC fundraising.

Local Networks in 506(b) vs. 506(c). A large literature has shown that personal networks tend to be local (Granovetter, 2018; Small and Adler, 2019; Kuchler and Stroebel, 2021; Gocmen et al., 2024). Geographic proximity facilitates soft information production that helps overcome information asymmetry, especially in financial contracting and VC.[27] Gocmen et al. (2024) show that high-net worth individual investors are much more likely than institutional investors to invest in local VC and PE funds. They report that 48% of investments by high-net worth individuals are in-state, and 30% are in-state even after excluding CA, MA, and NY.[28] Private fundraising may thus be particularly sensitive to local wealth shocks, which could contribute to regional inequality and the geographic 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.

We document this in Appendix C, where we show that positive local wealth shocks significantly increase the local volume of 506(b) funds, while the impact on 506(c) is smaller or even negative. In this analysis, we follow Crane et al. (2024) and construct a proxy for local wealth shocks using local stock market participation interacted with lagged stock returns. Stock wealth is the key large, liquid, and risky asset for most accredited investors and is more easily deployed for private fund investment than other sources of wealth. The 506(b) sensitivity that we document is driven by

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

[28] In the Pitchbook data, 48% of funds have at least one LP in the same state, and 21% in the same city (these are likely an undercount as Pitchbook has poor coverage of individual LPs).

male and White fund managers, consistent with them having better local connections with wealthy investors. This suggests that 506(b) fundraising depends on local networks, while 506(c) fundraising is more arm's length and can even substitute for local wealth. Therefore, general solicitation may have the potential to mitigate the impact of local conditions on fundraising, which could reduce disparities in concentration of VC capital across regions.

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 underrepresented fund managers.

Figure 5 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 some 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. In contrast, the non-top 10 city share has declined, while the shares of first-time and board networked managers have been stable. While the data do not permit an event study with causal interpretation, it seems possible that the benefits for non-elite school, female, and Black/Hispanic managers began mainly after the implementation of 506(c) in late 2013.

When viewed as levels in Figure 5 Panel B, a somewhat different picture emerges. There is progress for some groups. In particular, 506(c) seems to have contributed to progress for managers with weaker networks using the board measure, particularly after 2016. For each group, we propose a supply benchmark following Gompers and Wang (2017), denoted by the horizontal line. For the board measure, we define non-networked as below two board connections, the median in our sample. In the broader Pitchbook population of all professionals, 87% have below two board connections. Hence, we use 87% as the benchmark for the fraction of non-networked.

For remaining groups, however, we see that 506(c) has not enabled significant entry of new managers. The disproportionate use of 506(c) by traditionally underrepresented groups is not meaningfully contributing to a shift toward parity. First, 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 (or their share among MBA graduates, which is 18%). 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%, yet 96% of recent college graduates are from

non-elite schools.[29] The share of funds in non-top 10 cities decreased from 40% in 2009 to 30% in recent years, with the exception of recent uptick in 2023. However, even in 2023, the non-top 10 city share among VC funds was only 38%, far from the 87% benchmark, which is the share of new businesses outside the top 10 cities.[30] Although other secular trends could confound these patterns, recent societal trends (e.g., MeToo and Black Lives Matter movements) and policy efforts (e.g., place-based policies that promote VC in underserved areas (Denes et al., 2023)) should push toward finding progress for underrepresented managers.

These results suggest that there remain entry barriers for underrepresented managers, even though they take up 506(c) at higher rates. While we do not observe people who wish to become VCs but fail to raise a fund, because fund returns for these groups do not lag that of their majority counterparts, supply seems unlikely to be the explanation (Tables A.7 to A.11 and A.16). Within our context, the overall low take-up 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 within 506(c) remains low. For example, the Black/Hispanic share in 506(c) is only 9% (Panel B of Table 1).[31] Based on Column 2 of Table 3 Panel A, even if we extrapolated the 506(c) take-up rate to 100%, the Black/Hispanic share would still be only 11.9%, far from the supply benchmark.

In sum, this section has shown that while less well-networked managers are more likely to use 506(c), low take-up has limited the degree to which the new policy is "moving the needle." We investigate what drives low take-up of 506(c) in the next section.

6 Mechanisms for Low Take-up

We identify three mechanisms that help to 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 regulatory barriers 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 costs do not need to be differentially higher for underrepresented managers to explain our results, as these managers could face higher frictions unrelated to general solicitation (e.g., discrimination or deal access), leading to their underrepresentation within 506(c) relative to their share of the population.

[29] 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.

[30] We use 0-year old firms in the U.S. Census Bureau's Business Dynamics Statistics. We find similar patterns with non-top 3 city shares.

[31] Figure A.9 shows that within 506(c), there is a similar pattern to Figure 5 Panel B for all manager types.

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 track record of the firm and manager. 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. *When a person develops a track record, they typically develop a personal network at the same time.* And if a manager has adequate networks to use 506(b), she probably will, since 506(c) is slightly more costly. 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.

The track record paradox could explain why 506(c) is not widely taken up by emerging managers and why it does not help to meaningfully move the needle for underrepresented managers. It leads to two predictions. First, there are few fund managers with a weak network but a strong track record, the ideal profile for 506(c) usage. Second, the fundraising success of 506(c) should be more sensitive to track record than that of 506(b) funds.

To test the first prediction, we plot funds in a space defined by network strength and track record, shown in Figure 6. The y-axis is a measure of personal network: the board index in Panel A, and a demographic index in Panel B (specifically, the sum of the fractions of the team that are male, White, and elite school graduates). For the x-axis, we create a track record index that is the sum of the firm's number of prior successful portfolio company exits plus the fraction of the team with financial sector experience.[32] The red lines represent the midpoint of each index, creating four quadrants. In each scatterplot, orange dots indicate 506(c) funds and blue dots 506(b) funds. We also note the fraction of 506(c) funds within each quadrant and the weight of the quadrant among all funds.

Consistent with arm's length financing requiring a track record, the distribution of 506(c) users is more weighted towards the right-hand quadrants. 506(c) funds also tend to have lower values of the network proxy, as shown earlier. 506(c) take-up is highest in the bottom-right quadrant. Focusing on Panel A, within the bottom-right quadrant 35% of all funds are 506(c). However, the share of all funds that are in this quadrant is only 7%. This is consistent with 506(c) being most appealing to the small group of people with weak networks but who possess, typically via their

[32] All of our track record variables are observed as of the time the focal fund is raised. We do not use returns as fund success measure as return data are sparse. 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 define exits as acquisitions or IPOs valued at more than $200 million. We define financial sector as including PE, investment banking, asset management, etc. This information is from LinkedIn based on the individual's career, while the firm-level measures are from Pitchbook. 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.

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 (top-left) raise through personal relationships via 506(b), with only 2% of 506(c) takeup. The results are similar in Panel B when measuring network with demographics. In sum, these figures offer evidence for the track record paradox as an explanation for low 506(c) take-up.

To test the second prediction, we estimate a regression that explores whether fundraising success is more sensitive to track record in 506(c). We focus on the intensive margin and measure fundraising success as the ultimate fund size (we do not observe funds that failed to launch). We control for initially targeted size. The results are in Table 5. Column 1 shows that a one standard deviation increase in prior exits is associated with a 4.3% increase in the amount raised in 506(b), but a 8.9% increase in 506(c)—or 2.1 times more.[33] The difference is 2.3 times when we use the firm's number of prior funds as an alternative track record measure (Column 2). The next column uses prior financial sector experience as the measure. We find that funds with one standard deviation more finance experience is associated with 9.1% higher raised amount relative to target for 506(c), while there is no significant relationship for 506(b). These results show that fundraising success is significantly more sensitive to track records for 506(c) funds than for 506(b) funds.[34] Since female and Black/Hispanic fund managers on average have weaker track records than their majority counterparts (Tables A.8 and A.9), this may deter 506(c) entry among prospective underrepresented managers.

Underrepresented managers might escape the track record paradox by sending a different type of signal about quality in the form of specialized expertise or capabilities. One example is the capacity for GP-founder homophily, a type of targeting objective that can be credibly transmitted across space. Table A.14 shows that the stated investment preference of underrepresented 506(c) managers is more likely to include 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. Another possible way to escape the track record paradox is through GP-LP homophily. Table A.15 shows that underrepresented 506(c) funds are more likely to attract underrepresented LPs in the same category relative to 506(b) funds. Such homophily can generate soft information or non-pecuniary returns that, to some degree, help overcome information asymmetry.

[33] We standardize all three variables by subtracting the mean and dividing by the standard deviation, so that the interpretation is an effect of one standard deviation.

[34] We find similarly positive but noisier (statistically insignificant) results 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.

6.2 Regulatory Barriers to Accessing the Crowd

Since 506(c) enables public advertising, it is thought to be most useful for managers seeking to raise from a large number of small-time retail investors.[35] 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; they have more LPs and are more likely to have individual LPs and non-pension fund LPs (Tables 1 and Table 2). This pattern holds even after controlling for fund size (Table A.6). 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.[36] This could constrain use of 506(c). We can test this using a policy change: 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. The goal was to allow small funds without access to institutional or very wealthy LPs to raise from many smaller investors. Consistent with the 100 investor cap constraining 506(c) take-up, 506(c) funds were much more likely to bunch below 100 investors than 506(b) funds before 2018 (Panel A of Figure 2), while such bunching diminished and shifted to 250 investors after 2018 (Panel B of Figure 2).

We formally 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 3 years before and after the second quarter of 2018 using the following difference-in-differences (DID) model at the fund level:

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

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 relative to 2018Q2.

Table 6 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) instead of 506(b), relative to funds larger than $10m. Column 1 shows that 506(c) share for treated funds increased by 5.9 p.p., or 50% of the mean. To test the identification assumption, we estimate a dynamic DID model. The

[35] 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.

[36] See Appendix A.2 for the SEC's definition of a VC fund.

results are plotted in Figure 7. There are parallel trends before the policy shock and significant effects afterwards. In sum, the 100 investor cap was a much more binding constraint for 506(c) funds than 506(b) funds, so relaxing this constraint led to large increases in 506(c) take-up. Furthermore, note that the estimated treatment effect is for funds below $10m. The investor cap is likely even more constraining for potential larger funds, because they tend to have more investors.[37]

Managers with weaker networks likely depend more on the crowd. Earlier, we noted that they have higher fractions of individual or non-pension LPs (Tables A.7, A.8, and A.9). Therefore, they may benefit more from the cap raise. In the remaining columns of Table 6 Panel A, we divide 506(c) funds into groups. In Columns 2-3, we divide according to whether the team's average number of past board connections is in the top quartile. We find that 506(c) take-up by managers with weaker networks increased by 61% relative to the pre-policy mean (Column 2), but did not increase at all for those with stronger networks (Column 3). Columns 4-5 divide according whether the team has demographically underrepresented managers (female or Black/Hispanic). Relative to the pre-policy means reported at the bottom of the table (note they are quite different), 506(c) take-up increased by 91% among underrepresented managers (Column 4), but only by 41% for male and White managers (Column 5). In the final columns, we find similar results for the education network proxy. 506(c) take-up by non-elite school managers increased by 84% (Column 6), but only by 50% for elite school educated managers (Column 7). Therefore, the marginal response of 506(c) take-up to the investor cap raise is much larger among underrepresented fund managers.

We conduct a placebo test using an artificial cutoff of $20m 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 6. The results, in Panel B of Table 6, 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. In sum, regulatory barriers to accessing the crowd limited the take-up of 506(c) and was especially binding for managers with weaker networks.

6.3 Verification Costs and Negative Signaling

If 506(c) were identical to 506(b) except for permitting general solicitation, we would expect broad take-up of the free option. Of course, in fact 506(c) required the issuer to take "reasonable steps" to verify investor accreditation, instead of investor self-verification in 506(b). As explained at the end of Section 1, compliance is simple: liability extends only to taking a step, which could include as little as an email from a previously accredited investor confirming that the new investor is accredited. However, any additional regulatory burden could deter managers who have the ability to rely on

[37] 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.

506(b), and there may be some awkwardness in asking investors for personal financial information, however limited. Finally, since the policy was new and there was no body of existing case law, legal uncertainty could have a chilling effect.

Our survey results shed light on whether, in practice, the verification costs are relevant. Figure A.10 shows that the majority of 506(c) funds perform investor verification in-house or through a fund administrator, rather than outsourcing it to third parties. Figure 8, 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 9 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 prevalent. Supporting this, Figure A.11 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).

Since it comes with a non-negligible extra cost, fundraising with 506(c) could send a negative signal, suggesting that the GP does not have a strong personal network, which might in turn be perceived to be correlated with quality. 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 8). Furthermore, Figure 9 shows that more than 70% of 506(b) users chose not to use 506(c) in part because it sends a negative signal. Trent Dykes, a partner at the law firm DLA Piper, told us that:

> "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 differences across our measures of network strength in these concerns about verification.

Figure A.12 shows that non-board networked and demographically underrepresented managers are more likely to report concern about negative signaling. Underrepresented managers are also more concerned about the time and money to verify. 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.

Finally, we explore whether 506(c) has more fraud. To this end, we scrape all SEC enforcement actions from 2014 onward, including litigation releases, administrative proceedings, and accounting and auditing enforcement releases (AAER). We obtain 13,963 enforcement actions, 74 of which concern Regulation D (the vast majority of SEC actions are on public firms). Of the 74 actions regarding Regulation D, just 3 directly concern 506(c) filers, a fraction (4.1%) lower than the general take-up rate of 8.4%. Such a low fraction is consistent with our prior finding that 506(c) funds perform relatively better, exhibiting no adverse selection. Furthermore, only 9 of the 74 mention investor verification. Therefore, it does not seem that either 506(c) on its own or the investor verification issue generally are important sources of observable fraud. This is important to policymakers who wish—as part of the central tension in securities regulation introduced above—to minimize fraud, as it suggests that experiments to relax the investor cap or verification requirements to reach more retail investors might be warranted

6.4 Alternative Channels

We have discussed and presented evidence for three mechanisms explaining the low take-up of 506(c): the track record paradox, regulatory barriers to accessing the crowd, and investor verification costs. While there may be further frictions constraining underrepresented managers' adoption of general solicitation, in this section we argue that three other obvious channels do not seem to play a major role. First, it does not seem that worse deal access explains the use of 506(b) over (c), since we observe that 506(c) funds if anything perform better than 506(b) funds. A deal sourcing story predicts weakly lower quality deals and therefore lower fund returns.

A second alternative channel is that there are not enough accredited investors for 506(c) to be useful; that is, there is no "crowd" of potential individual LPs. To test this hypothesis, we exploit the 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/net worth-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.

$$\text{Ln(no. of funds)}_{s,y,c} = \alpha_{s,c} + \beta_{s,y} + \sum_{\tau=2017}^{2023} \theta_\tau \times \mathbb{1}(c = 506(\text{c})) \times \mathbb{1}(y = \tau) + \epsilon_{s,y,c}. \tag{2}$$

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 a 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.

Finally, our results using demographic proxies for network could reflect LP discrimination. The literature offers mixed predictions on how general solicitation affects discrimination. On the one hand, research on online platforms has shown that shifting to arm's length financial transactions can reduce discrimination by removing taste-based bias that often occurs during in-person, face-to-face interactions (Morton et al., 2003; Bartlett et al., 2022; Howell et al., 2024). On the other hand, arm's length financing implies more severe information asymmetry, creating room for statistical discrimination.[38] We leave the study of these frictions for future research, but our consistent results using the board network, elite school, and first time manager measures suggest that discrimination is not the main driver of differential 506(c) take-up.

7 Conclusion

With over $13 trillion in private capital assets under management, the issue of who can be a manager and how they fundraise is economically important—especially in a context where public company fundraising is declining, leading more of the profits from economic growth to accrue to private funds (Ewens and Farre-Mensa, 2020; McKinsey, 2024). Within private markets, fund sizes have increased and the benefits of strong personal networks with institutional and high-net worth LPs have grown stronger (Carmean et al., 2024). This is especially true in VC, which features acute information asymmetry between GPs and LPs.

In this paper, we study a U.S. policy that sought to address the barriers to entry imposed by the traditional exemption to securities registration, which requires managers in private capital markets to fundraise on the basis of personal relationships. Implemented in 2013, it permitted public advertisement (i.e., general solicitation, or 506(c)). We show that the policy helped level the playing field for less well-networked managers. It is disproportionately used by less well-networked managers based on proxies for network strength that capture professional experience (board co-

[38] Indeed, Younkin and Kuppuswamy (2018) and Gafni et al. (2021) document gender and race discrimination in reward-based crowdfunding, though it is unclear whether such discrimination would be higher or lower than a counterfactual without general solicitation.

directors, elite school education, first-time managers) and personal characteristics (gender, race). The policy also made fundraising less sensitive to local conditions. This analysis offers some of the first direct, causal evidence that local personal networks matter in investment manager fundraising.

To explain the relatively low use of 506(c)—and to shed light on why the policy did not dramatically increase the ranks of underrepresented managers—we provide evidence for three, non-mutually exclusive mechanisms. These mechanisms may apply to securities regulation beyond Regulation D. The first is the track record paradox: 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. Only a small fraction of managers are in the "sweet spot" for 506(c), with a strong track record but a weak personal network. The second mechanism is a regulatory barrier 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, we show 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. 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 take-up 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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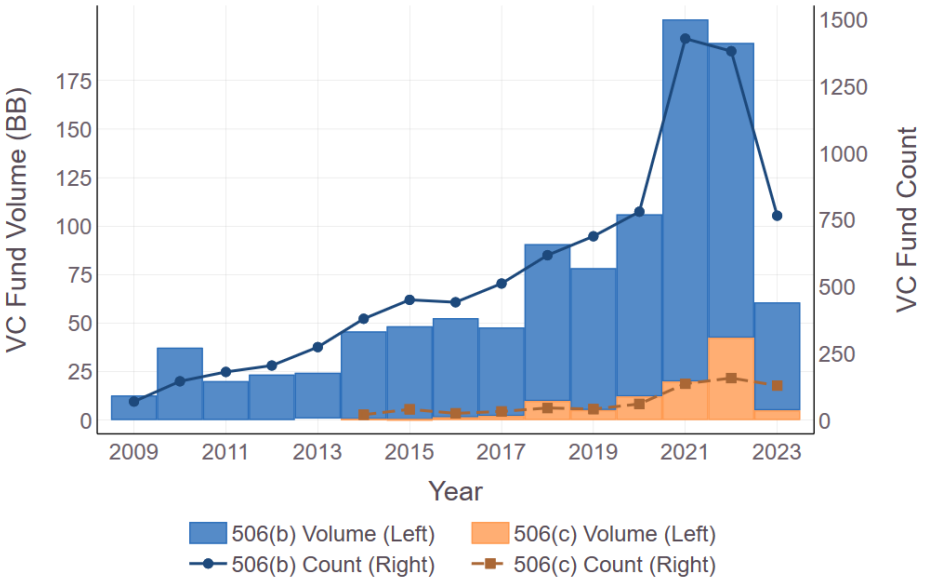
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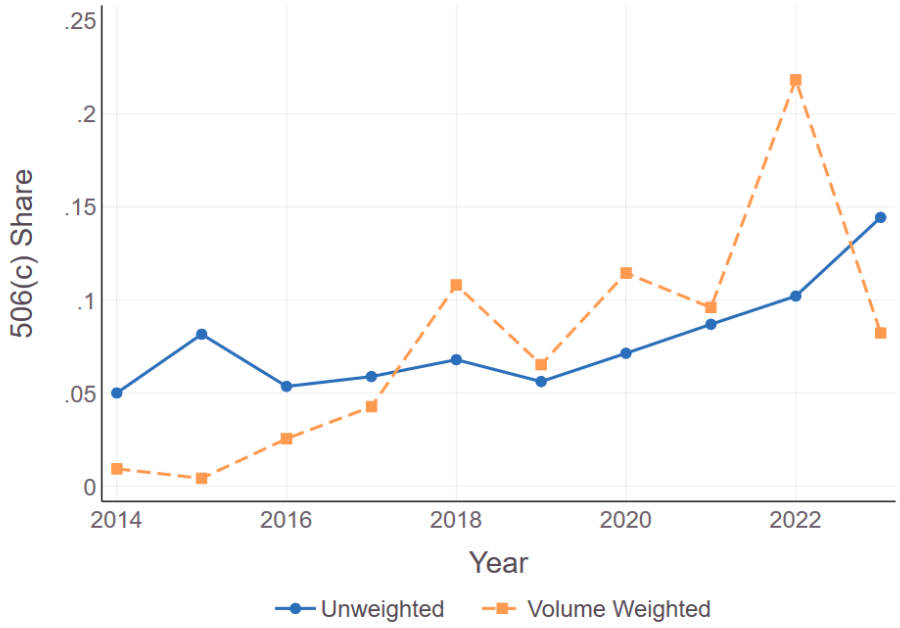
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Figure 1: VC Funds by Vintage Year and Exemption

(a) Fund Count and Volume



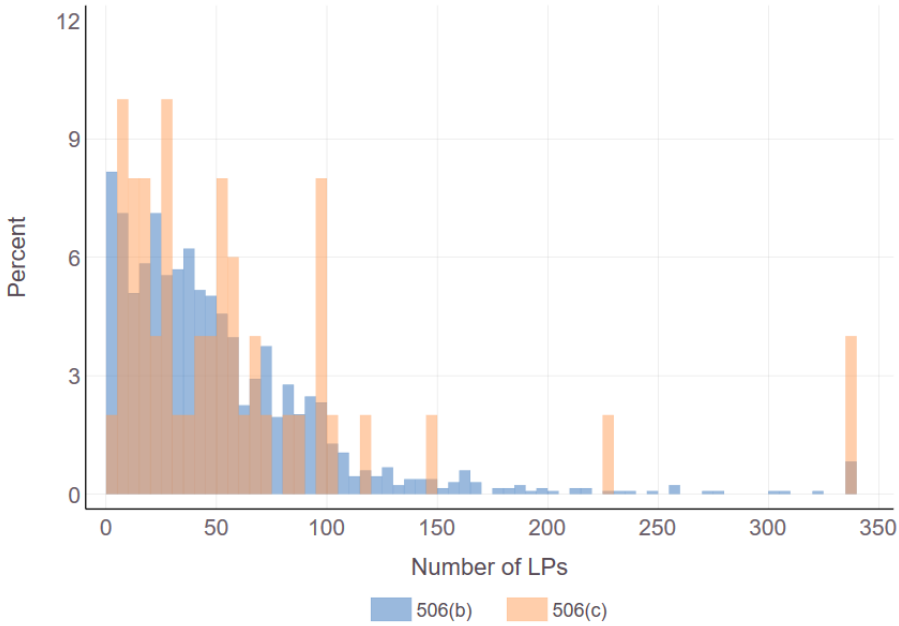
(b) Share of Funds using General Solicitation



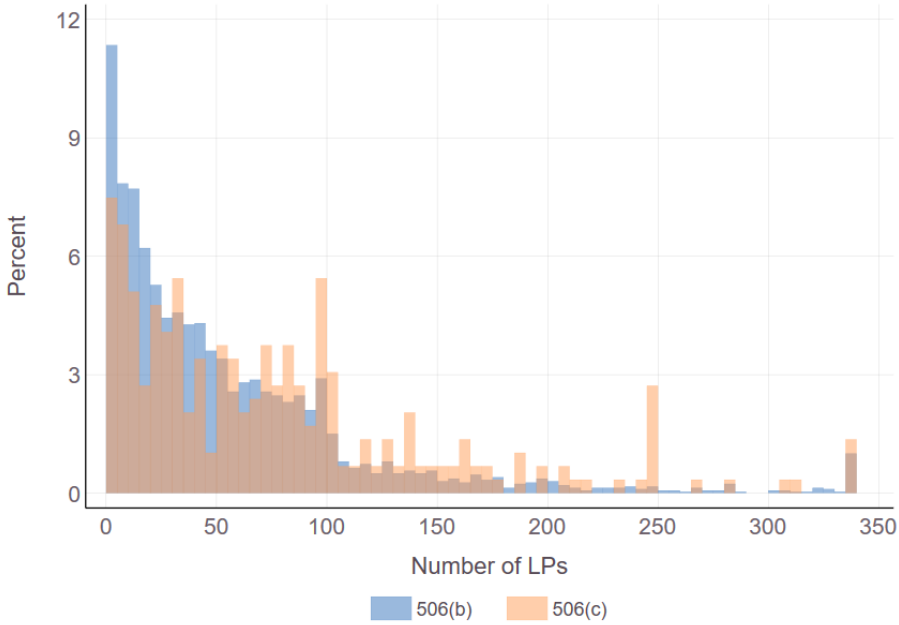
Note: This figure describes VC fundraising over time, separated into the 506(c) exemption (permitting general solicitation) and the conventional 506(b) exemption (which requires managers to fundraise only via pre-existing personal relationships). Panel A shows the number and total volume (in 2017 US$) of VC funds that used 506(b) or 506(c) exemptions. Panel B shows the share of VC funds using 506(c), in terms of the number of funds or dollar volume. The sample include all VC funds in the Form D data that can be matched to Pitchbook.

Figure 2: Number of LPs Based on Owners Listed on Form ADV

(a) Before 2018 Policy Change



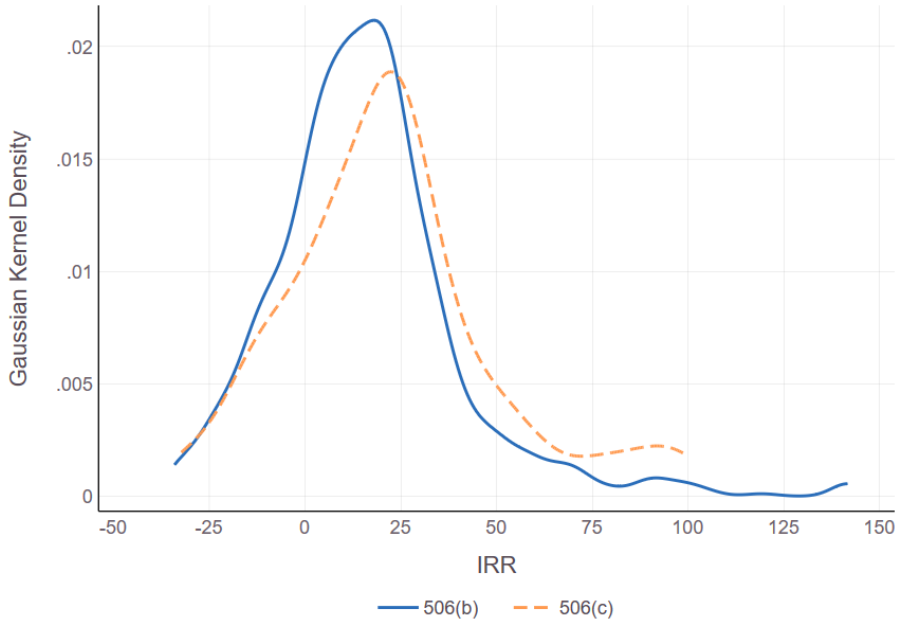
(b) After 2018 Policy Change



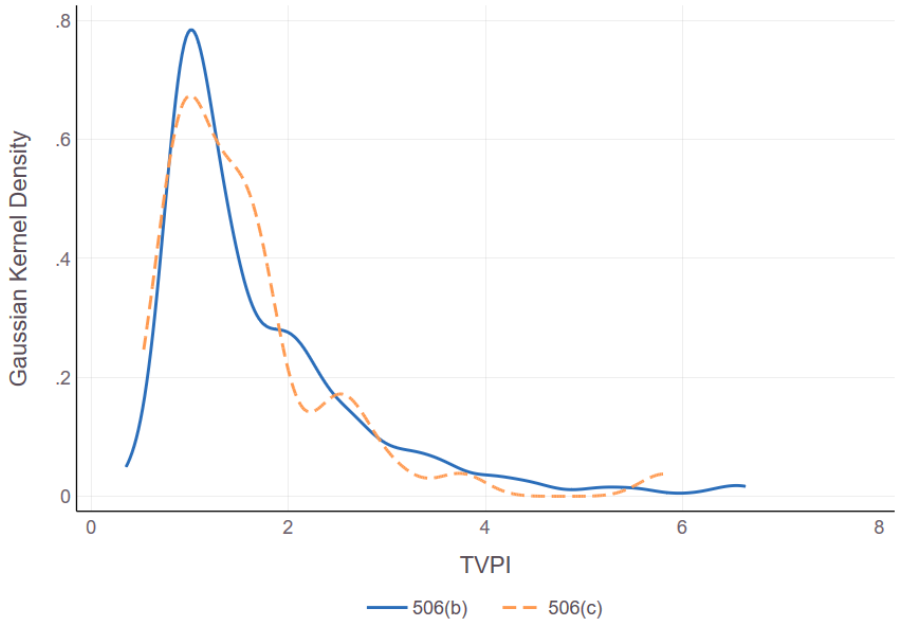
Note: This figure shows the distribution of the number of LPs listed by funds on Form ADV via the number of owners they report. Specifically, this information is in Schedule D, Section 7B1, Question 13 of Form ADV. The owners are as of the most recent filing made by the fund and summed to the associated Form D file number. 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. In Panel A, the funds are VC funds matched to Pitchbook filed in the period 2014-2018Q2, and in Panel B, the funds are from the period 2018Q3-2023. The overall distribution is winsorized at the 99% level for display purposes.

Figure 3: Distribution of Fund Returns

(a) Internal Rate of Return (IRR)



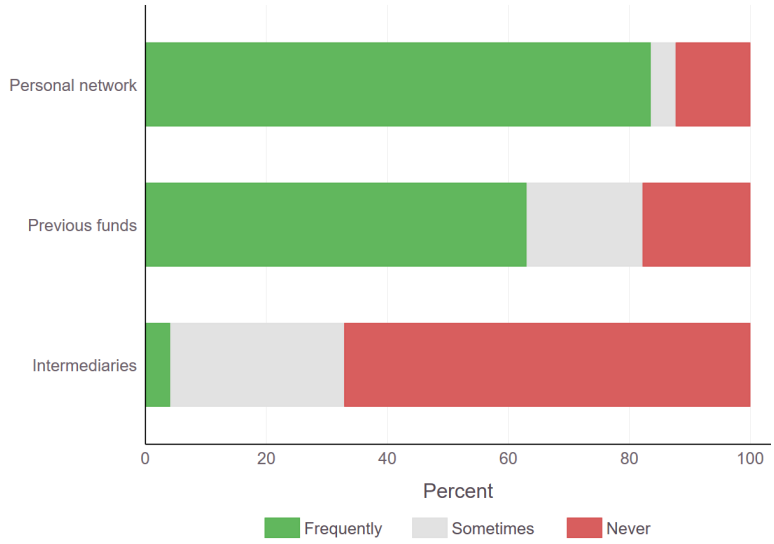
(b) Cash-on-Cash Multiple (or Total Value to Paid-In, TVPI)



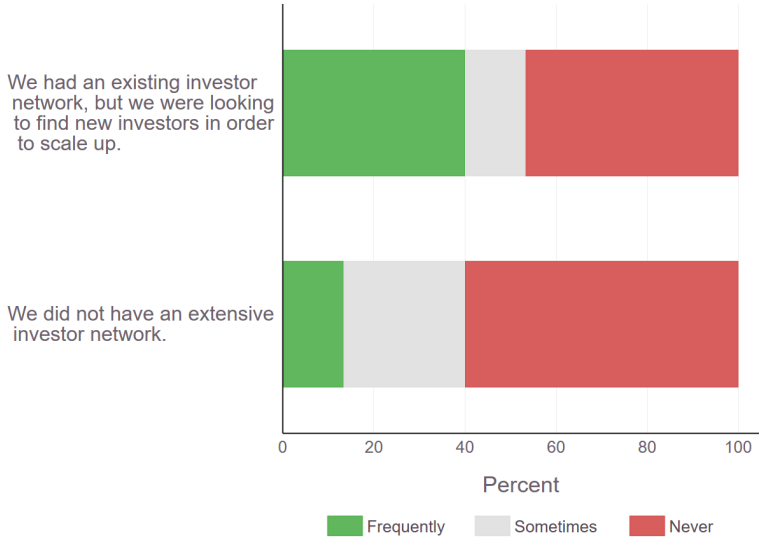
Note: This figure compares the distribution of fund returns, measured in IRR (Panel A) or multiple (Panel B), of 506(c) and 506(b) funds. Each variable is winsorized to within 0.5% and 99.5% percentiles across all funds.

Figure 4: Survey Evidence on Role of Personal Networks in Fundraising

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



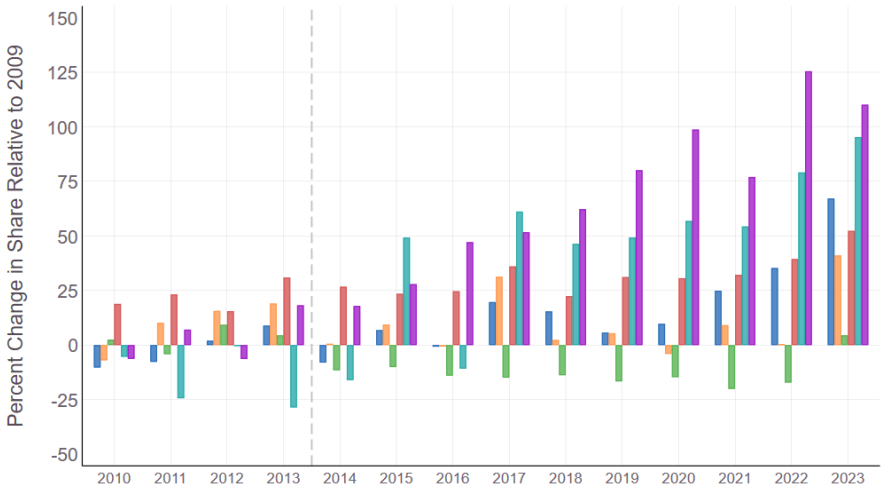
(b) 506(c) Fund Managers on Personal Networks as Reason for Using 506(c)



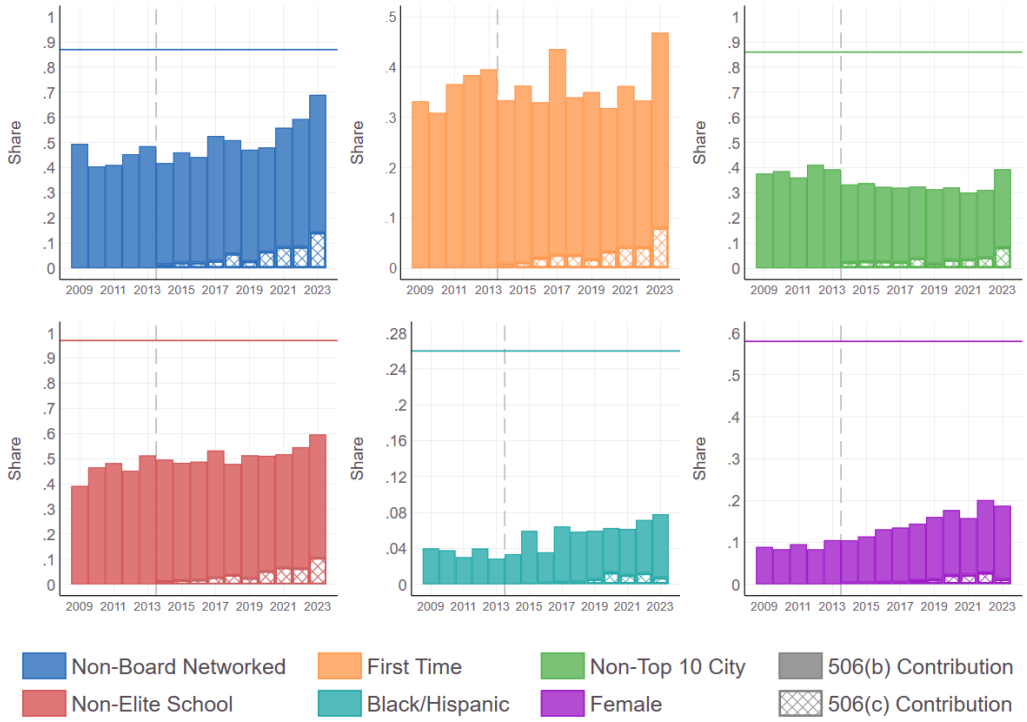
Note: These figures describe survey responses. Panel A shows responses to Question 4 among fund managers who have used only 506(b). They were asked how they have sourced investors in general across the funds in which they have been involved in fundraising, and given three non-mutually exclusive options. Panel B shows responses to Question 2 within the set of fund managers who have ever used 506(c). They were asked whether or not having an existing investor network influenced their choice to use 506(c). There were two options and the investors could choose 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 5: Fund Manager Characteristics Over Time and Compared to Benchmarks

(a) Changes Relative to 2009



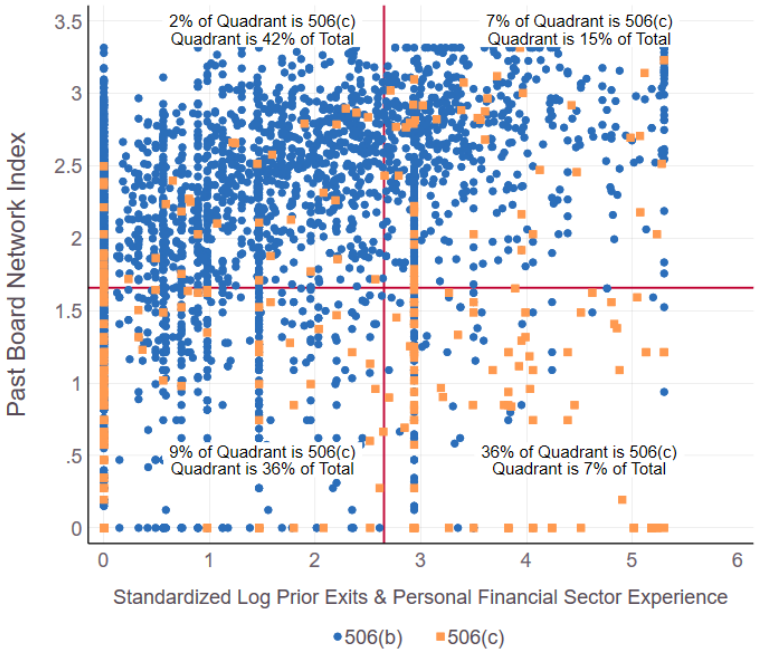
(b) Levels Compared to Population Benchmarks



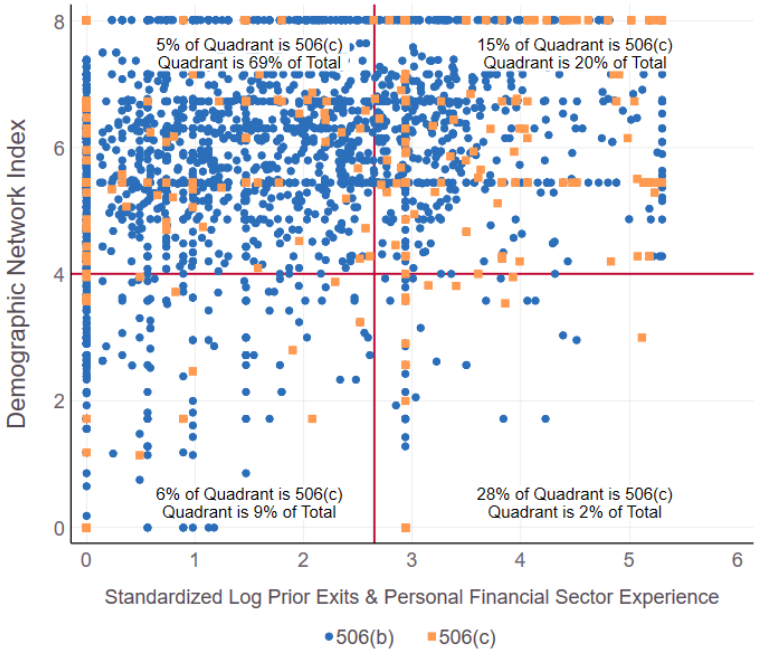
Note: This figure describes the dynamics of fund manager demographics and key characteristics, with the vertical dashed line representing 506(c) implementation. Panel A shows the percent change in the share of fund managers with each characteristic among all filers in a year relative to 2009. Panel B shows the level of the share for each year and includes horizontal lines representing a relevant benchmark for potential supply. The benchmark for the first graph is 87% as that is the percentile of the broader population's co-board network of the median fund manager. The benchmarks for the last four graphs (described in more detail in Section 5) are the shares of: university graduates for Black/Hispanic and Female, non-elite graduates relative to total graduates, non-top 10 city new firms.

Figure 6: Joint Distribution of Track Record and Network

(a) Board Network

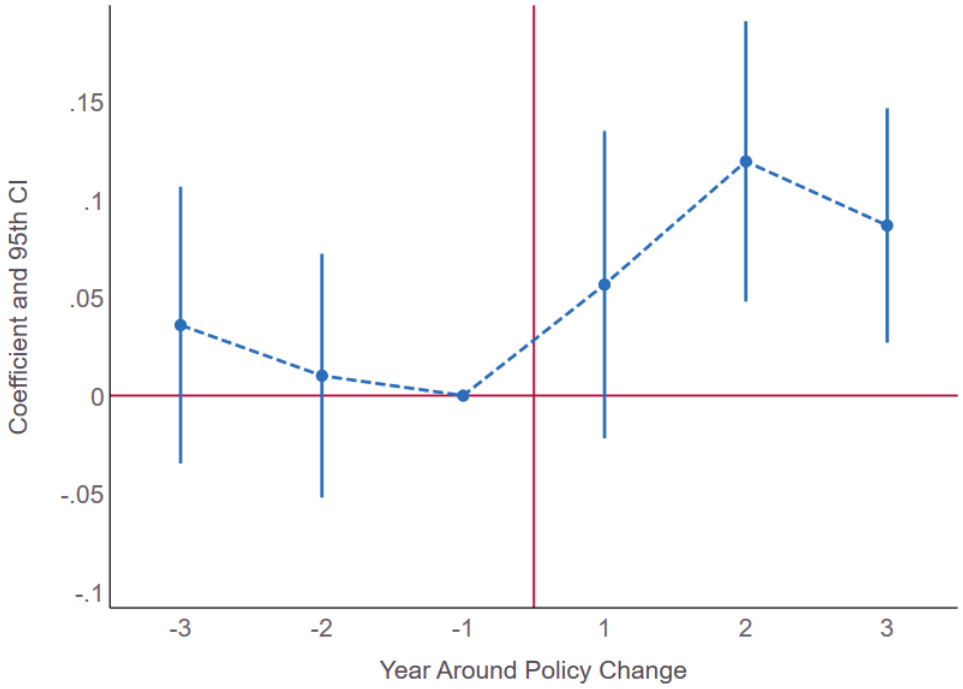


(b) Demographic-Based Network



Note: This figure shows the location of funds in the distribution of network and track record strength, with red lines at the midpoints of each. In Panel A, the y axis uses a network measure based on the number of prior board members of the fund team members of the fund. In Panel B, the network measure is based on gender, race, and elite school attendance. In both panels, the x-axis is the sum of the standardized log of prior portfolio company exits and fraction of fund team members with prior finance experience (e.g. working at an investment bank). Each fund is represented as a point. We report the fraction of funds within each quadrant that are 506(c), as well as what share of all funds are present in each quadrant.

Figure 7: Impact of the 2018 Investor Cap Raise on 506(c) Take-up



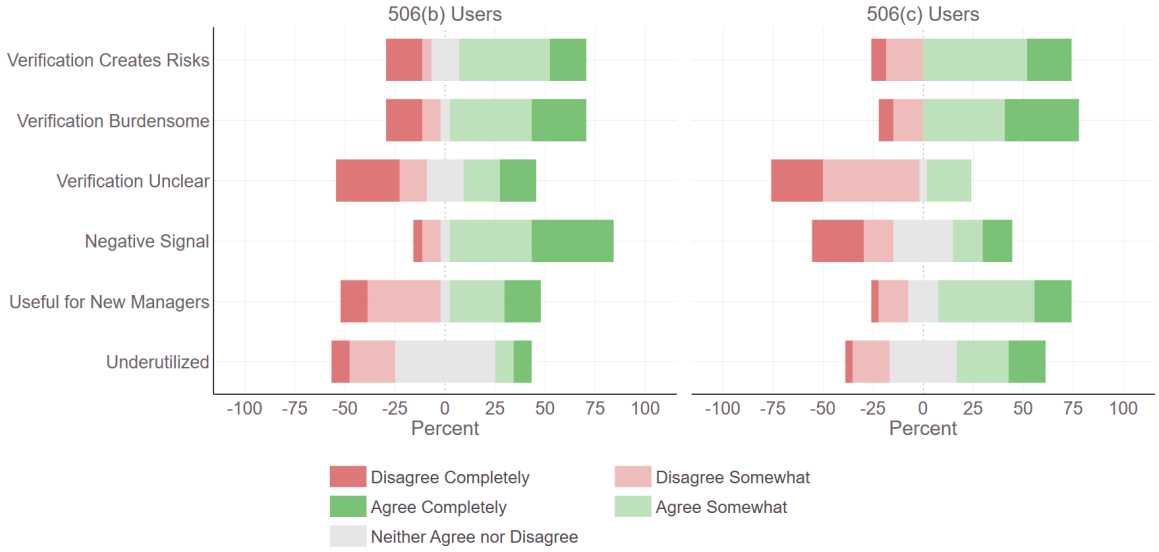
Note: This figure plots the event study graph for column 1 of Table 6, Panel A. On May 25, 2018, the SEC raised the investor cap for small VC funds below $10m from 100 investors to 250 investors, while keeping the investor cap for VC funds larger than $10m unchanged at 100. The specification is a fund-level difference-in-differences, where we regress 506(c) takeup 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 focus on the event window from 3 years before to 3 years after June 2018. Event year -1 is omitted as the base year.

Figure 8: Fund Manager and Lawyer Opinions about 506(c)

(a) VC Fund Managers

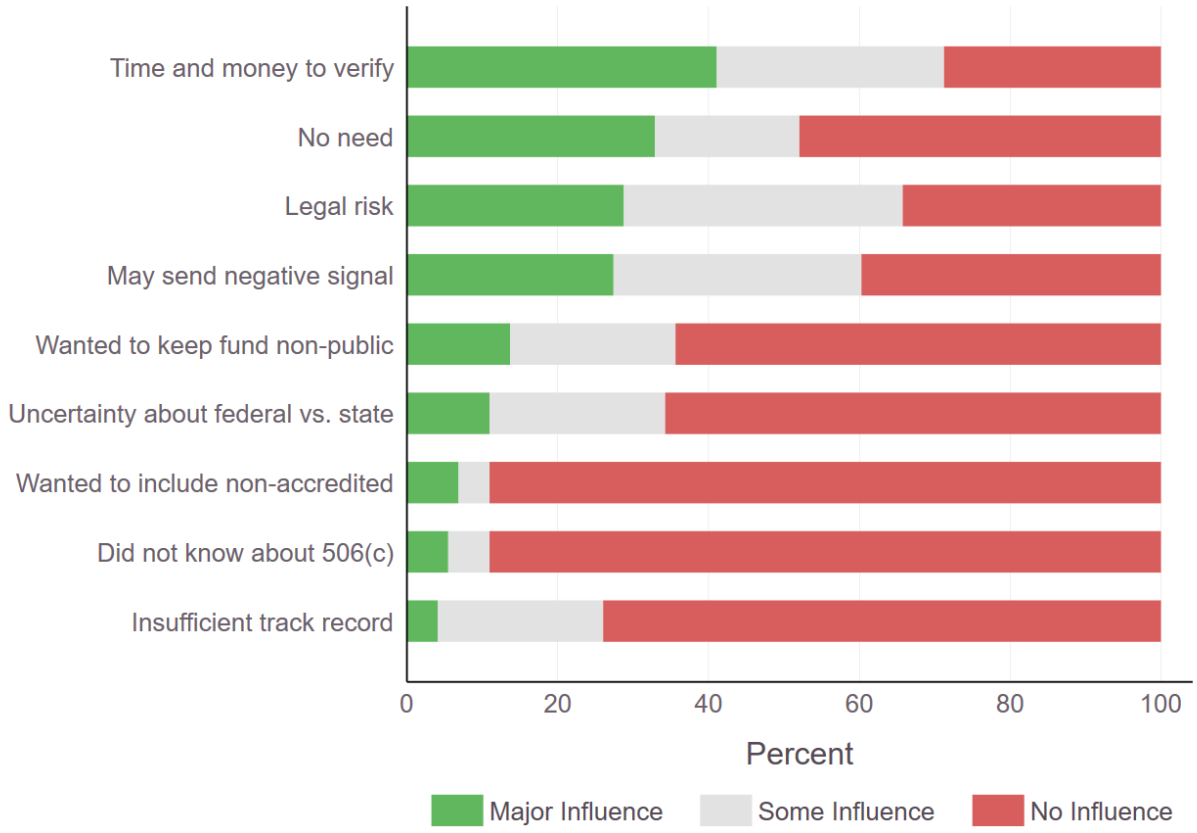


(b) VC Lawyers



Note: These figures describe survey responses, with VC fund managers in Panel A and lawyers to VC firms in Panel B. 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 9: 506(b) Fund Managers' Reasons for Not Using 506(c)



Note: This figure describes survey responses within the set of fund managers who have used only 506(b). Fund managers were asked whether any of the non-mutually exclusive options listed on the y-axes had no influence, some influence, or major influence on their choice to not use 506(c). $N = 73$.

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
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				
Number of LPs	56.280	79.968	23.688***	4676
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	0.056	0.082	0.026*	4156
Black Share (Picture)	0.014	0.030	0.016*	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
Mean Number Past Board Co-Directors	26.423	13.010	-13.413***	4156
Above Med. Past Board Co-Directors Share	0.465	0.217	-0.248***	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: This table provides summary statistics about the VC funds in our main analysis sample of Regulation D filings matched to Pitchbook between 2014 to 2023 (i.e., post 506(c) implementation). Panel A shows total filing counts and measures of total fundraising volume. The first two columns show the total for each exemption type, and the third column shows the 506(c) share. Panel B compares various characteristics across 506(b) and 506(c) funds. 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. All $ are 2017 US Dollars.

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

Panel A. Fund Characteristics

	Fund	Fund Indicator				Fund	Share LPs	
Dependent Variable:	Ln(Size)	Non-Top 10 City	Non-Top 3 City	First Fund	Commission & Broker	Number LPs	Non-Pension	Individual
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
$\mathbb{1}$(506(c))	-0.680***	0.153***	0.154***	0.094***	0.060*	28.102***	0.095**	0.083**
	(0.086)	(0.021)	(0.016)	(0.020)	(0.035)	(9.638)	(0.043)	(0.034)
Year FE	No	Yes	Yes	No	No	No	No	No
State × Year FE	Yes	No	No	Yes	Yes	Yes	Yes	Yes
N	7445	8125	8125	8041	8041	4586	2176	2176
R^2	0.145	0.011	0.009	0.062	0.409	0.049	0.113	0.094
Outcome Mean	3.138	0.325	0.513	0.258	0.016	58.162	0.669	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))	9.910	0.259	0.259***	0.240***
	(6.267)	(0.156)	(0.050)	(0.063)
Year FE	No	No	No	No
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 uses descriptive regressions to compare 506(b) and 506(c) VC funds. Panel A regresses fund characteristics on an indicator for using the 506(c) exemption as opposed to 506(b). Panel B regresses fund return variables on the same indicator. The dependent variable in columns 3 and 4 of Panel B is an indicator for the fund's return being in the top quartile for its 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. Continuous Measures of Fund Team

	Mean	Share of Fund Team			
Dependent Variable:	Past Co-Directors	Female	Black/Hispanic	Elite School	First Time
	(1)	(2)	(3)	(4)	(5)
$\mathbb{1}$(506(c))	-9.865***	0.057*	0.051***	-0.038*	0.108***
	(2.982)	(0.031)	(0.019)	(0.023)	(0.040)
State × Year FE	Yes	Yes	Yes	Yes	Yes
N	4068	4067	4068	3897	4068
R^2	0.105	0.068	0.060	0.122	0.098
Outcome Mean	25.560	0.146	0.059	0.471	0.396

Panel B. Majority Measures of Fund Team

	Majority of Fund Team				
Dependent Variable:	>Med. Past Co-Directors	Female	Black/Hispanic	Elite School	First Time
	(1)	(2)	(3)	(4)	(5)
$\mathbb{1}$(506(c))	-0.166***	0.051**	0.041***	-0.021	0.107**
	(0.038)	(0.022)	(0.014)	(0.029)	(0.051)
State × Year FE	Yes	Yes	Yes	Yes	Yes
N	4068	4067	4068	3897	4068
R^2	0.100	0.067	0.055	0.102	0.094
Outcome Mean	0.401	0.075	0.028	0.405	0.341

Note: This table uses descriptive regressions to compare 506(b) and 506(c) VC funds. It focuses on fund manager characteristics. Panel A regresses continuous measures of the fund team, with the first column using the average and the remainder using the share of fund managers in each category, on an indicator for using the 506(c) exemption. Panel B regresses an indicator for the given group representing at least half of the fund team on 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

	Share not in top	Share in same		Share filed	Share 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 uses descriptive regressions to compare portfolio companies of 506(b) and 506(c) VC funds. Each column regresses the share of portfolio companies of a given fund on an indicator for using the 506(c) exemption. 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: The Role of Track Record in 506(c) Take-up

Dependent Variable:	Ln(Fund Size)		
	(1)	(2)	(3)
Prior Exits	0.043***		
	(0.012)		
Prior Exits × 𝟙(506(c))	0.046***		
	(0.011)		
Prior Funds		0.045***	
		(0.012)	
Prior Funds × 𝟙(506(c))		0.059**	
		(0.023)	
Finance Experience Share			-0.002
			(0.014)
Finance Experience Share × 𝟙(506(c))			0.091*
			(0.048)
𝟙(506(c))	-0.530***	-0.532***	-0.304**
	(0.071)	(0.071)	(0.138)
Ln(Fund Target Size)	0.979***	0.982***	0.992***
	(0.018)	(0.017)	(0.011)
State × Year FE	Yes	Yes	Yes
N	5713	5713	3183
R^2	0.831	0.831	0.850
Outcome Mean	3.246	3.246	3.781

Note: This table shows how the sensitivity of fundraising success to track record differs by exemption type. The dependent variable is log fund size. The coefficient of interest is the interaction between using the 506(c) exemption and track record, represented by prior successful portfolio company exits, prior funds, or past finance experience, each standardized. We control for log fundraising target size. 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 6: Fund Investor Cap and 506(c) Take-up: Evidence from the 2018 Policy Change

Panel A: Baseline DID

Dependent Variable:	506(c)	506(c), Board Network		506(c), Underrepresented		506(c), Elite School	
	All	Without	With	With	Without	Without	With
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
𝟙(Fund size<$10m)	-0.016	-0.013	-0.003***	-0.013	-0.003	-0.009	-0.007
	(0.013)	(0.012)	(0.001)	(0.008)	(0.009)	(0.013)	(0.004)
𝟙(Fund size<$10m) × 𝟙(PostPolicy)	0.076***	0.076***	-0.000	0.041**	0.034*	0.058**	0.033
	(0.023)	(0.022)	(0.001)	(0.018)	(0.019)	(0.022)	(0.021)
State × Event Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	2597	2597	2597	2597	2597	2517	2517
R^2	0.309	0.358	0.030	0.119	0.290	0.172	0.237
Outcome Mean for Size<$10m	0.127	0.125	0.002	0.045	0.082	0.069	0.066

Panel B: Placebo DID Around $20m Conditional on Fund Size>$10m

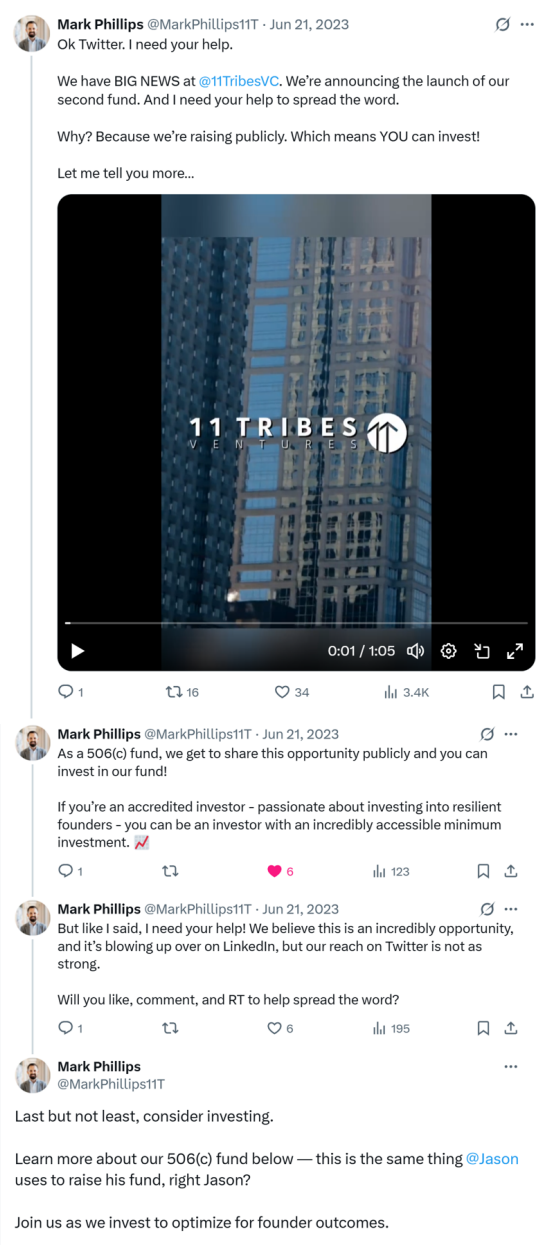
Dependent Variable:	506(c)	506(c), Board Network		506(c), Underrepresented		506(c), Elite School	
	All	Without	With	With	Without	Without	With
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
𝟙(Fund size<$20m)	0.049	0.055	-0.006***	0.025	0.024	0.037	0.011
	(0.043)	(0.042)	(0.002)	(0.016)	(0.028)	(0.039)	(0.008)
𝟙(Fund size<$20m) × 𝟙(PostPolicy)	0.016	0.025	-0.009	-0.001	0.016	0.017	-0.002
	(0.074)	(0.068)	(0.007)	(0.032)	(0.045)	(0.051)	(0.027)
State × Event Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	2115	2115	2115	2115	2115	2067	2067
R^2	0.186	0.232	0.032	0.130	0.174	0.148	0.170
Outcome Mean for Size<$20m	0.118	0.118	0.000	0.046	0.071	0.070	0.048

Note: This table examines the impact of the 2018 investor cap raise on fund-level 506(c) takeup. On May 25, 2018, the SEC raised the investor cap 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 on the interaction between an indicator for fund size<$10m and a post-2018Q2 dummy. Column 1 examines overall takeup and other columns decompose by manager type (With Network indicates top quartile number of past co-directors; With Underrepresented indicates at least one female or Black/Hispanic manager). 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 3 years after 2018Q2. Panel B presents the DID results around the placebo threshold $20m, 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: Examples of General Solitication by a 506(c) Fund

(a) Advertising on Social Media



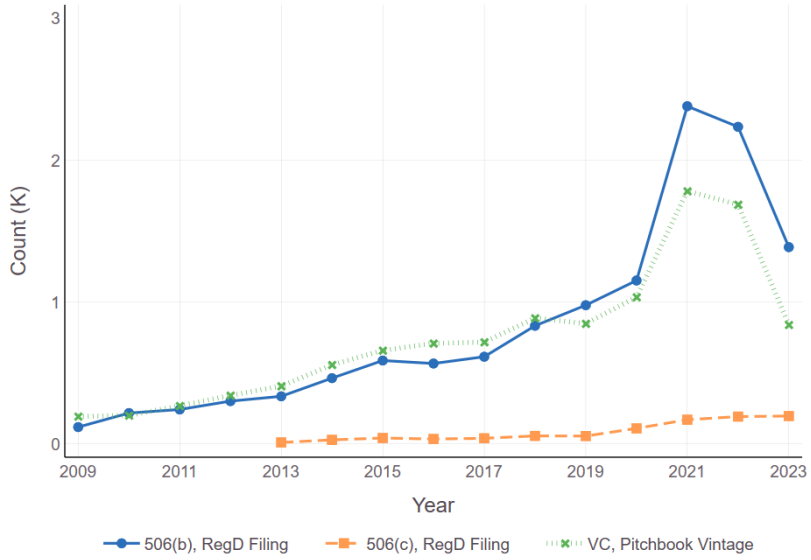
(b) Advertising on GP Website



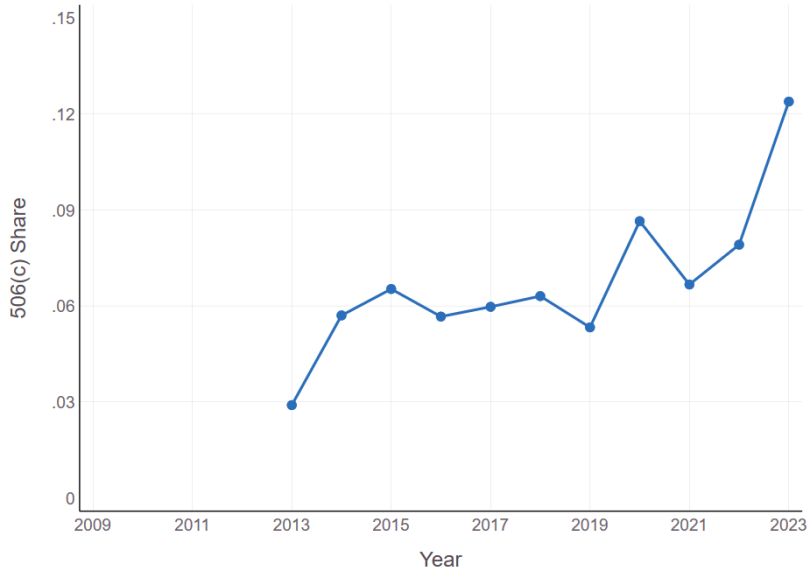
Note: This figure gives examples of public advertising by a 506(c) fund—11 Tribes Ventures Fund II. Panel (a) is a screenshot of the fund manager Mark Phillips publicly promoting his 506(c) fund on Twitter (`https://x.com/MarkPhillips11T/status/1671579893090459650`). Panel (b) is the screenshot of the GP firm's official webpage advertising the fund (`https://11tribesvc.notion.site/11-Tribes-Ventures-Fund-II-Investment-Opportunity-33aea39c8f7a48748cd01664b795d069`).

Figure A.2: Count and 506(c) Share of all Regulation D and Pitchbook Funds Identified as VC

(a) Count of VC Funds by Type

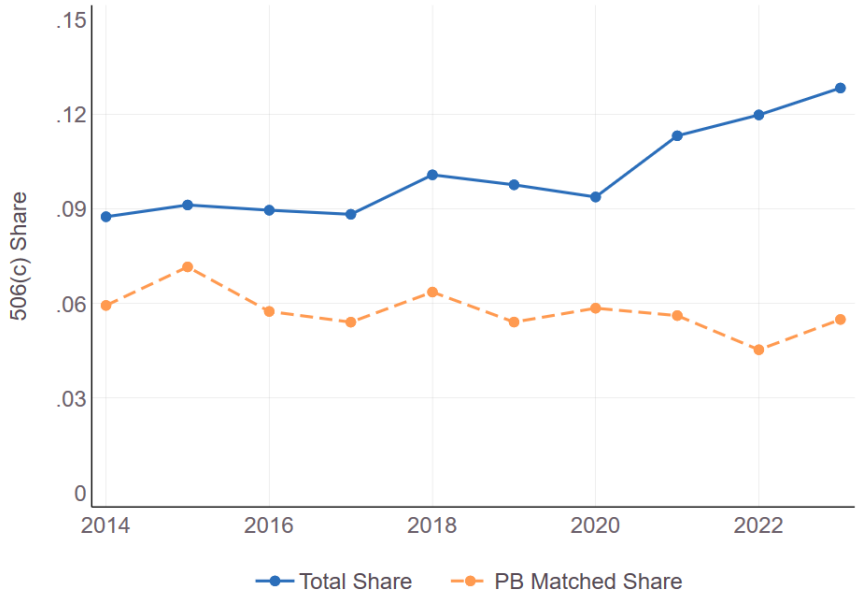


(b) Share of 506(c)



Note: These figures use data from all Form 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 in Form D using 506(b) and 506(c) by year, as well as the number of Pitchbook VC funds of that vintage. Panel B shows the share of 506(c) funds in Form D data in terms of count relative to the total number of funds (not restricted to the Pitchbook match).

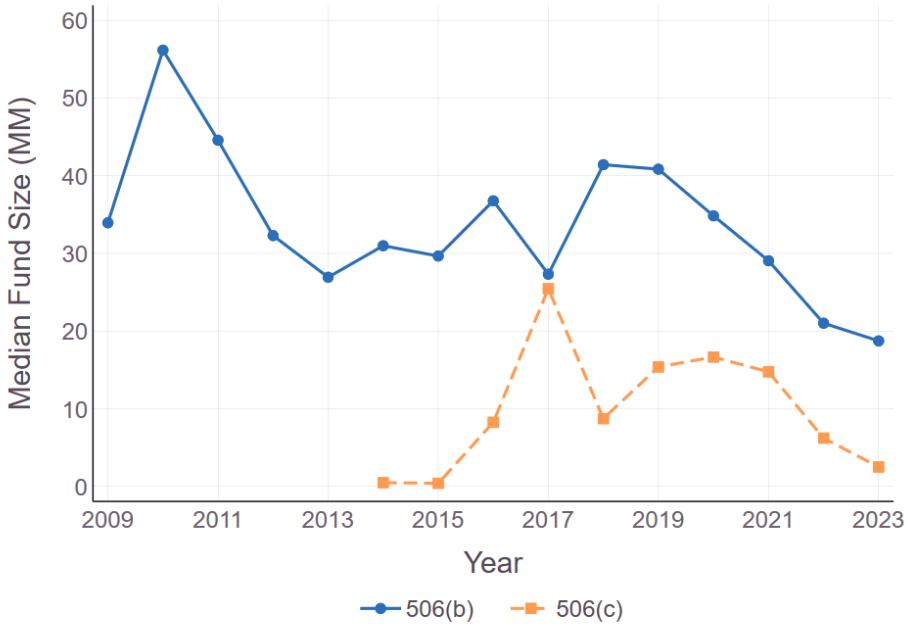
Figure A.3: Share of 506(c) Among Non-Investment Companies



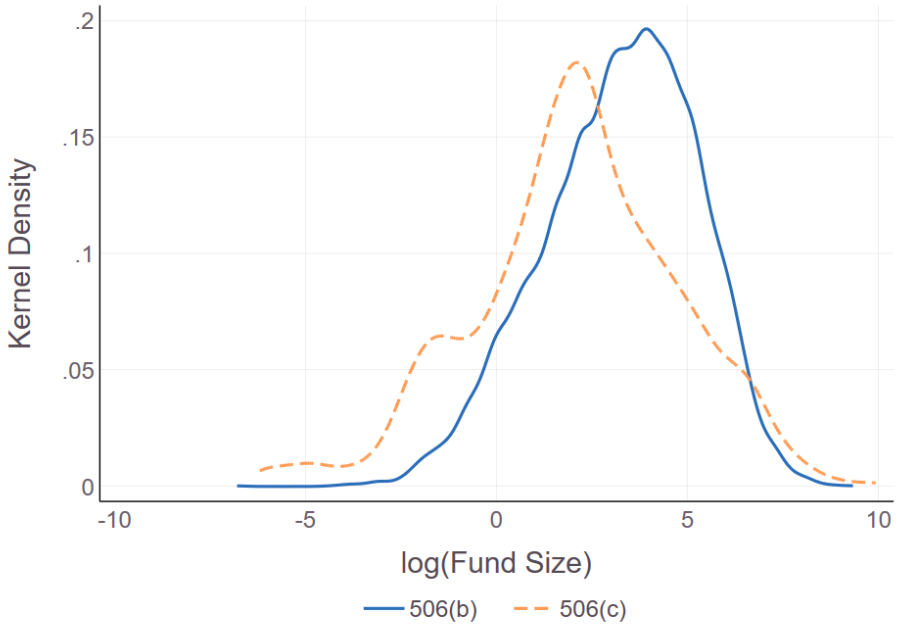
Note: This figure shows the share of 506(c) among non-investment companies in overall Form D filings (the blue line) and among those companies we can match to companies in Pitchbook (the orange line). From raw filings, we perform basic cleaning to isolate companies by removing any filings with an investment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

Figure A.4: Share and Size of VC Funds

(a) Median Fund Size by Year

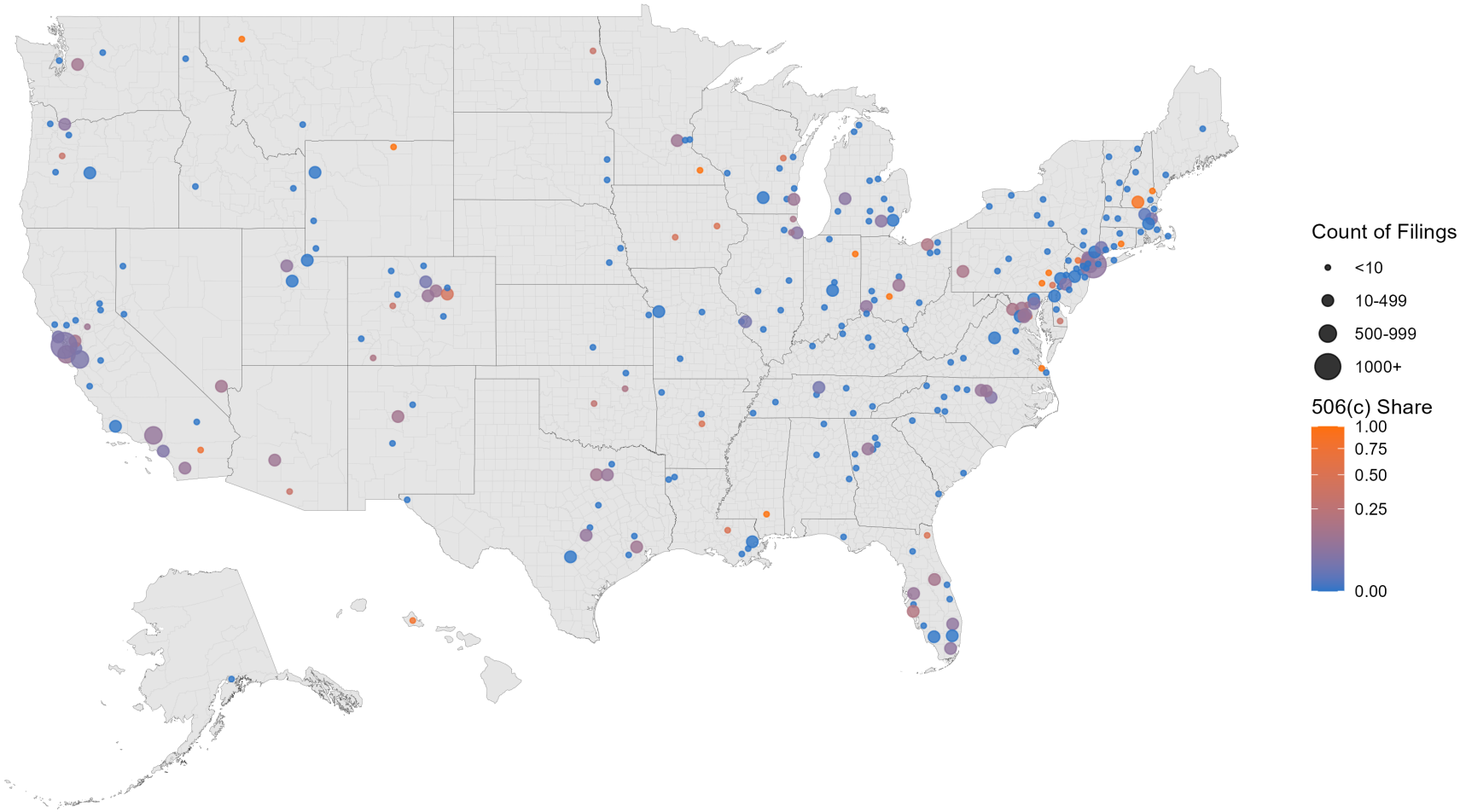


(b) Fund Size Distribution



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.

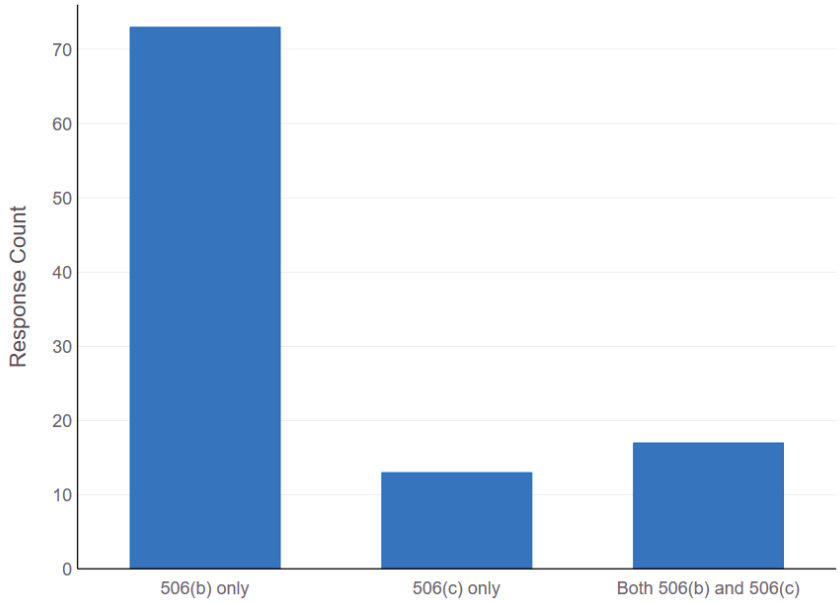
Figure A.5: Geographic Distribution of VC Funds



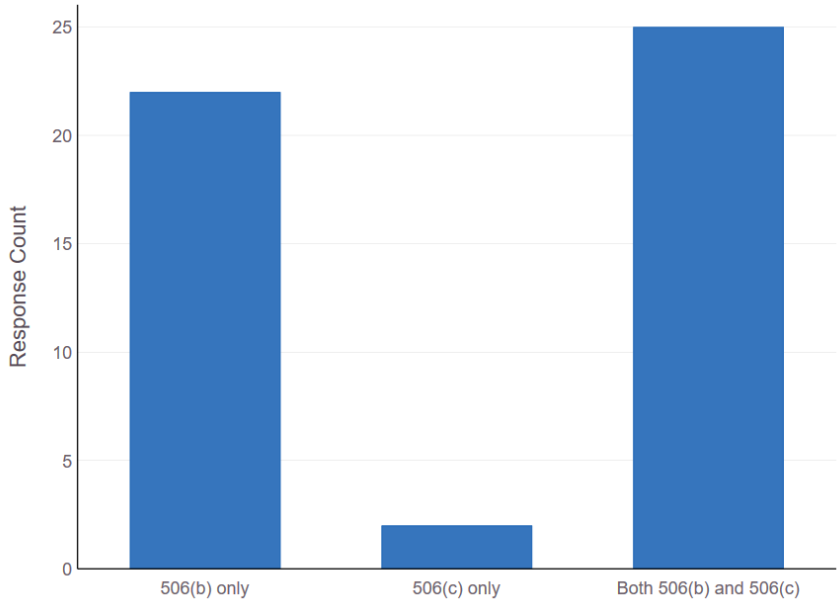
Note: This figure shows the geographic distribution of VC funds in the whole analysis sample (which includes 2014-2023). We aggregate fund location to the county level. The color represents the 506(c) share and the size indicates number of filings.

Figure A.6: Number of Respondents per Exemption Use

(a) Fund Managers



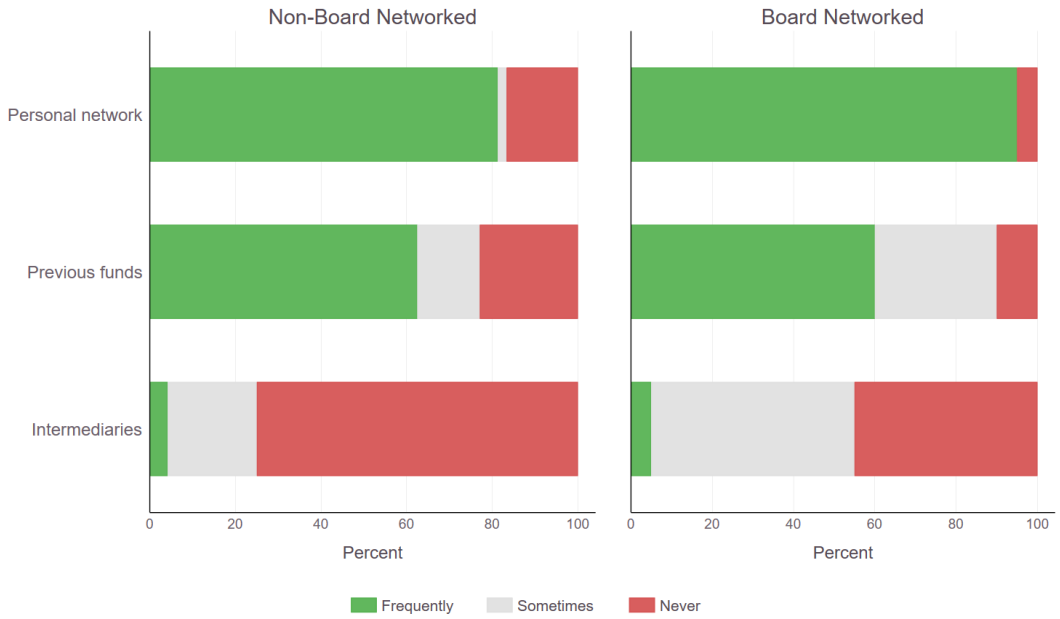
(b) Lawyers



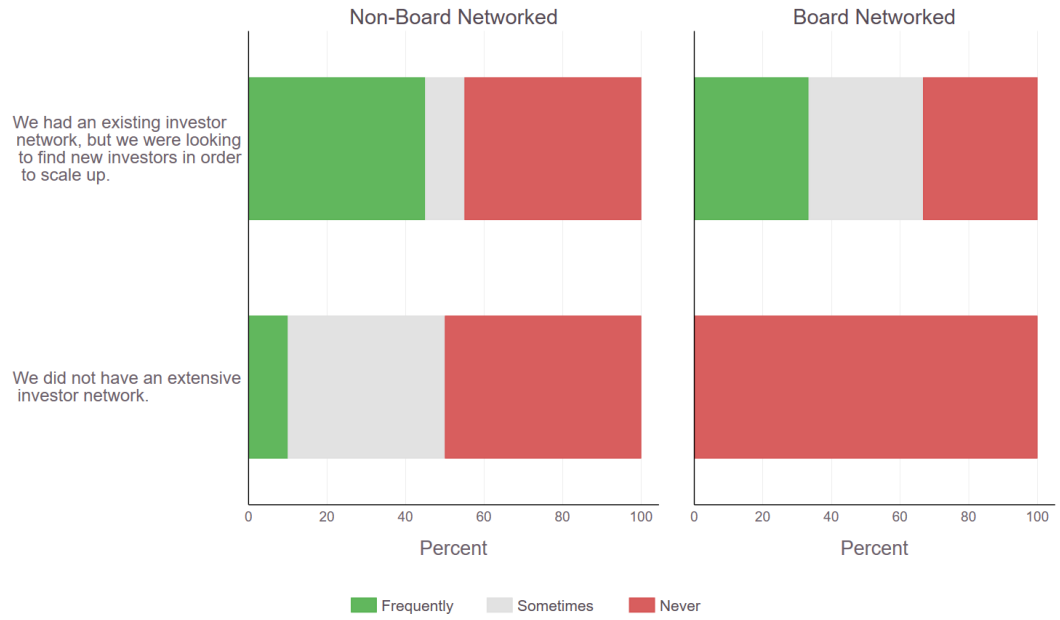
Note: This figure shows the number of respondents to the survey by exemption type. For the fund managers, these refer to the exemptions they have used in their own funds. For the lawyers, these refer to exemptions that funds have used to which they provided legal counsel.

Figure A.7: Survey Evidence on Role of Personal Networks in Fundraising, Split by Board-Network Measure

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

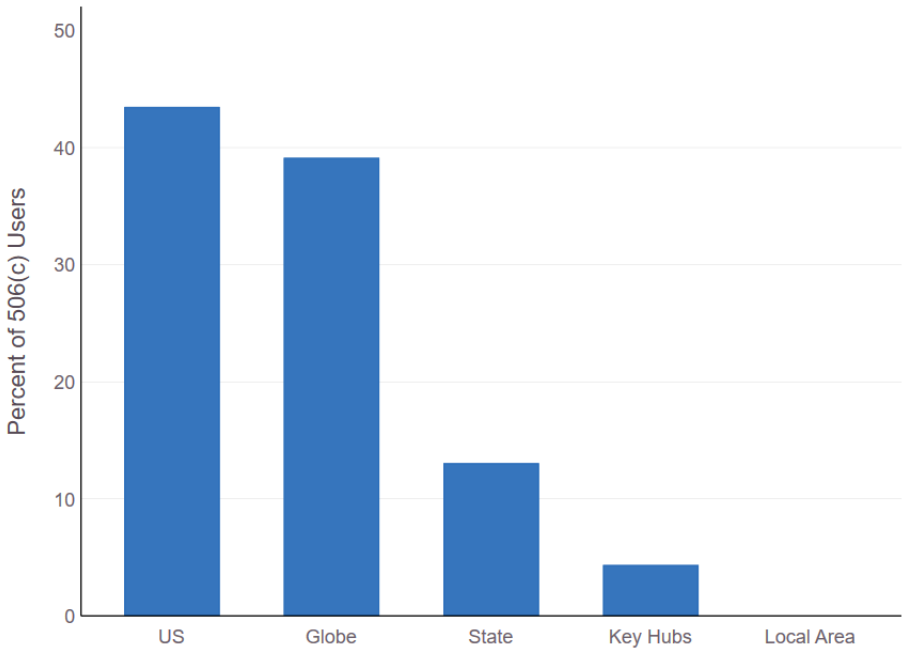


(b) 506(c) Fund Managers on Personal Networks as Reason for Using 506(c)



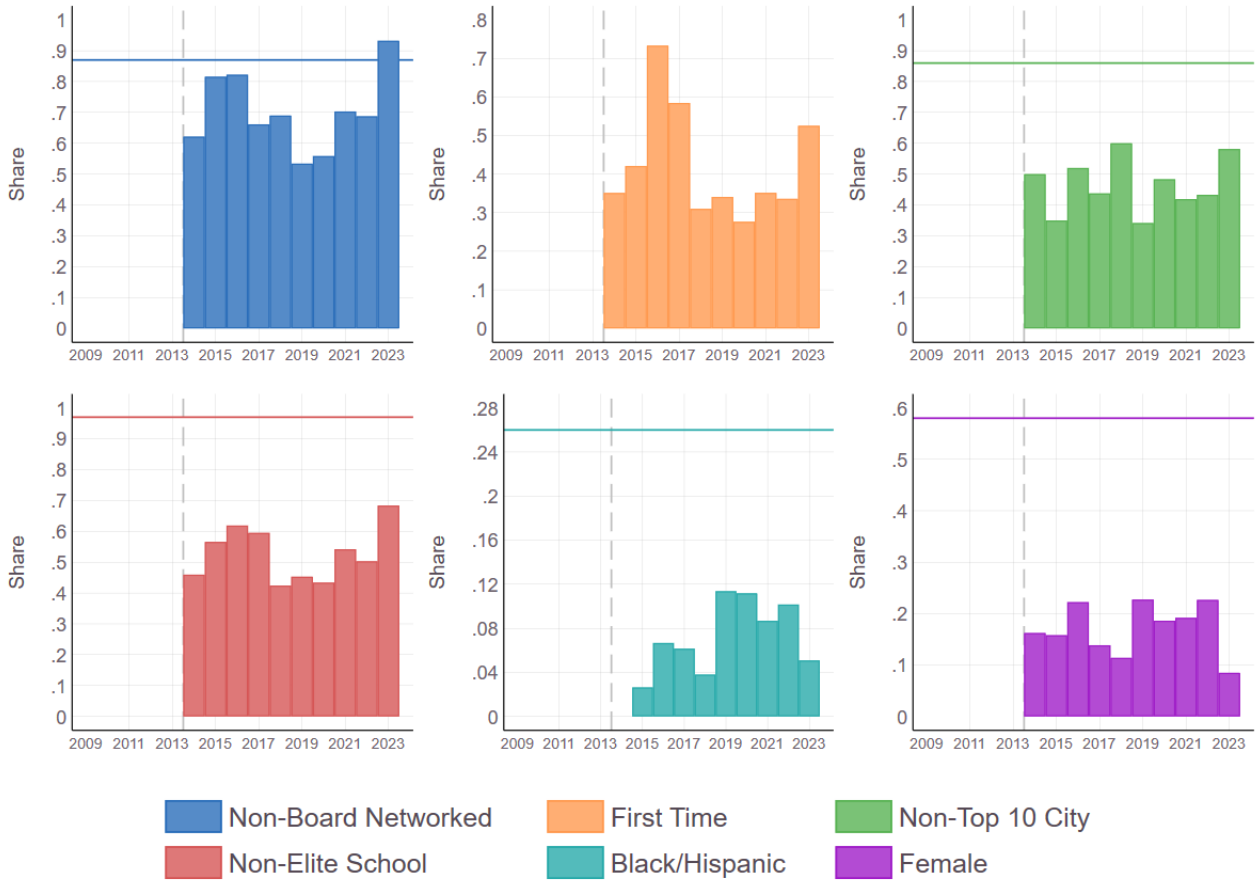
Note: These figures shows the responses of page 2, question 3 of the fund manager survey. The responses show how often fund managers reference various reasons for avoiding using 506(c) split by the network of their fund. Board-Networked is defined as the top quartile of board network among survey respondents. For Panel A, Non-Board Networked $N = 48$, Board Networked $N = 20$. For Panel B, Non-Board Networked $N = 20$, Board Networked $N = 3$.

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



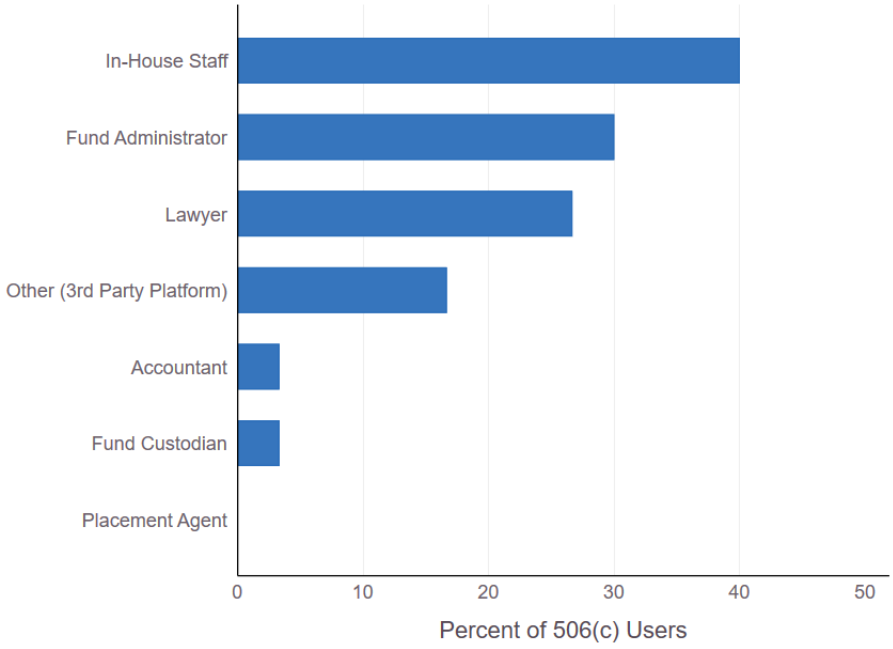
Note: This figure shows responses among 506(c) fund managers regarding where they targeted investors for general solicitation. Respondents were allowed to select multiple options, then the broadest option is assigned as their true response.

Figure A.9: Levels Compared to Population Benchmarks, 506(c) Only



Note: This figure shows the share of fund managers of each type within 506(c) filings in each year, with the vertical dashed line representing 506(c) implementation. The horizontal lines represent a relevant benchmark for potential supply. The benchmark for the first graph is 87% as that is the percentile of the broader population's co-board network of the median fund manager. The benchmarks for the last four graphs (described in more detail in Section 5) are the shares of: university graduates for Black/Hispanic and Female, non-elite graduates relative to total graduates, non-top 10 city new firms.

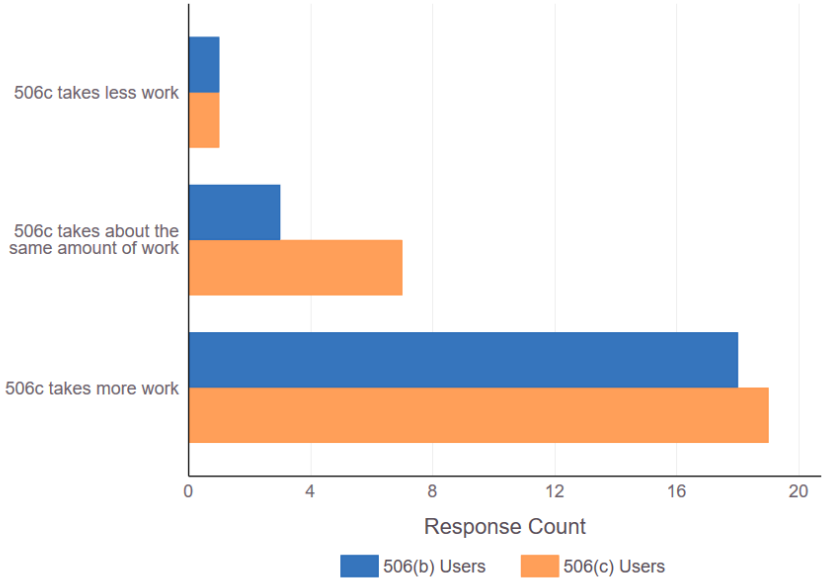
Figure A.10: Verification Method, 506c Fund Managers (Multiselect)



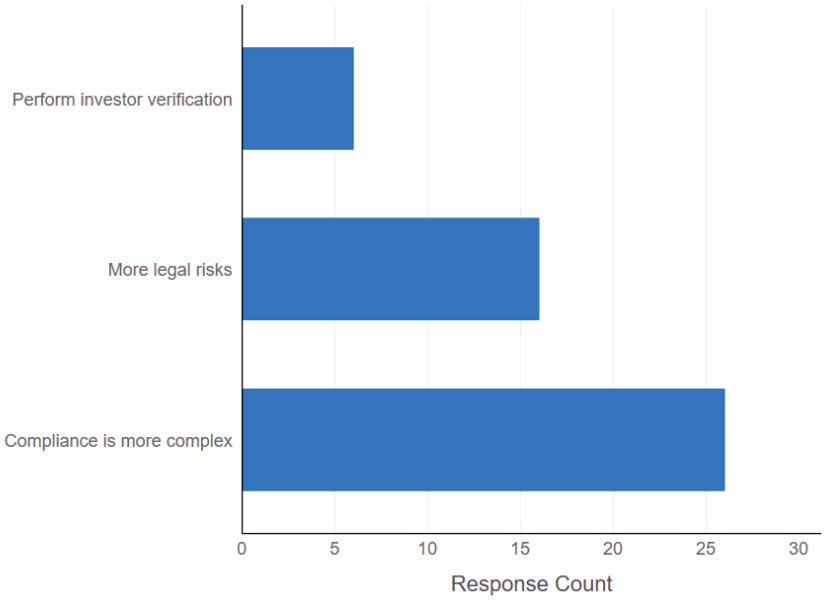
Note: This figure shows responses among 506(c) fund managers regarding how they verify accreditation status of prospective investors. Respondents were allowed to select multiple options.

Figure A.11: Investor Verification Burden for 506c (Lawyer Responses)

(a) Amount of Legal Work Required for 506c



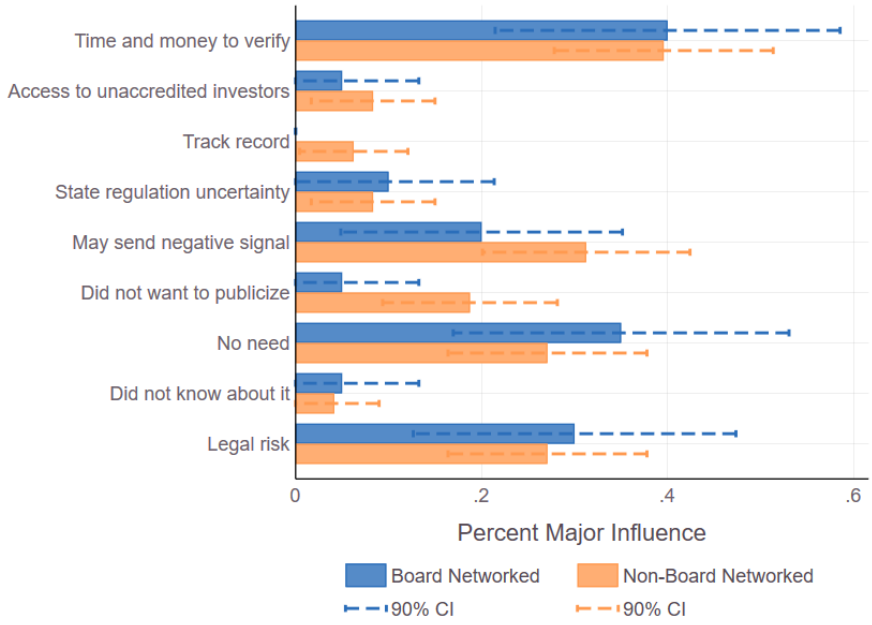
(b) Reason for More Legal Work for 506c



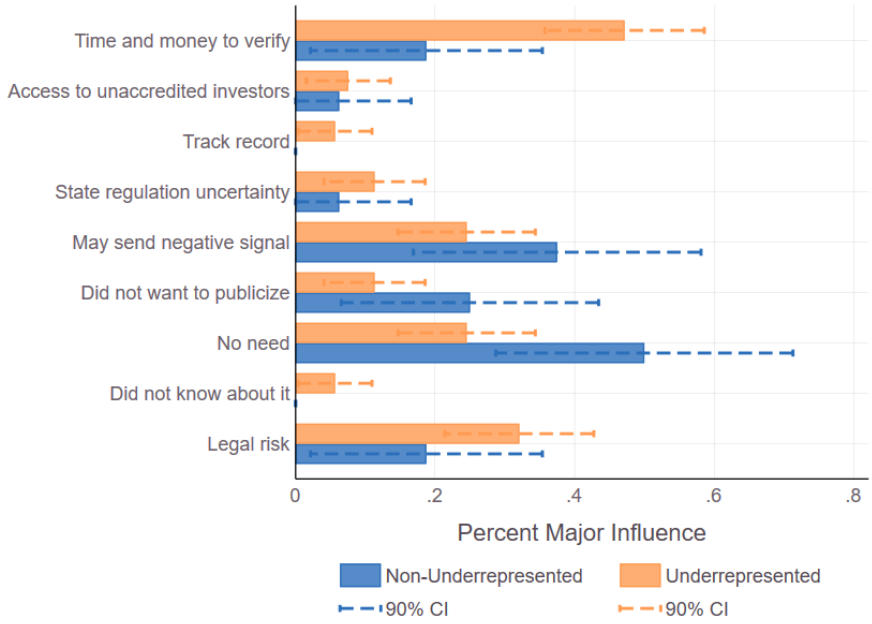
Note: This figure employs data from the lawyer survey about the amount of legal work (i.e. billable hours) required to verify that investors are accredited. Lawyers were first asked if 506(c) required more work. If they said it did, then they were asked why.

Figure A.12: 506(b) Fund Manager Reasons for not using 506(c) Across Fund Characteristics

(a) Board-Networked vs. Non-Board Networked

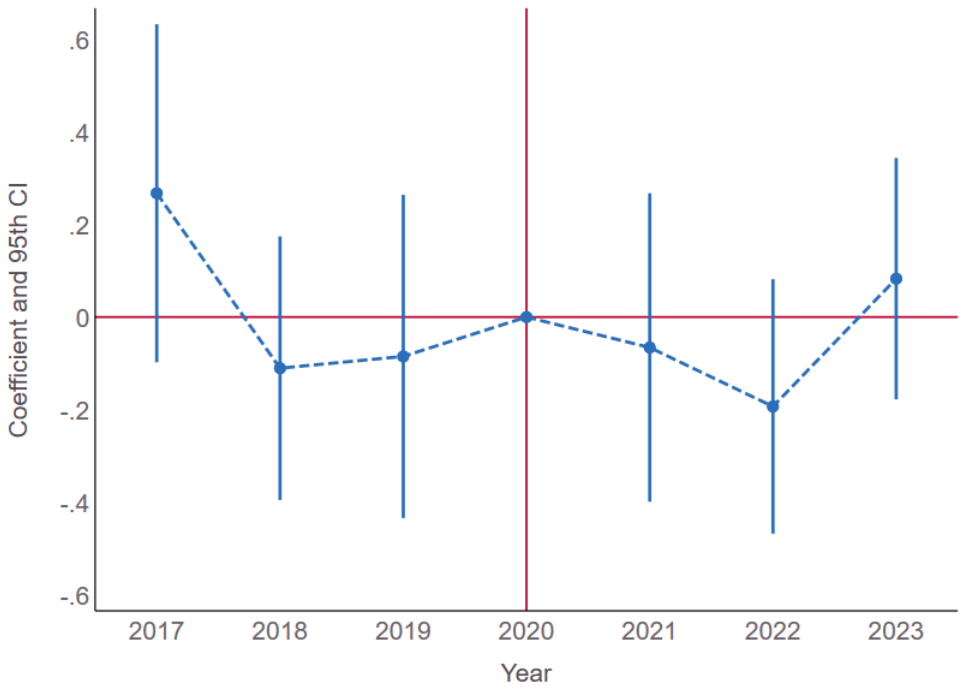


(b) Underrepresented vs. Non-Underrepresented



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. Both Board-Networked and Non-Underrepresented are defined as the top quartile of their respective distributions among survey respondents. For Panel A, Non-Board Networked $N = 48$, Board Networked $N = 20$. For Panel B, Underrepresented $N = 53$, Non-Underrepresented $N = 17$.

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: Matching Between Form D Filings and Pitchbook

	# of Funds
Reg D 506(b)/(c) VC Funds Matched to PB	9,005
Final Unmatched Reg D 506(b)/(c) VC Funds	4,862
Matching Process Waterfall:	
All Reg D 506(b)/(c) VC Funds	37,869
Unmatched 506(b)/(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 Form 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 Form 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 Form 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: Pitchbook Funds Unmatched to Form D Filings

	# of Funds
PB US VC Funds Matched to Reg D with Populated Fund Size	8,400
Final Unmatched PB US VC Funds with Populated Fund Size	1,384
All PB US VC Funds with Populated Fund Size	10,704
Unmatched PB US VC Funds with Populated Fund Size	2,304
- Less Matched to 506 Reg D Amendment Only Filings	2,253
- Less Matched to Non-506 Reg D Filings	2,067
- Less Matched to Form C	2,066
- Less Matched to Old Reg D Filings (REGDEX)	2,041
- Less Funds by Corporate Venture Capital	1,653
- Less Funds by Asset Managers and Fund of Funds	1,507
- Less Funds by Governments and Universities	1,470
- Less Funds by Non-Profits	1,414
- Less Funds with 2024 Vintage	1,385
- Less Funds with Pre-1992 Vintage	1,384

Note: This table summarizes the numbers in the matching process between PitchBook and Form D, focusing on Pitchbook funds unmatched to Form D. We start with all PitchBook funds located in the US classified as Venture Capital that have non-missing fund size. From there, the funds not matched to initial Reg D filings are identified and pared by various additional criteria to explain why a filing might not exist.

Table A.3: 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 total fundraising volume in the period 2014 to 2023 across 506(b) and 506(c) based on all Form D filings (removed of filings deemed erroneous as shown in Table A.1). All dollar volumes are in terms of 2017 US Dollars.

Table A.4: Correlation between Network and Underrepresentation Measures

Panel A. Fund Level

Dependent Variable:	Ln(# Previous Co-Directors)				
	(1)	(2)	(3)	(4)	(5)
Female Share	-0.350***				
	(0.058)				
Black/Hispanic Share		-0.910***			
		(0.179)			
Elite School Share			0.530***		
			(0.113)		
First Time Share				-1.556***	
				(0.113)	
𝟙(Non-Hub Fund)					-0.401***
					(0.126)
N	4155	4156	3987	4156	4155
Outcome Mean	2.48	2.48	2.56	2.48	2.48

Panel B. Fund Manager level

Dependent Variable:	Ln(# Previous Co-Directors)				
	(1)	(2)	(3)	(4)	(5)
𝟙(Female)	-0.792***				
	(0.051)				
𝟙(Black/Hispanic)		-0.683***			
		(0.108)			
𝟙(Elite School)			0.410***		
			(0.058)		
𝟙(First Time)				-1.781***	
				(0.101)	
𝟙(Non-Hub Fund)					-0.356***
					(0.119)
N	13857	13857	12730	13857	13857
Outcome Mean	2.33	2.33	2.46	2.33	2.33

Note: This table shows the correlations between fund manager demographics and co-director network measure at the fund level (Panel A) and at the fund manager level (Panel B). The dependent variable is the logarithm average number of previous unique co-board members of the fund's managers in Panel A, and is the logarithm number of previous unique co-board members of the individual fund manager in Panel B. The coefficients are OLS estimates and use data from 2014-2023. Standard errors are reported in parentheses and are clustered by fund state. * indicates statistical significance at the 10% level, ** at the 5% level, and *** at the 1% level.

Table A.5: Transition of Fund Managers Between Exemptions

Panel A. All Fund Managers

	All Funds			Funds Before 2021		
	To 506(b)	To 506(c)	To None	To 506(b)	To 506(c)	To None
From 506(b)	0.44	0.01	0.55	0.53	0.02	0.45
From 506(c)	0.09	0.36	0.56	0.13	0.47	0.40

Panel B. Below Median Co-Board Network Fund Managers

	All Funds			Funds Before 2021		
	To 506(b)	To 506(c)	To None	To 506(b)	To 506(c)	To None
From 506(b)	0.36	0.01	0.63	0.45	0.01	0.54
From 506(c)	0.06	0.33	0.61	0.10	0.44	0.47

Panel C. Underrepresented Fund Managers

	All Funds			Funds Before 2021		
	To 506(b)	To 506(c)	To None	To 506(b)	To 506(c)	To None
From 506(b)	0.42	0.01	0.57	0.51	0.02	0.47
From 506(c)	0.08	0.34	0.58	0.13	0.46	0.42

Note: This table shows the transition probabilities of fund managers between 506(b) and 506(c). The rows are the current fund exemption, and each column is the next fund exemption or "None" if the fund manager has no following funds. Each row sums to 1. Panel A shows the sample of all fund managers, Panel B limits the sample to fund managers with a below median number of co-board network connections, and Panel C limits to underrepresented managers (female, Black, or non-elite colleges). Funds are ordered temporally by their Form D filing date, but the probabilities are nearly identical if we instead use the Pitchbook provided fund open date. The sample in the first three columns of each panel is all matched VC funds between 2014 and 2023, while the sample is limited to 2014-2020 in the last three columns to allow time for the next fund.

Table A.6: 506(b) vs 506(c): Fund Characteristics with Size Controls

Panel A. Fund Characteristics

	Fund Indicator				Fund	Share LPs	
Dependent Variable:	Non-Top 10 City	Non-Top 3 City	Firm's First	Commission & Broker	Number LPs	Non-Pension	Individual
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
$\mathbb{1}$(506(c))	0.103***	0.088***	0.064***	0.057*	26.754**	0.083**	0.079**
	(0.021)	(0.025)	(0.022)	(0.034)	(11.511)	(0.034)	(0.033)
Log Fund Size	-0.042***	-0.055***	-0.035***	-0.000	14.545***	-0.075***	-0.040***
	(0.004)	(0.004)	(0.005)	(0.001)	(1.951)	(0.010)	(0.004)
Year FE	Yes	Yes	No	No	No	No	No
State × Year FE	No	No	Yes	Yes	Yes	Yes	Yes
N	7530	7530	7445	7445	4353	2119	2119
R^2	0.045	0.059	0.086	0.412	0.159	0.189	0.148
Outcome Mean	0.324	0.517	0.257	0.015	57.960	0.670	0.094

Panel B. Fund Return Characteristics

	Continuous						Above 75th Percentile					
Dependent Variable:	IRR	IRR	IRR	TVPI	TVPI	TVPI	IRR	IRR	IRR	TVPI	TVPI	TVPI
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
$\mathbb{1}$(506(c))	10.698***	9.258	9.023***	0.233*	0.256*	0.767*	0.222***	0.248***	0.221***	0.206***	0.237***	0.207
	(3.787)	(5.552)	(1.268)	(0.124)	(0.144)	(0.419)	(0.077)	(0.043)	(0.072)	(0.074)	(0.061)	(0.126)
$\ln_p b_f undsize$	-2.217***	-2.602***	-2.108***	-0.047**	-0.064**	-0.051	-0.038***	-0.041***	-0.046***	-0.029***	-0.032	-0.042**
	(0.544)	(0.564)	(0.399)	(0.023)	(0.026)	(0.038)	(0.009)	(0.013)	(0.008)	(0.009)	(0.019)	(0.019)
Year FE	Yes	No	No	Yes	No	No	Yes	No	No	Yes	No	No
State × Year FE	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes
Sample	Whole	Whole	<2019	Whole	Whole	<2019	Whole	Whole	<2019	Whole	Whole	<2019
N	876	803	415	939	868	443	876	803	415	939	868	443
R^2	0.204	0.285	0.188	0.254	0.316	0.113	0.042	0.152	0.158	0.032	0.128	0.126
Outcome Mean	16.250	16.715	23.136	1.714	1.727	2.273	0.239	0.238	0.236	0.239	0.242	0.260

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 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: Comparison of High vs Low Board Networked Funds

Fund	Non-Board Networked	Board Networked	Networked - Non-Networked	N
Mean Fund Size (Mill $)	95.119	334.823	239.704***	4001
Median Fund Size (Mill $)	29.697	8.659	-21.038***	4001
Non-Top 10 City Fund	0.350	0.193	-0.157***	4156
Non-Top 3 City Fund	0.542	0.370	-0.173***	4156
First Fund of VC Firm	0.349	0.090	-0.258***	4156
Commission & Broker	0.017	0.006	-0.012***	4156
Mean Number Prior Funds	4.721	8.212	3.491***	4156
Mean Number Prior Large Exits	1.750	23.249	21.499***	4156
Fund LP				
Number of LPs	62.984	74.473	11.489***	2698
Non-Pension Share	0.787	0.561	-0.226***	1654
Individual Share	0.128	0.044	-0.084***	1654
Fund Return				
Mean IRR	22.121	15.108	-7.012***	707
Mean TVPI	1.913	1.752	-0.161*	730
Fund Manager				
Female Share	0.156	0.118	-0.038***	4155
Black/Hispanic Share	0.066	0.035	-0.031***	4156
Black Share (Picture)	0.018	0.007	-0.011***	4155
Hispanic Share (Name)	0.049	0.028	-0.021***	4155
Elite School Share	0.431	0.569	0.138***	3987
First Time Share	0.486	0.131	-0.354***	4156
Mean Number Past Board Co-Directors	11.162	68.036	56.873***	4156
Above Med. Past Board Co-Directors Share	0.303	0.875	0.572***	4156
Finance Experience Share	0.201	0.187	-0.015	4155
Portfolio Company				
Non-Top 5 Industry Share	0.375	0.289	-0.086***	3953
Same City as Fund Share	0.137	0.115	-0.022***	3954
Same State as Fund Share	0.348	0.374	0.026**	3954
Company Filed 506(c) Share	0.011	0.010	-0.001	3921
Portfolio Company Leadership				
Has First Time CEO Share	0.840	0.796	-0.043***	3893
Has Female CEO Share	0.158	0.109	-0.049***	3893
Has Elite School CEO Share	0.306	0.336	0.030***	3764

Note: This table compares various characteristics across funds led by high vs low board networked managers. Board Networked is an indicator for whether the fund team has an above 75th percentile of average past co-directors (as defined in the text) among all funds. 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. The last column shows the observation count for each variable. * indicates statistical significance at the 10% level, ** at the 5% level, and *** at the 1% level.

Table A.8: 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
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	66.663	65.291	-1.372	2698
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	0.054	0.112	0.058***	4155
Black Share (Picture)	0.013	0.044	0.031***	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
Mean Number Past Board Co-Directors	26.054	17.192	-8.862***	4155
Above Med. Past Board Co-Directors Share	0.454	0.347	-0.108***	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 a majority of female managers 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. The last column shows the observation count for each variable. * indicates statistical significance at the 10% level, ** at the 5% level, and *** at the 1% level.

Table A.9: Comparison of Black/Hispanic vs White Funds

Fund	**White**	**Minority**	**Minority - White**	**N**
Mean Fund Size (Mill $)	157.403	85.234	-72.169*	4001
Median Fund Size (Mill $)	29.697	8.659	-21.038***	4001
Non-Top 10 City Fund	0.311	0.310	-0.001	4156
Non-Top 3 City Fund	0.498	0.549	0.051	4156
First Fund of VC Firm	0.280	0.425	0.145***	4156
Commission & Broker	0.015	0.000	-0.015***	4156
Mean Number Prior Funds	5.689	2.195	-3.494***	4156
Mean Number Prior Large Exits	7.300	0.876	-6.423***	4156
Fund LP				
Number of LPs	66.650	62.396	-4.254	2698
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	0.239	0.095**	4155
Black/Hispanic Share	0.033	0.968	0.935***	4156
Black Share (Picture)	0.007	0.304	0.297***	4155
Hispanic Share (Name)	0.026	0.668	0.642***	4155
Elite School Share	0.467	0.441	-0.026	3987
First Time Share	0.391	0.609	0.218***	4156
Mean Number Past Board Co-Directors	25.832	9.233	-16.598***	4156
Above Med. Past Board Co-Directors Share	0.452	0.216	-0.236***	4156
Finance Experience Share	0.198	0.200	0.002	4155
Portfolio Company				
Non-Top 5 Industry Share	0.351	0.420	0.069**	3953
Same City as Fund Share	0.132	0.099	-0.033**	3954
Same State as Fund Share	0.355	0.341	-0.015	3954
Company Filed 506(c) Share	0.011	0.017	0.006	3921
Portfolio Company Leadership				
Has First Time CEO Share	0.828	0.861	0.033*	3893
Has Female CEO Share	0.144	0.213	0.069***	3893
Has Elite School CEO Share	0.313	0.339	0.027	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. The last column shows the observation count for each variable. * indicates statistical significance at the 10% level, ** at the 5% level, and *** at the 1% level.

Table A.10: 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
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	67.932	65.445	-2.488	2623
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	0.057	0.059	0.002	3987
Black Share (Picture)	0.015	0.015	0.001	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
Mean Number Past Board Co-Directors	22.893	31.394	8.501***	3987
Above Med. Past Board Co-Directors Share	0.428	0.513	0.085***	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 managers (as defined in the main text) 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. The last column shows the observation count for each variable. * indicates statistical significance at the 10% level, ** at the 5% level, and *** at the 1% level.

Table A.11: 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
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	69.907	57.657	-12.250***	2698
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	0.047	0.080	0.032***	4156
Black Share (Picture)	0.010	0.026	0.016***	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
Mean Number Past Board Co-Directors	33.631	9.416	-24.215***	4156
Above Med. Past Board Co-Directors Share	0.565	0.215	-0.350***	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 (with no prior funds) 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. The last column shows the observation count for each variable. * indicates statistical significance at the 10% level, ** at the 5% level, and *** at the 1% level.

Table A.12: 506(b) vs 506(c): Fund Manager Characteristics, Excluding Angel Funds

Panel A. Share of Fund Team

	Mean	Share of Fund Team			
Dependent Variable:	Past Co-Directors	Female	Black/Hispanic	Elite School	First Time
	(1)	(2)	(3)	(4)	(5)
$\mathbb{1}$(506(c))	-9.891***	0.057*	0.051**	-0.038*	0.108***
	(2.991)	(0.031)	(0.019)	(0.023)	(0.040)
State × Year FE	Yes	Yes	Yes	Yes	Yes
N	4043	4042	4043	3874	4043
R^2	0.105	0.065	0.061	0.121	0.098
Outcome Mean	25.676	0.146	0.060	0.472	0.396

Panel B. Indicator for Majority of Fund Team

	Majority of Fund Team				
Dependent Variable:	>Med. Past Co-Directors	Female	Black/Hispanic	Elite School	First Time
	(1)	(2)	(3)	(4)	(5)
$\mathbb{1}$(506(c))	-0.166***	0.052**	0.041***	-0.022	0.107**
	(0.038)	(0.022)	(0.014)	(0.029)	(0.050)
State × Year FE	Yes	Yes	Yes	Yes	Yes
N	4043	4042	4043	3874	4043
R^2	0.099	0.066	0.056	0.102	0.094
Outcome Mean	0.403	0.075	0.028	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.13: 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.

Table A.14: Fund Impact Target Comparison

Dependent Variable:	𝟙(MWBE Fund)		𝟙(ESG Fund)	
	(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)		0.062*		0.019
		(0.032)		(0.032)
State × Year FE	Yes	Yes	Yes	Yes
N	8041	4067	8041	4067
R^2	0.063	0.124	0.046	0.065
Outcome Mean	0.015	0.023	0.015	0.020

Note: This table compares the likelihood of a fund being a targeted fund by exemption type and manager type. 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 one 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.15: Fund Level LP Diversity

Dependent Variable:	Share of LP Employees		
	Female	Black/Hispanic	White Male
	(1)	(2)	(3)
$\mathbb{1}$(506(c))	-0.043***	-0.001	-0.084**
	(0.014)	(0.006)	(0.036)
Female Share	0.085***		
	(0.020)		
$\mathbb{1}$(506(c)) × Female Share	0.161**		
	(0.077)		
Black/Hispanic Share		0.022	
		(0.023)	
$\mathbb{1}$(506(c)) × Black/Hispanic Share		-0.037	
		(0.036)	
White Male Share			0.093***
			(0.014)
$\mathbb{1}$(506(c)) × White Male Share			0.132**
			(0.052)
State × Year FE	Yes	Yes	Yes
N	1532	1532	1532
R^2	0.144	0.130	0.115
Outcome Mean	0.294	0.059	0.616

Note: This table measures the demographics of individuals LPs and employees of institutional LPs of VC funds, and relate them to fund manager characteristics. Employees include all workers working at the LP at the time of the fund opening. Individual LPs are are treated as single-employee LP. Independent variables other than the 506(c) indicator are fund level shares of fund manager characteristics. 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.16: Fund Returns by Manager Characteristics

Dependent Variable:	IRR					TVPI				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
𝟙(Majority >Med. Past Co-Directors)	-3.546**					-0.043				
	(1.346)					(0.063)				
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	-2.994***	-3.373***	-3.440***	-3.179***	-2.522***	-0.084**	-0.089**	-0.082**	-0.088**	-0.061*
	(0.408)	(0.381)	(0.384)	(0.359)	(0.393)	(0.033)	(0.032)	(0.032)	(0.032)	(0.029)
State × Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	630	630	630	625	630	652	652	652	647	652
R^2	0.277	0.275	0.275	0.272	0.290	0.256	0.256	0.259	0.255	0.264
Outcome Mean	19.170	19.170	19.170	19.064	19.170	1.845	1.845	1.845	1.849	1.845

Note: This table compares the fund returns (IRR and TVPI listed by Pitchbook) by whether a fund has 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.17: Sensitivity of Fund Entry to Local Wealth Shocks By Exemption Type and Manager Characteristic

Panel A. All Funds

Dependent Variable:	ΔLn(# 506(b) Funds)	ΔLn(# 506(c) Funds)	506(c) Share
	(1)	(2)	(3)
Local Wealth Shock	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. 506(b) Funds by Manager Characteristic

Dependent Variable:	ΔLn(# 506(b) Funds) by							
	Female	Male	Black/Hispanic	White	Non-Elite	Elite	Non-Board Networked	Board Networked
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Local Wealth Shock	0.005	0.018***	-0.003	0.020***	0.016***	0.006	0.019***	0.003
	(0.004)	(0.005)	(0.003)	(0.005)	(0.005)	(0.004)	(0.005)	(0.004)
P-Value of difference	.07		.00		.08		.01	
County FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year-Quarter FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	7640	7640	7640	7640	7640	7640	7640	7640
R^2	0.005	0.019	0.008	0.018	0.013	0.013	0.016	0.010
Outcome Mean	-0.000	-0.002	0.000	-0.002	-0.002	-0.001	-0.002	-0.001

Panel C: 506(c) Funds by Manager Characteristic

Dependent Variable:	ΔLn(# 506(c) Funds) by							
	Female	Male	Black/Hispanic	White	Non-Elite	Elite	Non-Board Networked	Board Networked
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Local Wealth Shock	0.002	-0.003	0.001	-0.002	0.000	-0.001	-0.001	0.000
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.001)
P-Value of difference	.43		.39		.44		.59	
County FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year-Quarter FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	7640	7640	7640	7640	7640	7640	7640	7640
R^2	0.007	0.007	0.004	0.006	0.005	0.007	0.007	0.004
Outcome Mean	0.000	-0.000	0.000	-0.000	-0.000	-0.000	-0.000	-0.000

Note: This table examines the sensitivity of new fund to local wealth shocks, where *Local Wealth Shock = Local Dividend Share × Stock Return*. 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 (see Section 4 for details). The sample is at the county-quarter level from 2014 to 2023. Panel A examines all funds. 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 where the outcome is the share of 506(c) funds relative to all funds. Panel B (C) examines sensitivity of 506(b) (506(c)) fund raises by fund manager characteristic subgroups. Local stock market participation is measured as the share of dividend income among total taxable income in a county, obtained from IRS. All RHS variables are lagged by one quarter relative the dependent variables. All regressions include controls for 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 parentheses. * indicates statistical significance at the 10% level, ** at the 5% level, and *** at the 1% level.

Table A.18: Sensitivity of Fund Entry to Local Wealth Shocks: Drop GPs without Individual LPs

Panel A. All Funds

Dependent Variable:	ΔLn(# 506(b) Funds)	ΔLn(# 506(c) Funds)	506(c) Share
	(1)	(2)	(3)
Local Wealth Shock	0.014**	-0.004	-0.005
	(0.006)	(0.002)	(0.004)
County FE	Yes	Yes	Yes
Year-Quarter FE	Yes	Yes	Yes
N	7040	7040	1744
R^2	0.017	0.007	0.366
Outcome Mean	0.003	0.001	0.083

Panel A. 506(b) Funds by Manager Characteristic

Dependent Variable:	ΔLn(# 506(b) Funds) by							
	Female	Male	Black/Hispanic	White	Non-Elite	Elite	Non-Board Networked	Board Networked
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Local Wealth Shock	0.002	0.021***	-0.002	0.022***	0.016***	0.009**	0.017***	0.005
	(0.004)	(0.005)	(0.003)	(0.005)	(0.005)	(0.004)	(0.006)	(0.005)
P-Value of difference	.00		.00		.11		.04	
County FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year-Quarter FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	7040	7040	7040	7040	7040	7040	7040	7040
R^2	0.005	0.019	0.007	0.018	0.014	0.012	0.014	0.009
Outcome Mean	-0.000	-0.001	0.000	-0.001	-0.001	-0.000	-0.001	-0.000

Panel B: 506(c) Funds by Manager Characteristic

Dependent Variable:	ΔLn(# 506(c) Funds) by							
	Female	Male	Black/Hispanic	White	Non-Elite	Elite	Non-Board Networked	Board Networked
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Local Wealth Shock	0.002	-0.002	0.001	-0.002	-0.000	-0.001	-0.001	0.001*
	(0.001)	(0.002)	(0.002)	(0.002)	(0.001)	(0.002)	(0.002)	(0.001)
P-Value of difference	.81		.83		.3		.57	
County FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year-Quarter FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	7040	7040	7040	7040	7040	7040	7040	7040
R^2	0.010	0.008	0.005	0.008	0.007	0.006	0.009	0.005
Outcome Mean	0.000	-0.000	0.000	-0.000	-0.000	-0.000	-0.000	0.000

Note: This table examines the robustness of Table A.17 to excluding GP firms without individual LPs. The independent variable *Local Wealth Shock* = *Local Dividend Share* × *Stock Return*. The sample is at the county-quarter level from 2014 to 2023. Panel A examines all funds. 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 where the outcome is the share of 506(c) funds relative to all funds. Panel B (C) examines sensitivity of 506(b) (506(c)) fund raises by fund manager demographic subgroups. 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. All RHS 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 A.19: Sensitivity of Firm Entry to Local Wealth Shocks

Dependent Variable:	ΔLn(# new firms)	ΔLn(# new DE firms)	ΔLn(# new incorporated firms)
	(1)	(2)	(3)
Local Wealth Shock	0.001	0.002	0.003
	(0.002)	(0.008)	(0.003)
County FE	Yes	Yes	Yes
Year-Quarter FE	Yes	Yes	Yes
N	2800	2800	2800
R^2	0.723	0.063	0.375
Outcome Mean	0.018	-0.004	0.003

Note: This table examines sensitivity of firm entry to one-quarter-lagged local wealth shocks, where *Local Wealth Shock* = *Local Dividend Share* × *Stock Return*. The specification follows Panel A of Table A.17. The sample is at the county-quarter level from 2014 to 2023. It covers the county-quarters in Column 1, Panel A of Table A.17 that overlap with the 10 states in the StartupCartography data (AK, CA, CO, CT, FL, GA, KY, NY, TN, TX; these 10 states cover 71% of the funds in our sample). The dependent variables are log changes in the number of new firms (column 1), the number of Delaware registered firms (column 2), and the number of incorporated firms (column 3), in a county-quarter relative to the previous quarter. 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. All RHS 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.

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 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:

(i) Nature of purchasers. All purchasers of securities sold in any offering under paragraph (c)

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

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).
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

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

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.

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.

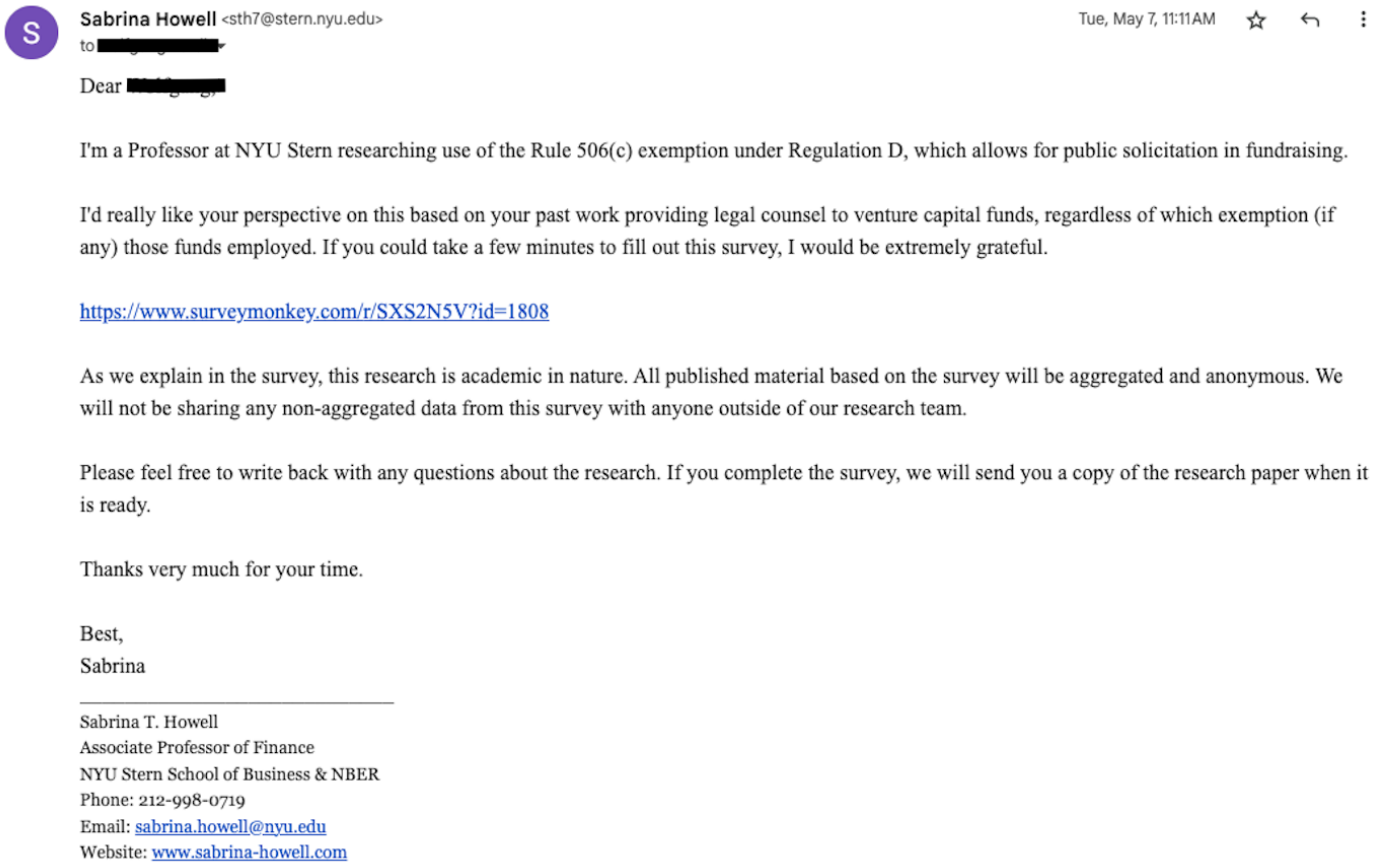
Please feel free to write back with any questions about the research. If you complete the survey, we will send you a copy of the research paper when it is ready.

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

C Appendix: Causal Evidence for the Role of Local Networks in 506(b) vs. 506(c)

A large literature has shown that personal networks tend to be local (Granovetter, 2018; Small and Adler, 2019; Kuchler and Stroebel, 2021; Gocmen et al., 2024). Geographic proximity facilitates soft information production that helps overcome information asymmetry, especially in financial contracting and VC.[41] Gocmen et al. (2024) show that high-net worth individual investors are much more likely than institutional investors to invest in local VC and PE funds. They report that 48% of investments by high-net worth individuals are in-state, and 30% are in-state even after excluding CA, MA, and NY.[42] Private fundraising may thus be particularly sensitive to local wealth shocks, which could contribute to regional inequality and the geographic 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 follow Crane et al. (2024) and proxy for local wealth shocks using the interaction of the local dividend share, which proxies for local stock market participation, and lagged stock returns. We focus on stock wealth because it is the key large, liquid, and risky asset for most accredited investors. Among families in the top decile of net worth in 2022, 56% 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. Finally, local stock market wealth shocks affect both individual investors and also 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.[43] This ratio, Local Dividend Share$_{c,q-1}$, proxies for local exposure to stock market fluctuations via allocation to public equity. We estimate the following model at the county-quarter level:

$$\begin{aligned}\Delta\text{Fundraising}_{c,q-1\to q} = \alpha_c + \beta_q + \theta \times \text{Local Dividend Share}_{c,q-1} \times \text{Stock Return}_{q-1} \\ + \delta \times \text{Local Dividend Share}_{c,q-1} + \epsilon_{c,q}.\end{aligned} \tag{3}$$

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

[42] In the Pitchbook data, 48% of funds have at least one LP in the same state, and 21% in the same city (these are likely an undercount as Pitchbook has poor coverage of individual LPs).

[43] 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).

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 A.17. For brevity, we label Local Dividend Share$_{c,q-1}$×Stock Return$_{q-1}$ as *Local Wealth Shock*. In Panel A, 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 1.5 p.p. (column 1). In contrast, the impact is reversed for 506(c) funds: a one standard deviation higher local wealth shock decreases 506(c) volume growth by 0.5 p.p. (Column 2). This suggests that 506(b) fundraising depends on local networks, while 506(c) fundraising is more arm's length. Indeed the negative result even suggests some substitution between 506(b) and (c) depending on local wealth. A one standard deviation increase in local wealth reduces the 506(c) share by 10% 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 this sensitivity varies with our proxies for local network strength. For 506(b) funds (Panel B), male or 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). In Columns 5-8, we show the reverse for our non-local network strength measures; non-elite school 506(b) managers (Columns 5-6) and those with fewer past board connections (Columns 7-8) are more sensitive to local wealth shocks. In Panel C, we show that arm's length fundraising through 506(c) eliminates the sensitivity and the gaps across groups; there are no effects for any group.[44]

These results do not reflect a startup entry channel in which local wealth shocks increase deal supply by relaxing financial constraints for entrepreneurs. We show this by testing whether new business registrations respond to the lagged quarterly wealth shocks. We use business registration data from StartupCartography (Fazio et al., 2019).[45] Table A.19 shows the results, following the

[44]In a robustness test, we obtain similar results after omitting funds for which we do not observe any individual LPs (Table A.18).

[45]We are grateful to Jorge Guzman for providing these data. They include 10 states through 2023 (AK, CA, CO, CT, FL, GA, KY, NY, TN, TX). These 10 states cover 71% of the funds in our sample. We cannot do this analysis with Pitchbook firm data because we only observe firms' birth year, not birth date or month, so we cannot measure entry at quarterly level.

same specification as Table A.17 Panel A. We find no measurable effect of quarterly local wealth shocks on new firm entry in the next quarter, whether using all new firms, firms registered in Delaware, or incorporated firms as the outcome (the latter two capturing firms with higher growth potential). Also, note that deal-side channels should be delayed by several years, since the typical seed round (series A) happens 0.5-2 years (1.5-3 years) after firm birth, and there is a further lag from fundraising to fund deployment.

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.