Regulation D Offerings: Issuers, Investors, and Intermediaries

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This paper presents a quantitative analysis of the markets of unregistered securities offerings made in reliance on Regulation D (Reg D) under the Securities Act. The Reg D offering market is similar to the public offering market in terms of total amount of capital raised and has been growing rapidly over recent years. The proceeds sold through Reg D offerings between 2021 and 2022 equal $4.4 trillion, 13% more than the public offering proceeds during the same period and a 46% increase over the Reg D offering proceeds during 2019-2020. Reg D securities have been sold to increasingly more investors per offering with less amount sold to each investor over the past decade, suggesting an increasing participation in unregistered offerings by retail investors. Broker-dealers and registered investment advisers (RIA) play an important role in reaching retail investors: Offerings sold by broker-dealers with a larger retail clientele and offerings sponsored by RIAs with more high-net-worth individual clients are sold to more investors and raise less capital from each investor. Investors must be wary of potential misconduct and conflicts of interest when hiring intermediaries for investments in unregistered securities. Broker-dealers receiving a higher rate of sales commissions and those specializing in Reg D offerings tend to receive more customer complaints arising from unregistered securities. RIAs advising non-fund clients are more likely to disclose a conflict of interest in regulatory filings when they sponsor Reg D offerings, indicating that these advisers invest their own clients' funds in self-sponsored unregistered securities.
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Issuers are required to register securities offerings with the Securities and Exchange Commission (SEC) unless the offerings meet certain qualifications to exempt the offering from registration. Because registering offerings entails costs and reporting requirements, exempt offerings are used by small businesses to raise cap-

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ital and other private entities like hedge funds to reach qualified investors without disclosing their investment strategies. To facilitate capital formation through exempt offerings, the SEC promulgated *Regulation D* (Reg D), which consists of a set of specific criteria and tests that an issuer can follow to be assured that it satisfies the exemption requirements. Under Rule 506(b), the most widely used Reg D exemption,[1] a company can raise an unlimited amount of capital if it sells mostly to accredited investors without general solicitation or advertising. Securities offerings relying on Reg D exemptions (Reg D offering) account for a large and increasing share of the U.S. offering market. Proceeds raised using Reg D surpassed those raised in public offerings during 2017 through 2019, and over $1.5 trillion of capital was raised under Reg D in 2019 which exceeds the amount raised through registered offerings ($1.2 trillion) in the same year (DERA 2020). Acknowledging the potential for Reg D to allow emerging companies to raise capital, the SEC has implemented a series of Reg D rule amendments, including lifting the ban on general solicitation and advertising, expanding the definition of accredited investor and excluding certain "demo day" communications from the definition of general solicitation.[2] The number of Reg D offerings and amounts raised in these offerings have been on a steady rise over the past decade, with offering activity dramatically increasing from 2019 to 2022 amidst a historically low-interest-rate market environment.[3]

Securities relying on Reg D exemptions (Reg D securities) are more opaque, less liquid, involve higher fees, and have greater potential for losses due to issuer failure and fraud than registered securities. First, companies utilizing Reg D are only required to file a Notice of Exempt Offering of Securities (known as Form D) containing cursory information about the offering such as the name and address of the issuer and its managers and the dollar amount offered and sold. Issuers relying on Reg D exemptions to offer and sell securities (Reg D issuers) are not required to make any detailed disclosure about their business operations or file periodic reports of financial performance. Second, Reg D securities cannot be resold by purchasers for at least six months or a year without registration. Although a secondary market for unregistered securities may exist, it is likely to be thin, causing difficulty in valuation. Redemption of Reg D securities is also very restrictive. Third, fees and expenses associated with exempt offerings are generally quite high and investors typically pay an up-front cost including sales commissions and acquisition costs followed by an ongoing asset management

[1]Other rules under Reg D include Rule 506(c) which allows companies to raise unlimited capital by broadly soliciting investors who can be verified as accredited and Rule 504 which allows companies to raise up to $10 million in a 12-month period.

[2]Required by the Jumpstart Our Business Startups Act (the "JOBS Act"), the SEC adopted Rule 506(c) in 2013 to allow companies to raise unlimited capital by broadly soliciting investors who the companies can verify to be accredited. In 2020, the SEC modified the definition of accredited investor to include individuals with sufficient professional knowledge or expertise even if they do not meet the income or net worth thresholds. In 2021 ,the SEC adopted the new Rule 148 which permits issuers to speak more openly about opportunities for investment in their business at "demo day" events.

[3]See DERA (2020) and OASB annual reports in 2020, 2021 and 2022, available at https://www.sec.gov/oasb/small-business-capital-formation-reports.

fee plus a performance-based fee. The large fees reduce returns and may create perverse incentives and conflicts of interest between investors and issuers, sponsors or selling agents. Finally, a significant number of Reg D offerings are conducted by early-stage and small companies whose businesses are inherently less likely to succeed.[4] Reg D exemptions have also resulted in significant fraudulent activities - fraudulent Reg D securities ranked among the most common products leading to enforcement actions by state securities regulators.[5]

Nearly all purchasers are required to be accredited investors deemed as capable of evaluating the complexities of these exempt offerings and withstanding potential losses by virtue of meeting relatively modest income and wealth thresholds. Institutional investors such as pension plans, endowment funds and sovereign wealth funds typically allocate a significant proportion of their portfolios in alternative asset classes with the goal of outperforming traditional markets and achieving broader diversification. Historically representing a relatively small share of private markets, *retail investors*[6] have increasingly purchased private offerings and are projected to invest a significantly larger fraction of their wealth in alternative assets in the next decade.[7] Seeking to tap into the potential of retail capital, alternative investment managers launch private market funds with lower investment minimum and less liquidity constraint, private banks and investment advisory firms position themselves to add more private-market products to retail clients' portfolios, and emerging fin-tech companies build online platforms that offer low-cost access to alternative products for retail clients.[8] This trend of expanding retail access to private markets coincides with diminishing regulatory barriers. In addition to relaxing the definition of accredited investor in 2020, the SEC has kept the wealth and income thresholds for accredited investors constant since they were established in 1983, effectively allowing more and more participants into private markets given inflation.[9]

[4]See the data on survival of private sector establishments published by U.S. Bureau of Labor Statistics, available at https://www.bls.gov/bdm/us_age_naics_00_table7.txt. Approximately 20% of new businesses fail during the first two years of being open, 45% during the first five years, and 65% during the first 10 years.

[5]See "Recommendations of the Investors Advisory Committee Regarding SEC Rulemaking to Lift the Ban on General Solicitation and Advertising in Rule 506 Offerings: Efficiently Balancing Investor Protection, Capital Formation and Market Integrity", available at http://www.sec.gov/spotlight/investor-advisory-committee-2012/iac-general-solicitation-advertising-recommendations.pdf; and "NASAA Enforcement Report - 2015 report Based on 2014 Data",available at https://www.nasaa.org/wp-content/uploads/2011/08/2015-Enforcement-Report-on-2014-Data_FINAL.pdf.

[6]We follow the SEC's definition of retail investor as "a natural person, or the legal representative of such natural person, who seeks to receive or receives services primarily for personal, family or household purposes". Thus, our definition of retail investor includes "mum-and-dad" (small-scale, non-professional) investors, high-net-worth (HNW) individuals and certain financial professionals.

[7]See "US wealth management: A growth agenda for the coming decade", a McKinsey & Co. report available at https://www.mckinsey.com/industries/financial-services/our-insights/us-wealth-management-a-growth-agenda-for-the-coming-decade.

[8]See "Why Private Equity Is Targeting Individual Investors", a Bain & Co. report available at https://www.bain.com/insights/why-private-equity-is-targeting-individual-investors-global-private-equity-report-2023/.

[9]Accredited investors must have $200,000 in annual income individually or $300,000 jointly for the prior two years and an expectation of passing the same thresholds in the current year or $1,000,000 in

Retail investors may have a lower level of financial sophistication than institutional investors, and concerns have been expressed that even some wealthy individuals classified as accredited investors can be financially unsophisticated (Finger 2008). Given the unique risks of exempt securities, the dramatic increase in Reg D issuance coupled with a growing retail presence in private markets raises important concerns about investor protection. This paper aims at providing more transparency into the Reg D marketplace and informing investors and their advisers about certain characteristics of Reg D offerings and conduct of Reg D market participants. We first document the characteristics of Reg D offerings and trends of offering activities using Form D data. We also estimate the delinquency rate of Reg D issuers using a novel data set that aggregates the Secretary of State (SOS) business registration databases of 46 US states. Our main results center around an analysis of the roles of broker-dealer and registered investment advisers (RIA) in the Reg D market focused on the impact of their activity on retail investors. These regulated intermediaries are required to disclose information about customer disputes, clientele and conflicts of interest which, linked with Form D data, can shed light on investment outcomes and risk factors of Reg D offerings for retail investors.

We first provide a detailed description of Reg D offering activity with respect to various offering characteristics including issuer industry, issuer type and exemption claimed. The capital raised in Reg D offerings steadily increased from 2009 through 2020 and rose sharply in 2021 and 2022, with the proceeds from Reg D securities sold in 2021-2022 more than twice as much as that sold in 2011-2012. The Reg D market has a magnitude comparable to the public offering market. The proceeds from Reg D offerings equal 91% of the proceeds from public offerings in 2009-2020 and 113% of the public offering proceeds in 2021-2022. Reg D securities offered in recent years were sold to more investors per offering with a lower amount sold per investor. Reg D issuers can be categorized into private funds and non-fund issuers.[10], with private fund issuers accounting for 87% of the capital raised through Reg D securities during 2009 through 2022. We also compartmentalize the Reg D market according to whether an offering is sold by broker-dealers or sponsored by RIAs. 75.7% of the proceeds raised through Reg D securities are attributable to offerings sponsored by RIAs, while offerings sold by broker-dealers account for 37.1% of the capital raised in the Reg D market.

We also examine the performance of Reg D issuers using state business registration and SEC filing data. Among a subset of issuers comprising 89% of the

net worth excluding their primary residence.

[10]Private funds are entities created to pool money from multiple investors that are not required to be registered under the Investment Company Act of 1940 and hence exempt from disclosing certain financial information. The most common types of private funds are hedge funds, private equity funds and venture capital funds. The vast majority of non-fund issuers of Reg D securities are private operating companies at various stages prior to initial public offering (IPO), although some public companies with registered securities also issue Reg D offerings. DERA (2020) reports that only 4% of the non-fund Reg D issuers are public companies, and more than half of the non-fund issuers are from the real estate, technology and health care industries.

issuers incorporated in 46 US states, 14% became delinquent in state business filings and 30% went out of business within five years of the first Reg D offering. 13.3% of the Reg D issuers with SEC reporting obligations had been delinquent in periodic filings by December 2022, whereas only 1% of the issuers of public offerings who never offered Reg D securities had been delinquent by 2022.

Broker-dealers act as middlemen in securities offerings and may lower search costs for both the issuer and the investor. Reg D's prohibition of general solicitation requires that the issuer have a pre-existing relationship with the investor before the start of the offering and have the ability to verify the purchaser's status as accredited investor, which makes broker-dealers' client relationships a crucial source of new investors for issuers.[11] We document evidence that broker-dealers play an important role in reaching retail investors in the Reg D market. Reg D offerings sold by broker-dealers with a retail clientele tend to be sold to more investors than either offerings with no placing agent or offerings sold by broker-dealers only serving institutional investors. Among broker-dealers also registered as RIAs, those with a larger clientele of non-HNW individuals sell Reg D offerings to larger groups of investors.[12] While broker-dealers are required to perform due diligence and ensure suitability of the investment for their clients,[13] they are compensated by sales commissions which may create incentives to recommend investments that do not fit the client's objectives and needs (Burke et al. 2015). We estimate that the average commission rate of Reg D offerings vary across issuer industries and range between 2.1% (pooled investment fund) and 6.6% (energy) of the gross offering proceeds.[14] We also document a sharp rise in customer complaints against broker-dealers indicating investor losses related to Reg D securities over the past five years. Using Form D data merged with broker registration data (BrokerCheck), we show that customer complaints received by broker-dealers selling Reg D offerings are more likely to allege losses stemming from illiquid products. Among broker-dealers that sold Reg D securities, those receiving higher commissions and specializing in placing Reg D securities tend to receive more complaints per registered broker. These results highlight the risk of investing in Reg D securities for retail investors and provide empirical evidence of broker conflicts and misconduct in the Reg D market.

The most prominent roles of RIAs in the Reg D market is to *sponsor* private funds, i.e., acting as investment manager or general partner of the fund issuer.[15]

[11] Under Rule 506(c), an issuer is deemed to have taken reasonable steps to vet a retail investor's accredited status if a broker-dealer can verify that status on behalf of the issuer. See Johnson (2013).

[12] A 2021 SEC order stipulates that a HNW individual is someone with at least $1,100,000 of assets under management or $2,200,000 of total net worth. Non-HNW individuals are those without a HNW, also known as the "mass affluent" in the financial industry. See https://www.sec.gov/rules/final/2021/ia-5904-fact-sheet.pdf.

[13] Regulatory Notice 10-22, Financial Industry Regulatory Authority.

[14] The upfront costs of Reg D offerings include sales commissions and gross proceeds used for payments to directors, officers and promoters of the issuer. The average upfront costs range between 2.7% (pooled investment fund) and 9.8% (energy) of the gross offering proceeds.

[15] Private funds are generally structured as limited partnerships. The manager of the fund is called the general partner (GP) and the investors that commit capital to the fund are called limited partners

Typical RIA sponsors of Reg D offerings include hedge fund managers, private equity firms, venture capital firms and other alternative investment firms. The private fund offerings sponsored by RIAs account for 83.5% of the capital raised through private fund offerings between 2009 and 2022. In addition to advising private funds, some RIAs have business units or affiliates providing financial planning or portfolio management services to institutional or retail clients that are not pooled investment vehicles (non-fund clients). This creates potential conflicts of interest between RIAs and their non-fund clients to whom they owe a fiduciary duty. Fund managers are typically compensated by a management fee as a percentage of the assets under management (AUM) plus performance fees. The RIAs that sponsor private funds may have a financial incentive to invest their non-fund clients' money in the "in-house" private funds, as opposed to external private securities or publicly traded securities, in order to earn a higher overall fee.[16] In addition to the fee-based conflicts, RIAs may also be incentivized to invest client funds in self-managed private funds as a means to "tie up" client assets because other RIAs may not accept the in-house fund shares during account transfers. By matching Form D data with RIA registration filings (known as Form ADV), we show that the Reg D offerings sponsored by RIAs with a larger clientele of HNW individuals are sold to more investors and raise less capital from each investor, suggesting that RIA sponsors to Reg D offerings that advise wealthy individuals systematically allocate their HNW individual clients' assets to self-sponsored Reg D securities. We also find that RIAs advising non-fund clients are more likely to disclose potential conflicts related to interests in client transactions when they sponsor Reg D offerings. These findings suggest that individual investors must educate themselves about the fees and risks involving Reg D securities recommended by their advisers, and regulators should thoroughly examine disclosure filings to ensure RIAs act in their retail clients' best interests by eliminating any potential conflict.

This paper appears to be the first to provide a comprehensive analysis of Form D filings merged with other regulatory data sources and contributes to several areas of the financial economics literature.[17] First, our estimates of activities and trends of the Reg D securities market relates to the wide literature on firms' decision to go public. IPO volumes have been low and firms have chosen to stay private for longer over the past two decades (Kwon, Lowry, and Qian 2020). Previous studies have attributed this change to various factors, including regulatory burdens imposed by the Sarbanes-Oxley Act of 2002 (Iliev 2010), the advantages of selling out to a larger firm over going public (Gao, Ritter, and Zhu 2013) and an increased supply of private capital to late-stage startups (Ewens and Farre-

(LPs).

[16]The higher fee can result from either performance fees or higher management fee due to increased net asset values of in-house funds or in-house funds charging higher fee than separately managed accounts.

[17]A series of SEC white papers (see Bauguess, Gullapalli, and Ivanov (2018) for the most recent installment), a SEC staff paper (Gullapalli 2020) and the 2020 SEC report to congress (DERA 2020) appear to be the only available studies conducting statistical analyses of Form D filings.

Mensa 2020). We document that the capital raised through Reg D securities grew continuously during 2009 through 2019 and rose sharply in 2021-2022 and in particular, capital raised by private equity and venture capital funds increased markedly from 2009 through 2022. On the other hand, proceeds raised from public equity offerings had a cyclic pattern between 2019 and 2019 before seeing wild fluctuations in 2020-2022. These trends support the link between the increased availability of private capital and firms' decision to stay private.

Second, this paper adds to the growing literature on misconduct among financial advisers. We find evidence of broker misconduct in the Reg D market using customer complaints related to illiquid products. A widely adopted measure for financial misconduct, brokerage customer complaints have been shown to predict future misconduct (Dimmock and Gerken 2012; Qureshi and Sokobin 2015; McCann, Qin, and Yan 2017), negatively affect broker career outcome (Honigsberg and Jacob 2021) and precede regulatory enforcement actions (Charoenwong, Kwan, and Umar 2019). Egan, Matvos, and Seru (2019) find that some broker-dealers "specialize" in misconduct by hiring brokers with prior complaints and catering to unsophisticated retail customers. Consistent with their results, we present evidence suggesting that broker-dealers place Reg D securities to non-HNW individual investors, and broker-dealers with a higher share of representatives placing Reg D offerings and a concentration in certain risky offerings have higher incidence of complaints. Further, we observe that broker-dealers placing Reg D securities together with peer firms that have a higher average complaint rate are more likely to receive complaints related to illiquid products, while Dimmock, Gerken, and Graham (2018) conclude that financial misconduct is transmittable through peer networks and contagious across firms.

Third, our work relates to the recent research on the agency problem and conflicts of interest between broker-dealers and their customers. Egan (2019) presents evidence that brokers direct consumers into inferior convertible bond products driven by greater fees. Similarly, Egan, Ge, and Tang (2022) show that brokers are incentivized to sell variable annuity products with higher expenses and products charging higher commissions are associated with more customer complaints and higher rages of broker misconduct. Bhattacharya, Illanes, and Padi (2019) and Egan, Ge, and Tang (2022) both show that expanding fiduciary duty to cover broker-dealers could alleviate conflicts of interests by improving the quality of brokerage advice, resulting in broker-dealers recommending products with higher risk-adjusted returns and lower expenses. The positive relation between broker commissions and customer complaints found in this paper builds on the literature by introducing new evidence of commission-related brokerage conflicts in the markets for unregistered securities.

Finally, by documenting that RIAs place HNW individual clients into self-sponsored investment vehicles with an increased incidence of conflicts of interest, we contribute to the literature on conflicts of interest in asset management and specifically, "side-by-side management" of assets of different clients. Del Guercio, Genc, and Tran (2018) find that mutual funds whose advisers also manage hedge funds significantly underperform peer mutual funds and argue that this underperformance can be attributed to cross-subsidization incentives. Casavecchia and Tiwari (2016) report similar evidence of conflicts of interest by showing that mutual fund advisers which conduct more transactions between themselves and client funds or among multiple client funds perform significantly worse than those without these "cross-trading" operations. We use the same measure of adviser conflicts as these two papers and document evidence of conflicts between fund managers and a different type of advisory client, HNW individuals. Foerster et al. (2017) provides further evidence of conflicts between financial advisers and retail investors by showing that advisers have substantial influence over their clients' portfolios but fail to adjust these portfolios to client attributes such as risk tolerance and financial sophistication.

I. Data

A. Form D Data

Each issuer must file a new Form D notice with the SEC for each new offering of securities within 15 days of the date of first sale of the Reg D securities. The SEC requires the form to be filed through the Electronic Data Gathering, Analysis, and Retrieval (EDGAR) system. All Form D notices filed in March 2009 and later are publicly available through EDGAR, although most filings prior to March 2009 were unavailable in electronic format. The disclosure requirements imposed by Form D are much less burdensome than a registered offering. The principal data elements reported include a brief description of the issuer such as its name, address and industry group, offering attributes such as the type of exemptions claimed and minimum investment amount, and information about capital raised and expenses such as the dollar amount of securities sold in the offering (sold amount), number of investors and sales commissions. The issuer is also required to report the name and CRD number of any person receiving compensations for selling the offering as well as the sales commissions. The issuer is not required to provide any information about its financial condition or operating performance. No amendment filing for Form D is required unless a material factual error must be corrected, an annual update about a continuing offering is due, or certain significant changes about the offering have occurred.[18] Noticeably, issuers are not required to file amendments to report a change to the sold amount if the offering is completed within a year and the new sold amount does not result in an increase of more than 10% in the total offering amount. Nonetheless, whenever an amendment is filed, current information must be provided in response to all items of Form D regardless of the reason for the amendment. The sample used

[18]An amendment filing is required, for example, if the total offering amount has increased by more than 10% or the the minimum investment amount has decreased by more than 10% since the previously filed notice.

in this paper includes all Form D notices filed with the SEC's EDGAR system from January 2009 to December 2022. The SEC publishes the data in its original format as submitted by the issuer without any change or correction.[19]

Several steps are taken to process the data such that it meets the needs of our analysis. First, we create an "Offering ID" variable to uniquely identify an offering across the new notice and possibly multiple amendment filings. Each Form D notice filing reports an "Accession Number" for the current filing and a "Previous Accession Number" for the previous filing to which the current filing is amending. We use all pairs of Accession Number and Previous Accession Number to trace back to the original filing and define the Accession Number of the original filing as the Offering ID for all filings associated with the same offering. We use Offering ID to count offerings throughout this paper to avoid double counting. Second, since the sold amount reported on Form D is the cumulative amount sold up to the filing date, we calculate the *incremental* amount sold in each filing as the reported sold amount (for new notices) or the sold amount of the current filing minus the sold amount of the previous filing (for amendment filings).[20] We use the incremental sold amounts to estimate the capital raised in Reg D offerings.[21] Some private funds appear to report net asset values (NAVs) as sold amounts in their annual amendments. NAVs could reflect fund performance and redemption in addition to new investment. We follow DERA (2020) and treat the reported sold amount as the amount raised in the offering. Third, we make corrections to some reported sold amounts. Some small, obscure issuers reported abnormally large dollar amounts that have a material impact on the aggregate sold amount. We identify and remove 64 seemingly bogus offerings associated with three issuers. Some private fund issuers appear to occasionally report erroneous sold amounts which they later correct using amendment filings. We remove any sold amount that is more than 100 times the sold amounts reported in both the previous and the next filings.[22] In a few filings by private fund issuers involving a master-feeder or parallel fund structure, each feeder or parallel fund reports the total sold amount for all related funds combined rather than the amount sold by itself. We use an algorithm to identify cases of this peculiar pattern and adjust the amount sold by each feeder or parallel fund accordingly. Fourth, while the sales commissions and finders' fees reported in most offerings are amounts that would be paid upon sale of the entire offering amount, some offerings appear to report

[19]See https://www.sec.gov/dera/data/form-d.

[20]The incremental sold amount cannot be calculated for some amendments filed in 2009 whose previous filing is unavailable. We remove these offerings from the sample, which could result in an underestimate of the number of offerings and sold amount in 2009.

[21]The reported sold amount provides a *lower bound* for the actual capital raised in the offering because the issuer is not required to file amendments when more capital is raised in some circumstances, as explained above. We also assume the entire incremental amount is sold on the filing date. Since the incremental sold amount for an annual amendment filing may be sold at different times over the year prior to the filing date, our method could result in an overestimation of the amounts sold in some years and an underestimation in other years.

[22]In the absence of the reason for amendment, there is no entirely reliable way to systematically remove these potential erroneous sold amounts.

offering expenses commensurate with the actual sold amount. We estimate the commissions and finders' fees corresponding to the total offering amount in these cases to ensure expenses can be meaningfully aggregated across offerings.

B. *Broker-Dealear and RIA Disclosure Data*

BrokerCheck is a public database maintained by the Financial Industry Regulatory Authority (FINRA) that provides employment, qualification and disciplinary history for all registered stock brokers in the US. Broker-dealers and their broker representatives are required to report all written customer complaints to the appropriate regulator within 30 days, most of which are publicly available via BrokerCheck.[23] The majority of disclosed customer complaints specify the type of financial products involved, allowing us to identify complaints involving products potentially sold through Reg D offerings. We identify a complete list of individual brokers registered with each broker-dealer that sold Reg D offerings by matching CRD number between Form D data and BrokerCheck.[24] We also estimate the number of broker representatives receiving customer complaints potentially arising from Reg D offerings for each broker-dealer using BrokerCheck.

Form ADV is the uniform form filed by RIAs to register with the SEC and state securities regulators. Most information reported on the form is publicly available through searches on the SEC's Investment Adviser Public Disclosure (IAPD) website or a bulk download. We extract information about RIAs' employees, AUM, advisory clientele and business practices from Form ADV filings through December 2022 to construct RIA characteristics which are merged with Form D data on Reg D offerings sponsored by RIAs. We identify the RIA sponsor to a Reg D offering by matching the names and addresses of related persons of the issuer reported on Form D to information reported on Form ADV.[25] Specifically, a RIA is determined as sponsor to an offering if (i) the RIA itself or a direct owner or executive officer of the RIA is listed as a related person of the issuer and (ii) the street address of that related person matches any of the RIA's principal office addresses reported on Form ADV.[26] We group all separately registered advisory firms under common control into a single RIA group, and use owners, officers and addresses of all related firms to identify Reg D offerings sponsored by this single group.[27]

[23]Complaints that are not published in BrokerCheck reports include: complaints that settled for less than a certain dollar threshold, complaints resulting in an arbitration loss for the customer, complaints against brokers whose registrations terminated more than 10 years ago and expunged complaints

[24]We accessed the BrokerCheck data on December 2, 2022.

[25]According to Form D instructions, related persons of an issuer include executive officers and directors of the issuer, general and managing partners of partnerships, managing members of limited liability companies, and any promoter of the issuer within the past five years.

[26]All historical Form ADV filings within five years of the most recent filing are used to identify the direct owners and executive officers and the principal addresses of the RIA.

[27]For example, the "Blackstone group" consists of 50 separately registered advisory firms.

C. State SOS Data

Issuers are required to file registration documents with the Secretary of State (SOS) in the state where they are incorporated. While these filings only include superficial information about the issuer, they inform the general public of the current business status of the issuer. An issuer with an active status has the legal right to transact business in the state while inactive issuers have lost that right. All 50 US states make the filing status of business entities publicly available, either via a free search tool or upon request with a payment. 46 "open-records" states provide a free search or bulk download service. The states of Arkansas, Delaware, New Jersey and Oklahoma charge a nontrivial fee for each entity search, precluding us from obtaining their data. We queried the names of all Reg D issuers incorporated in the open-records states who filed a Form D notice between January 2009 and July 2022 in the 46 states' SOS business search systems during the first week of October 2022.

The registration statuses assigned to companies by states can be any of the following four categories: active, merged or converted, voluntarily dissolved and delinquent. An active company is current with all the required filings and tax payments and its business registration is active. A merged or converted company ceases to exists by merging into another entity or moving its home state to a different state. A voluntarily dissolved company has chosen to wind up its business by filing a certificate of dissolution or termination with the SOS. A delinquent company is not in good standing for failure to comply with state regulations, including missing an annual report, failing to pay registration fee or taxes, failing to maintain a registered agent, and engaging in some other type of illegal activity.[28] A delinquent company forfeits the right to transact business in the state and cannot sue or defend itself in a state court, and the directors or controlled persons of the company may become personally liable for a debt of the company.[29] We obtain the registration status as of early October of 2020 for each Reg D issuer found in state SOS databases together with the effective date for the status.

D. Other Data

We estimate the amounts raised in public equity and debt offerings in each year from 2009 through 2022 using raw electronic filings downloaded from EDGAR.

[28]The large majority (40) of the states adopt the practice of actively assigning a "delinquent" or "forfeited" status to noncompliant companies. The remaining 6 states either label very few noncompliant companies as delinquent (Connecticut,New York, Ohio and South Carolina) or do not publish a delinquent designation at all (Alabama and Pennsylvania), either because they do not require an annual report filing or appear to be reluctant in publicly labeling a noncompliant business entity delinquent.

[29]While some delinquent companies restore to good standing by filing missed reports or paying overdue fees, most remain delinquent until they are administratively dissolved or terminated by the state. Most states allow a grace period from a few months to a few years for noncompliant companies to reinstate status before permanently revoking their registrations. For example, Georgia starts the proceeding to dissolve a company administratively if it fails to pay its annual registration fee within 60 days after it's due, and Nevada revokes a business entity's charter after it's in default for a year.

Public equity offerings include all IPO and registered follow-on equity offerings of common and preferred shares, and public debt offerings include all registered straight and convertible debt securities. Data elements such as issuer's central index key (CIK), offering amount, security type and currency used to denominate the offering are extracted from the filings through a combination of programming and hand verification. The filing forms used to parse the data include Forms 424B2, 424B3, 424B4 and 424B5. The SEC constantly take enforcement actions against companies failing to comply with periodic filing requirements and publish these enforcement actions on its website. We use these published SEC enforcement actions together with EDGAR registration forms to identify companies delinquent in periodic filings.[30]

II. An Empirical Overview of the Reg D Market

This section provides a detailed description of the Reg D securities market from 2009 through 2022 with a focus on recent trends of offering activity and footprints of broker-dealers and RIAs in the marketplace. We report summary statistics about offerings, capital raised and investors with respect to multiple offering characteristics such as issuer industry, exemptions claimed and securities offered. The Reg D market has a similar magnitude to the public offering market and is growing. The intensity of Reg D offering activity increased steadily from 2009 through 2020 before jumping sharply in 2021. Reg D offerings have been sold to increasingly more investors per offering with each investor purchasing an increasingly smaller amount. Intermediaries play a significant role in the Reg market: over 80% of the capital raised in the Reg D market is attributable to offerings either sponsored by RIAs or sold by broker-dealers.

A. Summary Statistics and Trends of the Reg D Market

\$19.4 trillion of capital was raised through 294,687 Reg D offerings by 218,399 issuers between January 1, 2009 and December 31, 2022.[31] Table 1 reports five measures of Reg D offering activity summarized with respect to four issuer attributes, where rows in each panel are sorted by the number of offerings in descending order. Panel A of Table 1 shows the number of offerings, sold amount, number of issuers, mean number of investors and mean amount sold per investor by issuer industry group. Pooled investment fund (i.e., private fund) is by far the largest issuer industry with respect to number of offerings, capital raised and number of issuers. Private fund issuers account for 34% of the offerings and 87% of the total capital raised. Issuers from the technology industry, issuers reporting "other" as industry and real estate issuers rank from second to fourth in terms of both the number of offerings and capital raised. The average issuer from technology and health care industries issues about two offerings while the average

[30] A "REVOKED" form is filed for companies whose SEC registrations are revoked.
[31] We use CIK to identify issuers.

issuer from private fund and real estate industries makes about one offering. Private fund offerings tend to attract the most investors per offering (46.1, tied with real estate) and receive the largest investment per investor ($15.6 million). The average real estate offering raises a smaller amount from each investor ($1.4 million) than any other top industry group. Among the four types of private fund issuers, hedge funds raise almost ten times as much capital as venture capital funds, and the average hedge fund offering has the fewest investors (32.5) and the least amount sold to each investor ($1.3 million).

Panel B of Table 1 reports the five offering statistics by issuer entity type. Corporation is the most common type of issuer entity in terms of both number of offering (114,758) and capital raised ($2.2 trillion, tied with limited liability company). Offerings by issuers incorporated as corporation have the fewest investors per offering and the least amount sold per investor. Limited liability company is the entity type utilized by the most issuers (83,508). Investors of limited partnerships, business trusts and entities of other types tend to invest a much larger amount than those investing in corporations and limited liability companies. Panel C of Table 1 presents the same statistics by issuer size. 195,450 (89.5%) of the issuers opt not to disclose the range of their revenue or aggregate NAV. Among those reporting a revenue or NAV range, the smallest issuers (those with a revenue no more than $1,000,000 or a NAV no more than $5,000,000) make the most offerings (17,444) and the largest issuers (those with a revenue over $100,000,000 or an aggregate NAV over $100,000,000) raise the most capital ($1 trillion). The smallest issuers attract the fewest investors per offering (18.3) and raise the least amount of capital per investor ($398,000), while the largest issuers sell to the most investors per offering (91.9) and raise the most amount of capital from each investor ($28.7 million). Panel D of Table 1 shows offering statistics by issuer's jurisdiction of incorporation. 136,163 (62.3%) issuers are incorporated in Delaware, which received $10.6 trillion (54.6%) of the total amount of capital raised. Issuers incorporated in a US state other than Delaware and foreign issuers raise the least ($2 million) and most ($25.7 million) amount of capital from each investor, respectively.

Table 2 provides a summary about the distribution of offerings with respect to four offering attributes. Panel A reports the percentages of offerings by the type of exemption replied upon by the issuer. In September 2013, the SEC adopted amendments to replace the old Rule 506 with Rule 506(b) and Rule 506(c).[32] 92.6% of the offerings rely on Rule 506 prior to October 2013. After September 2013, 91% of Reg D offerings claimed exemption under Rule 506(b) while only 6.7% used Rule 506(c), indicating that most issuers are reluctant to undertake the burden of validating the accredited status of every investor for the benefit of broad solicitation. While Rule 506 account for the vast majority of offerings for both private funds and non-fund issuers, a higher percentage of

[32]The newly adopted Rule 506(c) allows the issuer to general solicitation provided that the status of accredited investor can be verified for each investor in the offering.

Table 1—Issuer Summary Statistics

	Offerings	Sold Amount	Issuers	Mean Num. Investors	Mean Sold Amount Per Investor
Panel A. Issuer Industry Group					
Pooled Investment Fund	100,553	\$16.8T	95,989	46.1	\$15.6M
Other Investment Fund	27,611	\$5.7T	26,142	48.2	\$26M
Hedge Fund	26,650	\$6.1T	24,272	60.0	\$17.9M
Venture Capital Fund	24,877	\$656B	24,474	32.5	\$1.3M
Private Equity Fund	21,415	\$4.3T	21,101	41.7	\$15.8M
Technology	48,785	\$519B	24,965	11.2	\$1.5M
Other	41,847	\$482B	25,147	13.5	\$1.6M
Real Estate	36,295	\$465B	34,571	46.1	\$1.4M
Health Care	26,164	\$285B	12,155	14.1	\$1.8M
Financial Services	14,296	\$482B	9,062	31.3	\$4.5M
Energy	9,607	\$165B	5,697	17.3	\$3.5M
Manufacturing	5,410	\$61.5B	3,034	12.0	\$2.1M
Retailing	3,940	\$38.2B	2,617	12.5	\$1.6M
Business Services	3,003	\$26.4B	1,675	11.6	\$1.5M
Restaurants	2,265	\$9.3B	1,855	12.0	\$849K
Agriculture	1,526	\$19.7B	903	14.8	\$2.3M
Travel	986	\$10.9B	720	16.8	\$780K
Panel B. Issuer Entity Type					
Corporation	114,758	\$2.2T	56,354	15.5	\$2.2M
Limited Liability Company	96,747	\$2.2T	83,508	33.0	\$2.8M
Limited Partnership	67,354	\$9T	64,490	45.1	\$11M
Other	14,630	\$5T	12,973	34.1	\$42.8M
Business Trust	1,198	\$946B	1,074	101.1	\$27.4M
Panel C. Issuer Size					
Not Disclosed	261,299	\$18T	195,450	29.7	\$6.9M
Category 1	17,444	\$53.7B	12,042	18.3	\$398K
Category 2	7,189	\$101B	5,056	20.1	\$3.3M
Category 3	4,337	\$72B	2,936	28.5	\$2.2M
Category 5	2,325	\$1T	1,675	91.9	\$28.7M
Category 4	2,093	\$86.9B	1,240	30.8	\$5.7M
Panel D. Issuer Jurisdiction of Incorporation					
Delaware	183,703	\$10.6T	136,163	32.0	\$5.2M
US State Other Than Delaware	79,294	\$1.8T	58,125	23.3	\$2M
Foreign	31,690	\$7T	24,111	28.2	\$25.7M

Note: This table provides a summary of Reg D offerings sold between January 2009 and December 2022 by issuer attributes. Panels A-D report the number of offerings, sold amount, number of issuers, mean number of investors and mean sold amount per investor by issuer industry group, issuer entity type, issuer size and issuer's jurisdiction of incorporation, respectively. The rows are sorted by the number of offerings in descending order in each panel. In panel C, Category 1 includes issuers with a revenue no more than \$1,000,000 or an aggregate NAV no more than \$5,000,000, Category 2 includes issuers with a revenue between \$1,000,001 and \$5,000,000 or an aggregate NAV between \$5,000,001 and \$25,000,000, Category 3 includes issuers with a revenue between \$5,000,001 and \$25,000,000 or an aggregate NAV between \$25,000,001 and \$50,000,000, Category 4 includes issuers with a revenue between \$25,000,001 and \$100,000,000 or an aggregate NAV between \$50,000,001 and \$100,000,000, and Category 5 includes issuers with a revenue over \$100,000,000 or an aggregate NAV over \$100,000,000.

non-fund issuers use Rule 504 than private fund issuers.[33] Panel B reports the frequency of offerings by type of securities offered.[34] Pooled investment fund interest is the most common types of securities offered by private fund issuers while the majority of the offerings by non-fund issuers involve equity securities. Non-fund issuers use debt securities and option, warrant or other right to acquire another security more frequently than private fund issuers. Panel C presents the frequency of offerings by minimum investment amount. 45.3% of the offerings have no required minimum investment. While non-fund offerings are more likely to have no minimum requirement, private fund offerings are more than three times as likely to require an investment minimum exceeding $100,000 as non-fund offerings. Panel D shows than about one fifth of the offerings are intended to last for more than one year, with a much larger share of private fund offerings running over one year (43%) than non-fund offings (8.5%).

We document time trends of Reg D market activity from 2009 through 2022 in Table 3. Panel A shows that the intensity of offering activity has increased continuously over the past decade, with number of offerings, capital raised and number of issuers of new offerings growing by 95%, 109% and 144%, respectively, between 2012 and 2022. The pace at which the Reg D market grows peaked in the past three years. The 2020-2021 year-over-year increases in the number of offerings, amount of capital raised and number of issuers in new offerings are 38.9%, 40% and 57.4%, respectively. The median number of investors in a new offering has more than doubled, and the median amount of capital raised per investor in new offerings has decreased by 37% from 2012 to 2022, consistent with the trend of expanding access to private markets for retail investors. Panels B and C report trend statistics for offerings by private fund and non-fund issuers, respectively. While the number of private fund offerings rises dramatically by 154% from 2012 to 2022 and 50.4% from 2020 to 2021, the number of non-fund offerings grows more mildly by 50.6% from 2012 to 2022 and 27% from 2020 to 2021. The rate of increase in capital raised are more similar: private funds raised 109% more capital in 2022 than in 2012 and the amount raised by non-fund issuers in 2022 is 115% more than the amount raised in 2012. Both private funds and non-fund issuers experience a significant increase in the number of investors in new offerings over the past decade. The decreasing trend of sold amount per investor is mainly driven by private fund offerings. The mean and median amount sold per investor in private fund offerings has shrunk from 2012 to 2022 by 55.9% and 95.7%, respectively, while the median amount raised per investor by non-fund issuers has grown by 35.7% in the same period of time.

Figure 1 illustrates the recent proliferation of private fund offerings by showing

[33]Rule 504 permits issuers to offer and sell up to $5 million of their securities in a 12-month period.

[34]For offerings identifying more than one type of securities, we use the following order of priority to determine the single securities type associated with each offering: option, warrant or other right to acquire another security, LP Interests, debt, equity and pooled investment fund interests. For example, offerings reporting both equity and pooled investment fund interests are considered equity offerings.

Table 2—Offering Summary Statistics

	% Offerings - All	% Offerings - Private Fund	% Offerings - Non-Fund
Panel A. Exemption Claimed			
Jan 2009 - Sep 2013			
Rule 506	92.6%	96.7%	91.5%
Rule 504	4.4%	0.4%	5.4%
Rule 505	2.4%	0.7%	2.8%
Other	0.7%	2.3%	0.2%
Oct 2013 - Dec 2022			
Rule 506(b)	90.4%	92%	89.5%
Rule 506(c)	6.7%	6.7%	6.7%
Rule 504	2.1%	0.2%	3.3%
Other	0.7%	1.1%	0.5%
Panel B. Type of Securities Offered			
Equity	53.6%	27.3%	67.2%
Pooled Investment Fund Interests	24.4%	69.3%	1.1%
Option, Warrant or Other Right	12.2%	0.2%	18.4%
Debt	6.2%	0.5%	9.1%
Other	2.7%	0.4%	3.9%
LP Interests	1%	2.3%	0.3%
Panel C. Minimum Investment			
No minimum investment	45.3%	34.9%	50.8%
Between $1 and $100,000	44%	45.7%	43.1%
More than $100,000	10.6%	19.4%	6.1%
Panel D. Duration of Offering			
Less than one year	79.7%	57%	91.5%
more than one year	20.3%	43%	8.5%

Note: This table provides a summary of Reg D offerings sold between January 2009 and December 2022 by offering attributes. Panels A-D report the distribution of offerings for all offerings, private fund offerings and non-fund offerings by exemption claimed, type of securities offered, minimum investment amount and duration of offering, respectively. In Panel B, for offerings identifying more than one type of securities, we use the following order of priority to determine the single securities type associated with each offering: option, warrant or other right to acquire another security, LP Interests, debt, equity and pooled investment fund interests.

Table 3—Reg D Market Trends

	Offerings	Sold Amount	Issuers in New Offerings	Investors in New Offerings		Sold Amount Per Investor in New Offerings	
				Mean	Median	Mean	Median
Panel A. All Issuers							
2009	11,959	$445B	9,477	14.9	5	$3.2M	$200K
2010	18,919	$810B	11,907	13.7	5	$4.3M	$201K
2011	21,925	$1.1T	12,830	13.6	5	$4.2M	$224K
2012	22,458	$1.1T	12,857	20.4	5	$3.9M	$198K
2013	24,212	$1.1T	14,043	15.3	6	$4.7M	$200K
2014	27,010	$1.4T	15,969	17.3	6	$4.9M	$188K
2015	27,678	$1.4T	16,772	16.8	7	$5M	$200K
2016	27,780	$1.4T	16,591	17.8	6	$4.6M	$191K
2017	29,142	$1.7T	17,729	20.4	7	$6.4M	$185K
2018	30,838	$1.5T	19,416	20.1	7	$5.6M	$200K
2019	31,375	$1.5T	19,705	20.3	8	$5M	$200K
2020	31,721	$1.5T	20,109	23.0	8	$4.4M	$184K
2021	44,061	$2.1T	31,648	27.3	12	$3.8M	$144K
2022	43,877	$2.3T	31,412	26.0	11	$3.6M	$125K
Panel B. Private Fund Issuers							
2009	3,064	$356B	1,735	18.4	6.0	$10.9M	$1M
2010	6,756	$668B	2,530	18.7	5.0	$13.9M	$1M
2011	9,206	$966B	3,087	18.1	6.0	$13.1M	$1.3M
2012	9,767	$959B	2,975	18.0	6.0	$12.7M	$1.2M
2013	10,717	$1T	3,602	18.4	6.5	$14.5M	$1.5M
2014	11,913	$1.2T	4,178	25.1	9.0	$15M	$1M
2015	12,319	$1.2T	4,521	23.4	8.0	$13.8M	$950K
2016	12,422	$1.2T	4,597	22.1	8.0	$13.5M	$867K
2017	13,001	$1.5T	5,065	24.0	9.0	$19.6M	$711K
2018	14,172	$1.3T	6,120	24.1	10.0	$14.6M	$567K
2019	14,757	$1.3T	6,527	26.4	10.0	$12.2M	$500K
2020	16,156	$1.3T	7,919	28.9	12.0	$9.2M	$273K
2021	24,298	$1.7T	15,737	33.2	16.0	$5.9M	$73.4K
2022	24,763	$2T	15,743	27.8	14.0	$5.6M	$51.6K
Panel C. Non-Fund Issuers							
2009	8,895	$88.1B	7,742	14.1	5	$1.5M	$144K
2010	12,163	$142B	9,377	12.5	5	$2M	$144K
2011	12,719	$124B	9,743	12.4	5	$1.7M	$143K
2012	12,691	$136B	9,882	21.0	5	$1.5M	$129K
2013	13,495	$131B	10,441	14.3	6	$1.7M	$126K
2014	15,097	$181B	11,791	14.9	6	$1.7M	$126K
2015	15,359	$180B	12,251	14.5	6	$2.1M	$144K
2016	15,358	$159B	11,994	16.3	6	$1.6M	$142K
2017	16,141	$177B	12,664	19.0	7	$1.6M	$140K
2018	16,666	$205B	13,296	18.4	7	$1.8M	$151K
2019	16,618	$180B	13,178	17.5	7	$1.8M	$157K
2020	15,565	$200B	12,190	19.5	7	$1.6M	$162K
2021	19,763	$370B	15,911	22.1	9	$2M	$190K
2022	19,114	$292B	15,669	24.4	9	$1.8M	$175K

Note: This table summarizes trends of Reg D offerings between 2009 and 2022. Panels A-C report the number of offerings, sold amount, number of issuers in new offerings, mean and median of the number of investors in new offerings, and mean and median of the amount sold per investors in new offerings for all issuers, private fund issuers and non-fund issuers, respectively. New offerings include new notice filings and amendment filings that have no previous filing available and were filed within a year of the first date of sale of the offering.

trends of offering activity for each of four fund types.[35] While hedge funds raised more capital than any other type of funds, the number of hedge fund offerings and capital raised by hedge funds have barely increased over the past decade. There were large and steady increases in the number of offerings and capital raised by private equity funds, venture capital funds and other investment funds from 2009 through 2022, with offering activity reaching a historical high in 2021 and 2022 for all three types of funds. Despite having a smaller share of capital raised, venture capital funds account for a large part of the recent dramatic increase in number of offerings. The number of venture capital fund offerings increased nearly threefold from 2020 to 2021, and exceeds the number of offerings from any other fund type in 2021 and 2022. Most of the increase in capital raised by private fund issuers in 2021-2022 can be attributable to private equity funds and other investment funds, both of which raised more capital in 2022 than any other year in the sample.

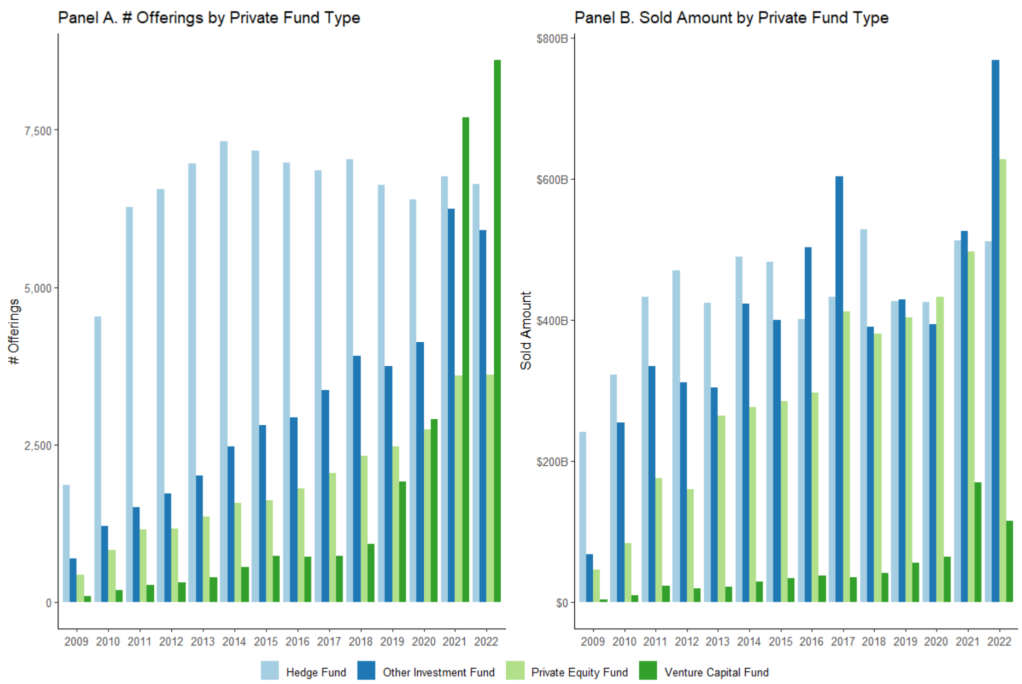

Figure 1. Trends of Offerings and Sold Amount by Private Fund Type

Note: This figure illustrates the trends in the number of offerings and amounts sold by four types of private fund issuers between 2009 and 2022.

Figure 2 compares the Reg D market with the markets for registered offerings. The amounts of capital raised through Reg D securities are similar to the proceeds

[35]Form D does not require the issuer to specify the type of a private fund other than hedge fund, private equity fund and venture capital fund. Other common types include private credit fund, private real estate fund and private liquidity fund.

from registered equity and debt securities combined over the sample time period. \$15 trillion of capital was raised from 2009 through 2020 using Reg D securities, while \$16.4 trillion was raised through public offerings based on public EDGAR filings. Between 2021 and 2022, \$4.4 trillion were raised through Reg D securities, 13% more than the proceeds from public offerings in the same time period (\$3.9 trillion). The Reg D and public offering markets exhibit similar trends: offering activities in both markets increased from 2009 to 2017, slight fell in 2018 and 2019 and rose again in 2020 and 2021. The Reg D market continued to grow in 2022 while the public markets dwindled significantly.

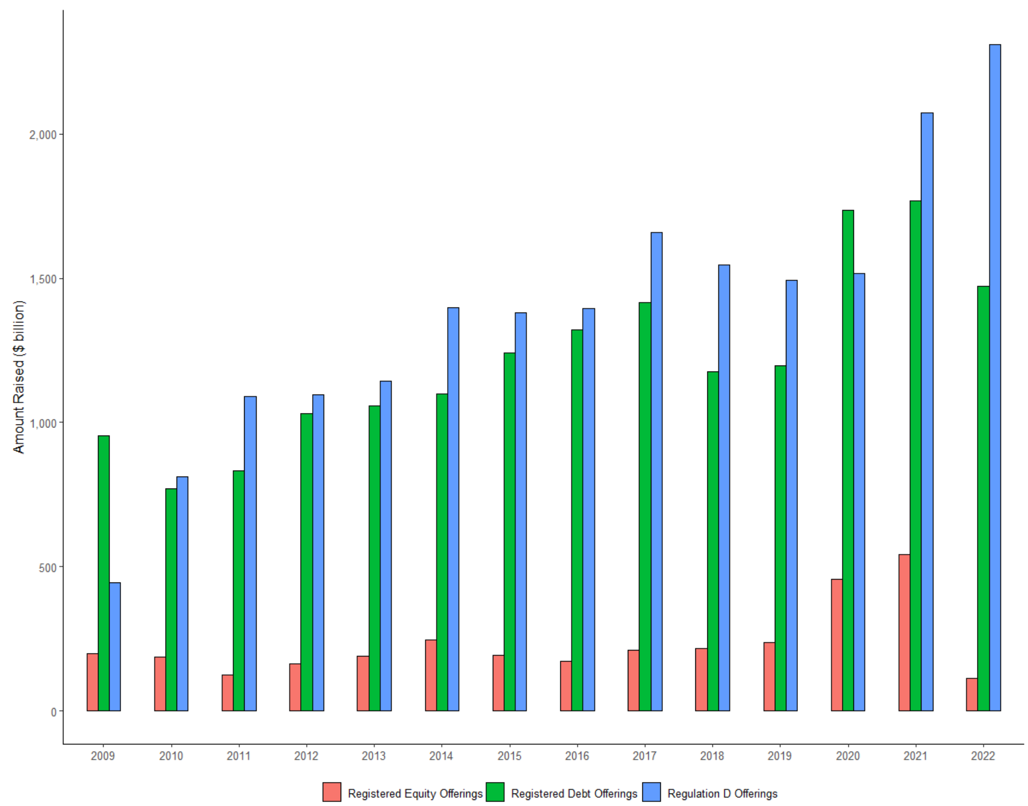

Figure 2. Aggregate Amount Sold in 2009–2022 through Reg D Offerings and Registered Offerings

Note: This figure illustrates the trends in capital raised through Reg D offerings and registered offerings. The capital raised through registered offerings is estimated using EDGAR company filings. Registered equity offerings include all IPO and follow-on equity offerings of common and preferred shares. Registered debt offerings include all straight and convertible debt offerings.

B. Decomposition of the Reg D Market by Intermediary Participation

Broker-dealers match issuers with accredited investors, reducing search costs and allowing issuers to sell unregistered securities without violating the rule against general solicitation. Many private funds hire RIAs to provide investment advice or make investment decisions on their behalf, and RIAs typically operate as general partner of private funds that are structured as limited partnerships. We refer to RIAs acting as investment adviser, general partner or managing member of the issuer of a Reg D offering as the *sponsor* to the offering.[36] This section describes the scope of participation of broker-dealers and RIAs in Reg D offerings and compartmentalizes the Reg D market based on whether an offering is sold by broker-dealer or sponsored by RIA.

Table 4 breaks down the number of Reg D offerings and capital raised through Reg D securities according to whether an offering is sold by broker-dealers or sponsored by a RIA. 58,565 (19.6%) of Reg D offerings are sponsored by a RIA, and \$14.6 trillion (75.7%) of the capital raised in Reg D offerings is attributable to RIA-sponsored offerings. Broker-sold offerings account for 14% of the offerings and 37.1% of capital raised. \$6.1 trillion was raised through offerings sponsored by RIAs and sold by broker-dealers, which constitutes 42% of the \$14.6 trillion raised in RIA-sponsored offerings and 85% of the \$7.2 trillion raised in broker-sold offerings. Although 71.7% of Reg D offerings are neither sold by broker-dealer nor sponsored by RIA, offerings involving no broker-dealer or RIA only account for 18.6% of the capital raised through Reg D securities. Many offerings not sponsored by RIA are investments advised by exempt reporting advisers (ERA), which are investment advisers who solely manage private funds with less than \$150 million in assets under management or solely advise venture capital funds.[37] ERAs advised 31,493 offerings sold for a total proceeds of \$1.7 trillion, or 37% of the capital raised in offerings not sponsored by RIAs. These results show that regulators and the public have access to a lot more information than required by Form D about a large share of the Reg D market through regulatory disclosures by broker-dealers and investment advisers participating in Reg D offerings.[38]

Panel A of Table 5 reports market shares of broker-sold and RIA-sponsored offerings by issuer industry group. A larger portion of private fund offerings involve RIA sponsorship than any other industry group, with 44.3% of the private fund offerings sponsored by RIAs and 83.5% of the capital raised through private fund offerings attributable to RIA-sponsored offerings. 25.5% of real estate offerings were sold by broker-dealers, a percentage higher than any other industry group. While broker-sold offerings account for nearly 40% of the capital raised by private funds, issuers from technology, health care and "other" industries are much less likely to use broker-dealers: broker-sold offerings comprise less that 15% of the

[36]We identify the RIA sponsor to an offering using the names and addresses of the related persons of the issuer reported under Item 3 of Form D.

[37]Although ERAs are exempt from registration with the SEC or state regulators, they are still required to report certain public information to the SEC through the Investment Adviser Registration Depository (IARD).

[38]Broker-dealers and RIAs are required to disclose criminal history, certain disciplinary actions and customer arbitration awards. Both RIAs and ERAs are required to report basic information about the private funds they advise on the publicly available portion of Form ADV and make more detailed disclosure about their private fund operations on Form PF.

Table 4—Decomposition of Reg D Offering Activity by Intermediaries

	Broker-Dealer-Sold		Not Broker-Dealer-Sold		Total	
	Offerings	Sold Amount	Offerings	Sold Amount	Offerings	Sold Amount
RIA-sponsored	15,977 (5.3%)	$6.1T (31.3%)	42,588 (14.3%)	$8.6T (44.3%)	58,565 (19.6%)	$14.6T (75.7%)
Not RIA-sponsored	25,925 (8.7%)	$1.1T (5.7%)	214,160 (71.7%)	$3.6T (18.6%)	240,085 (80.4%)	$4.7T (24.3%)
Total	41,902 (14%)	$7.2T (37.1%)	256,748 (86%)	$12.2T (62.9%)		

Note: This table reports the number of offerings and amounts sold in each of the four types of offerings based on whether the offering is sponsored by a RIA or sold by a broker-dealer. The percentages in the parentheses are with respect to the total number of offerings or total amount sold between 2009 and 2022.

proceeds from offerings of these three industries. Only 12% of the capital raised in private fund offerings is attributable to offering not sponsored by RIA or sold by broker-dealer, whereas over 80% of the amounts sold in technology and health care industries are from offerings not involving RIA or broker-dealer. Among the four types of private fund, venture capital funds are the least likely to be associated with intermediaries. 9.3% of the venture capital fund offerings are sponsored by RIAs and only 3.6% are sold by broker-dealers. Most of the 22,067 venture capital fund offerings not associated with RIA or broker-dealer are special purpose vehicles (SPVs) that pool capital from a syndicate of accredited investors online to invest in private companies. 14,150 (64.1%) of these 22,067 offerings were administered by five equity crowdfunding or investment syndicate platforms.[39]

Panel B of Table 5 reports trends of market shares of broker-sold and RIA-sponsored offerings by private fund issuers. While the number of RIA-sponsored private fund offerings and capital raised in RIA-sponsored private fund offerings have been on the rise since 2009, the share of RIA-sponsored private fund offerings in terms of both number of offerings and capital raised have both been trending downwards from 2009 through 2022. The number of broker-sold private fund offerings and proceeds sold by broker-dealers in private fund offerings have also been increasing, but the percentage of broker-sold offerings was on a decline from 2020 through 2022 and the percentage of capital raised in broker-sold offerings are relatively flat over time. The number and percentage of private fund offerings not involving RIA or broker-dealer rose rapidly during the most recent years. 13,724 private fund offerings were neither sold by broker-dealers nor sponsored by RIAs in 2022, a 547% increase from 2012. Panel C of Table 5 reports trends of market shares of broker-sold and RIA-sponsored non-fund offerings. The percentages of capital raised in both RIA-sponsored and broker-sold non-fund offerings have been declining over the past decade, although the amounts of capital raised grew quickly over the past three years. In contrast with private fund offerings, the percentage of non-fund offerings sponsored by RIA or sold by broker-dealers has either slightly increased or remained steady over the sample time period.

[39]These five crowdfunding or syndicate platforms are Belltower Fund Group, OurCrowd, FundersClub, Alumni Ventures Group and Sydecar. Most SPVs report their fund administrators as manager or general partner of the issuer in Form ADV filings.

Table 5—RIA-Sponsored and Broker-Sold Offerings by Issuer Industry Group and Year

	Sponsored by RIA		Sold by Broker-Dealer		Not Involving RIA or Broker-Dealer	
	Offerings	Sold Amount	Offerings	Sold Amount	Offerings	Sold Amount
Panel A. Issuer Industry Group						
Pooled Investment Fund	44,519 (44.3%)	$14T (83.5%)	18,950 (18.8%)	$6.6T (39.3%)	50,208 (49.9%)	$2T (12%)
Other Investment Fund	11,129 (40.3%)	$5T (87.5%)	4,947 (17.9%)	$2.6T (45.2%)	14,651 (53.1%)	$487B (8.5%)
Hedge Fund	17,777 (66.7%)	$5.3T (86.3%)	5,766 (21.6%)	$1.6T (27%)	8,200 (30.8%)	$702B (11.5%)
Venture Capital Fund	2,310 (9.3%)	$236B (36%)	904 (3.6%)	$101B (15.4%)	22,067 (88.7%)	$375B (57.2%)
Private Equity Fund	13,303 (62.1%)	$3.5T (81.3%)	7,333 (34.2%)	$2.3T (52.2%)	5,290 (24.7%)	$457B (10.5%)
Technology	743 (1.5%)	$42.6B (8.2%)	1,827 (3.7%)	$62.1B (12%)	46,373 (95.1%)	$437B (84.3%)
Other	1,984 (4.7%)	$107B (22.2%)	3,108 (7.4%)	$58.6B (12.2%)	36,959 (88.3%)	$331B (68.6%)
Real Estate	4,614 (12.7%)	$171B (36.8%)	9,284 (25.6%)	$131B (28.1%)	25,249 (69.6%)	$224B (48.2%)
Health Care	547 (2.1%)	$15.9B (5.6%)	2,784 (10.6%)	$38.6B (13.5%)	23,005 (87.9%)	$232B (81.4%)
Financial Services	2,601 (18.2%)	$243B (50.5%)	2,970 (20.8%)	$204B (42.3%)	9,282 (64.9%)	$151B (31.3%)
Energy	295 (3.1%)	$23.1B (14%)	1,703 (17.7%)	$46.9B (28.4%)	7,710 (80.3%)	$99.2B (60.1%)
Manufacturing	241 (4.5%)	$12.7B (20.7%)	517 (9.6%)	$12.5B (20.4%)	4,694 (86.8%)	$38.1B (62%)
Retailing	108 (2.7%)	$7.5B (19.7%)	289 (7.3%)	$7.8B (20.5%)	3,571 (90.6%)	$24.5B (64.1%)
Business Services	154 (5.1%)	$4.5B (16.9%)	170 (5.7%)	$3.5B (13.3%)	2,694 (89.7%)	$18.4B (69.8%)
Restaurants	41 (1.8%)	$1B (11.1%)	96 (4.2%)	$831M (8.9%)	2,139 (94.4%)	$7.8B (83.7%)
Agriculture	31 (2%)	$5.8B (29.3%)	156 (10.2%)	$7.8B (39.6%)	1,353 (88.7%)	$10.2B (51.6%)
Travel	29 (2.9%)	$1.5B (13.4%)	48 (4.9%)	$4.7B (43%)	916 (92.9%)	$4.8B (43.9%)
Panel B. Private Fund Issuer Trends						
2009	1,880 (61.4%)	$273B (76.5%)	570 (18.6%)	$89.2B (25%)	1,036 (33.8%)	$64.9B (18.2%)
2010	4,732 (70%)	$593B (88.8%)	1,561 (23.1%)	$268B (40.2%)	1,710 (25.3%)	$55.7B (8.3%)
2011	6,755 (73.4%)	$852B (88.2%)	2,358 (25.6%)	$383B (39.7%)	2,037 (22.1%)	$87.5B (9.1%)
2012	7,183 (73.5%)	$818B (85.4%)	2,445 (25%)	$364B (38%)	2,121 (21.7%)	$102B (10.7%)
2013	7,869 (73.4%)	$871B (86%)	2,791 (26%)	$451B (44.5%)	2,341 (21.8%)	$105B (10.3%)
2014	8,490 (71.3%)	$1.1T (88.3%)	3,029 (25.4%)	$496B (40.8%)	2,894 (24.3%)	$102B (8.4%)
2015	8,507 (69.1%)	$1.1T (87.6%)	3,040 (24.7%)	$475B (39.6%)	3,254 (26.4%)	$106B (8.9%)
2016	8,503 (68.5%)	$1.1T (88%)	3,197 (25.7%)	$454B (36.7%)	3,292 (26.5%)	$106B (8.6%)
2017	8,712 (67%)	$1.2T (83.5%)	3,374 (26%)	$656B (44.2%)	3,555 (27.3%)	$201B (13.6%)
2018	8,947 (63.1%)	$1.1T (82.6%)	3,456 (24.4%)	$532B (39.7%)	4,434 (31.3%)	$181B (13.5%)
2019	9,100 (61.7%)	$1.1T (83.5%)	3,618 (24.5%)	$480B (36.5%)	4,757 (32.2%)	$165B (12.5%)
2020	9,266 (57.4%)	$1.1T (81.3%)	3,621 (22.4%)	$525B (39.9%)	5,958 (36.9%)	$172B (13%)
2021	10,416 (42.9%)	$1.3T (74.9%)	4,046 (16.7%)	$627B (36.8%)	12,698 (52.3%)	$301B (17.7%)
2022	9,731 (39.3%)	$1.6T (79.5%)	3,975 (16.1%)	$792B (39.2%)	13,724 (55.4%)	$272B (13.4%)
Panel C. Non-Fund Issuer Trends						
2009	366 (4.1%)	$9.3B (10.5%)	1,107 (12.4%)	$22.1B (25.1%)	7,494 (84.2%)	$57.7B (65.4%)
2010	661 (5.4%)	$46.4B (32.6%)	1,575 (12.9%)	$40.8B (28.7%)	10,076 (82.8%)	$73.3B (51.5%)
2011	718 (5.6%)	$33.9B (27.4%)	1,520 (12%)	$34.5B (27.9%)	10,639 (83.6%)	$65.5B (53%)
2012	765 (6%)	$46.6B (34.1%)	1,546 (12.2%)	$48.8B (35.7%)	10,577 (83.3%)	$65.9B (48.3%)
2013	774 (5.7%)	$41.5B (31.7%)	1,649 (12.2%)	$36.1B (27.6%)	11,298 (83.7%)	$68.8B (52.6%)
2014	926 (6.1%)	$52.7B (29.2%)	1,854 (12.3%)	$47.7B (26.4%)	12,618 (83.6%)	$104B (57.3%)
2015	975 (6.3%)	$46.4B (25.7%)	1,933 (12.6%)	$42.7B (23.7%)	12,757 (83.1%)	$109B (60.7%)
2016	997 (6.5%)	$48B (30.1%)	2,038 (13.3%)	$35.1B (22%)	12,642 (82.3%)	$95B (59.6%)
2017	1,169 (7.2%)	$51.2B (28.8%)	2,300 (14.2%)	$48.1B (27.1%)	13,105 (81.2%)	$97.5B (55%)
2018	1,114 (6.7%)	$44.6B (21.8%)	1,915 (11.5%)	$35.2B (17.2%)	14,030 (84.2%)	$140B (68.3%)
2019	1,126 (6.8%)	$38.5B (21.4%)	1,843 (11.1%)	$33.6B (18.7%)	14,053 (84.6%)	$119B (66.5%)
2020	1,113 (7.2%)	$41.5B (20.7%)	2,041 (13.1%)	$41.8B (20.9%)	12,859 (82.6%)	$130B (65.2%)
2021	1,325 (6.7%)	$78.3B (21.2%)	2,376 (12%)	$61.4B (16.6%)	16,549 (83.7%)	$250B (67.7%)
2022	1,397 (7.3%)	$57.1B (19.6%)	2,534 (13.3%)	$50.4B (17.3%)	15,860 (83%)	$202B (69.1%)

Note: This table reports provides a summary of RIA-sponsored and broker-sold offerings between 2009 and 2022. Panels A reports the percentages of offerings and amounts sold in RIA-sponsored offerings, broker-sold offerings and offerings not sponsored by RIA and not sold by broker-dealers for each issuer industry group, with the industry group of pooled investment fund further broken out to four types of issuers. Panels B and C report trends of the above statistics for private fund issuers and non-fund issuers, respectively.

Table 6 presents the five most common issuer industries for RIA-sponsored offerings, broker-sold offerings and offerings not involving RIA or broker-dealer. Hedge funds, private equity funds and other investment funds are the predominant issuer industries for intermediary-related offerings throughout the entire sample period, together responsible for over 90% of the capital raised in both RIA-sponsored and broker-sold offerings. A higher percentage of private equity funds were sold by broker-dealers in the past three years compared to the period of 2009-2019. More than 10% of broker-sold offerings are attributable to issuers from the REITs and Finance industry under the real estate industry group. Between 2020 and 2022, venture capital fund overtook the "other technologies" industry as the most common issuer industry for offerings involving no RIA or broker-dealer, and surpassed hedge fund to be the industry raising the most capital through offerings involving no RIA or broker-dealer. This provides evidence of the recent trends of "democratization" in private markets featuring raising capital from retail investors through digital platforms in the absence of traditional intermediaries.

Table 6—Top 5 Issuer Industries for RIA-Sponsored and Broker-Sold Offerings

Offerings Sold in 2009-2019		Offerings Sold in 2020-2022	
Ranked by Offerings	Ranked by Sold Amount	Ranked by Offerings	Ranked by Sold Amount
Panel A. RIA-Sponsored Offerings			
Hedge Fund (37.3%)	Hedge Fund (38.4%)	Hedge Fund (33.6%)	Other Investment Fund (33.4%)
Private Equity Fund (21.5%)	Other Investment Fund (34.3%)	Private Equity Fund (22.8%)	Private Equity Fund (29.8%)
Other Investment Fund (18.4%)	Private Equity Fund (21.8%)	Other Investment Fund (22.6%)	Hedge Fund (29.7%)
REITS and Finance (3.5%)	Insurance (1.2%)	Venture Capital Fund (5.5%)	Venture Capital Fund (2.8%)
Other (3.5%)	Venture Capital Fund (1.1%)	REITS and Finance (4.4%)	Investing (0.8%)
Panel B. Broker-Sold Offerings			
Hedge Fund (16.9%)	Other Investment Fund (39.6%)	Private Equity Fund (21.5%)	Private Equity Fund (43.6%)
Private Equity Fund (14.7%)	Private Equity Fund (26.6%)	Hedge Fund (15.3%)	Other Investment Fund (27.3%)
Other Investment Fund (11.2%)	Hedge Fund (24.7%)	Other Investment Fund (15.2%)	Hedge Fund (18.7%)
REITS and Finance (10.9%)	Insurance (2.1%)	REITS and Finance (13.3%)	Venture Capital Fund (3%)
Other (7.8%)	Other (0.9%)	Other (5.5%)	Other Real Estate (1.4%)
Panel C. Offerings Not Involving RIA or Broker-Dealer			
Other Technology (21.4%)	Hedge Fund (22.5%)	Venture Capital Fund (23.6%)	Venture Capital Fund (15.6%)
Other (18.6%)	Private Equity Fund (13.3%)	Other Technology (15.2%)	Hedge Fund (14.4%)
Other Health Care (5.5%)	Other Investment Fund (13%)	Other (14.2%)	Other Investment Fund (14.4%)
Other Investment Fund (5.4%)	Other Technology (9.5%)	Other Investment Fund (9.9%)	Other Technology (13.2%)
Biotechnology (4.9%)	Other (8.6%)	Commercial (5.1%)	Private Equity Fund (11.7%)

Note: This table reports provides a summary of RIA-sponsored and broker-sold offerings between 2009 and 2022. Panels A reports the top five issuer industries ranked by shares of offerings and amounts sold over the periods of 2009-2019 and 2020-2022 for RIA-sponsored offerings. Panels B and C report the same statistics for broker-sold offerings and offerings not involving RIA and broker-dealers, respectively.

III. Performance of Reg D Issuers

We first present an analysis of the registration status of Reg D issuers using the SOS business databases of 46 US states. 13.6% of the Reg D issuers identified in state SOS data become delinquent due to failure to comply with state filing rules within 5 years of the sale of the issuer's first offering. Issuers not using broker-dealers, those from technology and "other" industries, corporation issuers and the smallest issuers have the highest probabilities of delinquency. Since some companies continue to file registration reports and remain active even after they file for bankruptcy to wind up business operations in an orderly manner, our estimates of delinquent issuers provide a *lower bound* for the Reg D issuers that have failed. We also estimate the probability of delinquency due to noncompliance with regulatory filing requirements for a subset of Reg D issuers under the periodic filing obligations using SEC enforcement data. Reg D issuers required to file regulatory reports are more likely to be delinquent in periodic filings than public companies that only issue registered offerings.

A. *Delinquent Reg D Issuers from State SOS Data*

Table 7 reports state SOS databases' coverage of Reg D issuers and the distribution of coverage across issuer industry groups. Among the 255,064 issuers that filed a Form D notice between January 2009 and July 2022,[40] 151,365 (59.3%) are incorporated in Delaware and 71,490 (28%) are incorporated in the 46 open-records states. 63,814 Reg D issuers are matched to business entities in the open-records states' SOS databases through exact name search, which account for 25% of all Reg D issuers and 89.3% ($= 63,814 \div 71,490$) of the issuers incorporated in the open-records states. This indicates that the sample of 63,814 issuers used to estimate issuer delinquency rate is representative of the issuers from the open-records states. While only 5.2% of pooled investment fund issuers can be identified from SOS data,[41] we have obtained SOS business status information for 52.2% of the real estate issuers, 44.8% of energy issuers and 42.8% of financial services issuers.

Table 8 reports the number and percentage Reg D issuers with an inactive status as of early October of 2022. 9,315 (14.6%) of the issuers found in state SOS data were voluntarily dissolved, 2,408 (3.8%) were merged or converted, and 8,983 (14.1%) were delinquent. Issuers from the energy industry are the most likely to run afoul of state filing or tax requirements with 25.5% of energy issuers listed as being delinquent. Other industries with a relatively high delinquency rate include "other" (17.5%) and business services (21.4%), while issuers from the real estate industry have the lowest rate of delinquency. Not surprisingly, technology companies issuing Reg D securities have the highest probability to merge into another entity or switch jurisdiction (10.2%). Issuers from real estate and private fund industries are the least likely to be merged or converted, possibly reflecting the long-term nature of the investments in these industries. 18.3% of private fund issuers had voluntarily dissolved their business by October 2022, a percentage higher than any other industry except business services.

Figure 3 illustrates the probabilities of a Reg D issuer becoming voluntarily dissolved, merged or converted, and delinquent within n years of the sale of the

[40] 207,320 of these issuers reportedly have sold a positive dollar amount of Reg D securities. While the remaining issuers never reported a non-zero sold amount, it is possible that they still sold some securities but were not required to file any amendment filing to report the change.

[41] The majority of pooled investment fund issuers are incorporated in Delaware.

Table 7—Reg D Issuers Found in SOS Databases

Industry Group	All Issuers	Issuers Incorporated in Delaware	Issuers Incorporated in 46 States	Issuers Found in SOS Databases	Issuers Found in SOS Databases / All Issuers
Total	255,064	151,365	71,490	63,814	25%
Pooled Investment Fund	114,089	82,711	7,665	5,937	5.2%
Real Estate	42,156	17,847	23,399	21,991	52.2%
Other	28,585	13,355	12,146	11,140	39%
Technology	26,158	18,262	6,540	5,976	22.8%
Health Care	13,175	7,909	4,526	4,146	31.5%
Financial Services	10,608	4,687	5,157	4,542	42.8%
Energy	7,456	2,103	4,445	3,344	44.8%
Manufacturing	3,470	1,335	1,944	1,766	50.9%
Retailing	2,883	1,163	1,586	1,192	41.3%
Restaurants	2,301	516	1,706	1,618	70.3%
Business Services	2,056	859	1,111	999	48.6%
Agriculture	1,092	307	685	619	56.7%
Travel	935	307	579	543	58.1%

Note: This table reports the number and percentage of Reg D issuers that are matched to a business entity in the 46 open-records states' SOS databases. The percentages are calculated with respect to both all issuers and those incorporated in the 46 states.

Table 8—Inactive Reg D Issuers Found in SOS Databases

Industry	Issuers Found in SOS Databases	% Voluntarily Dissolved Issuers	% Merged or Converted Issuers	% Delinquent Issuers
Total	63,814	14.6%	3.8%	14.1%
Real Estate	21,991	13.7%	1.1%	8.8%
Other	11,140	16.8%	3.7%	17.5%
Technology	5,976	14.5%	10.2%	21%
Pooled Investment Fund	5,937	18.3%	1.1%	9.9%
Financial Services	4,542	12.8%	8.7%	12.8%
Health Care	4,146	12.7%	7.1%	13.9%
Energy	3,344	15%	2.9%	25.5%
Manufacturing	1,766	10.1%	5.9%	20%
Restaurants	1,618	11.2%	1.6%	15.9%
Retailing	1,192	13.7%	5.6%	19.2%
Business Services	999	23.3%	4.9%	21.4%
Agriculture	619	9.5%	3.6%	19.7%
Travel	543	10.3%	1.8%	14%

Note: This table reports the number and percentage Reg D issuers with a status of being delinquency, voluntary dissolution or merging or conversion in state SOS databases as of early October of 2022.

issuer's first Reg D offering sold in 2009-2022 for $n = 1, 2, \ldots, 13$.[42] 13.6% of Reg D issuers become delinquent within 5 years of the sale of the issuer's first offering, and 30.8% of the issuers have a delinquent status within 10 years of the first offering. The probability of voluntary dissolution is very similar to that of delinquency in each year, with 13.5% and 32% of the issuers being voluntarily dissolved within 5 and 10 years of the sale of the issuer's first offering, respectively. Issuer are much less likely to be reported as merged or converted than the other two statuses. Combining all three statuses, Reg D issuers have a probability of 30.2% and 70.2% to become inactive within 5 and 10 years of the sale of their first offering, respectively. Reg D issuers stay active for an average of 6.9 years.

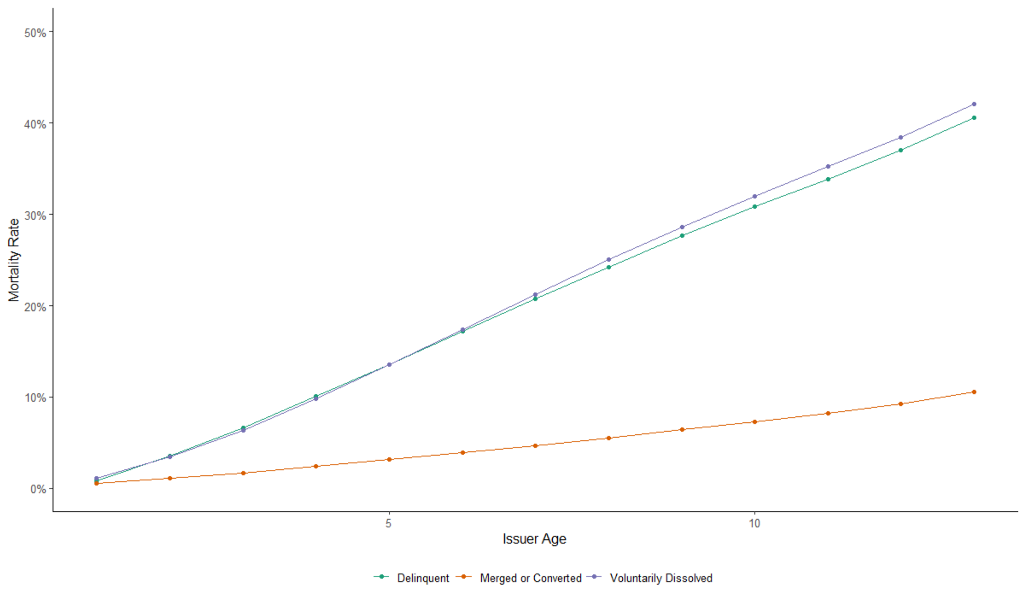

Figure 3. Probabilities of Delinquency, Voluntary Dissolution and Merging or Conversion Against Issuer Ages

Note: This figure illustrates the probabilities of Reg D Issuers having a status of delinquency, voluntary dissolution and merging or conversion in the state SOS databases within n years of the issuer's first Reg D offering for $n = 1, 2, \ldots, 13$. The sample of Reg D issuers include the 63,814 issuers with a Form D notice filed between January 2009 and July 2022 that can be matched to a business entity in the open-records states' SOS data downloaded during the first week of October.

Figure 4 illustrates the probabilities of delinquency in state registration filings at various issuer ages across issuer attribute groups. Panel A shows that issuers from the energy industry have the highest rate of delinquency for each year of issuer age, followed by those from the technology and "other" industries, and private fund issuers have the lowest rate of delinquent status for most issuer age

[42]The maximum issuer age for which we can estimate survival rates is 13 years since this calculation only tracks the registration status of Reg D issuers between January 2009 and December 2021.

years. The one-year delinquency rate (i.e., slope of the curve) of real estate issuers starts increasing after they turn five years old, while one-year delinquency rates for other industries appear to be more stable over the issuer's lifespan. Panel B shows that issuers organized as corporation are the most likely to be delinquent at each year of issuer age, while issuers incorporated as limited partnership have the lowest delinquency rate. The smallest issuers (Category 1) have the highest rate of delinquency at each year of issuer age, followed by issuers that choose not to disclose size and then by the second smallest issuers (Category 2). This indicates that the average issuer that does not disclose size has a size between the smallest and second smallest issuer categories. The largest issuers (Category 5) are more likely to remain compliant than those from any other category at each year of issuer age. See Panel C. Panel D illustrates that issuers who never use broker-dealers to sell their offerings are more likely to be delinquent in every year of issuer age than those using broker-dealers. This indicates that broker-sold offerings perform better than those not sold by brokers on average, possibly because broker-dealers tend to pick securities offered by less risky companies to sell to their clients.

B. Delinquent Reporting Reg D Issuers vs. Delinquent Issuers of Registered Offerings

While the vast majority of Reg D issuers are under no obligation to file financial statements with the SEC, a small fraction of Reg D issuers are public companies required to file periodic reports under the Exchange Act of 1934. We provide indirect evidence on the performance of this small subset of registered Reg D issuers by estimating the likelihood of these companies failing to comply with periodic filing requirements ("delinquent"). A comparison of the probabilities of delinquency between Reg D issuers and issuers of registered securities suggest that private companies issuing Reg D securities are much more prone to failure than public companies, consistent with the findings of DERA (2020) that reporting companies conducting registered offerings are larger and more profitable than reporting companies issuing Reg D securities.

Table 9 reports statistics on issuers required to file periodic reports that were sanctioned by the SEC for failing to comply with these requirements, separately for companies that conduct public offerings only and Reg D issuers. The delinquency statistics are also broken down by whether the issuer sold any registered or Reg D securities after 2012. Among 266,331 issuers that filed a Form D notice between 2009 and 2022, 5,161 (1.9%) were required to file periodic reports with the SEC.[43] 684 (13.3%) of these Reg D issuers under periodic reporting obligation had been subject to SEC enforcement actions related to delinquent filings by the end of 2022, while only 41 (1%) of the 4,267 issuers of registered offerings that never offered Reg D securities had been delinquent by December 2022.[44]

[43]An issuer is considered under the obligation to file periodic report if it files at least one Form 10-K or 10-Q report after the sale of its first registered or Reg D offering between 2009 and 2022.

[44]We analyze SEC enforcement releases published by December 31, 2022. Notice that the publication

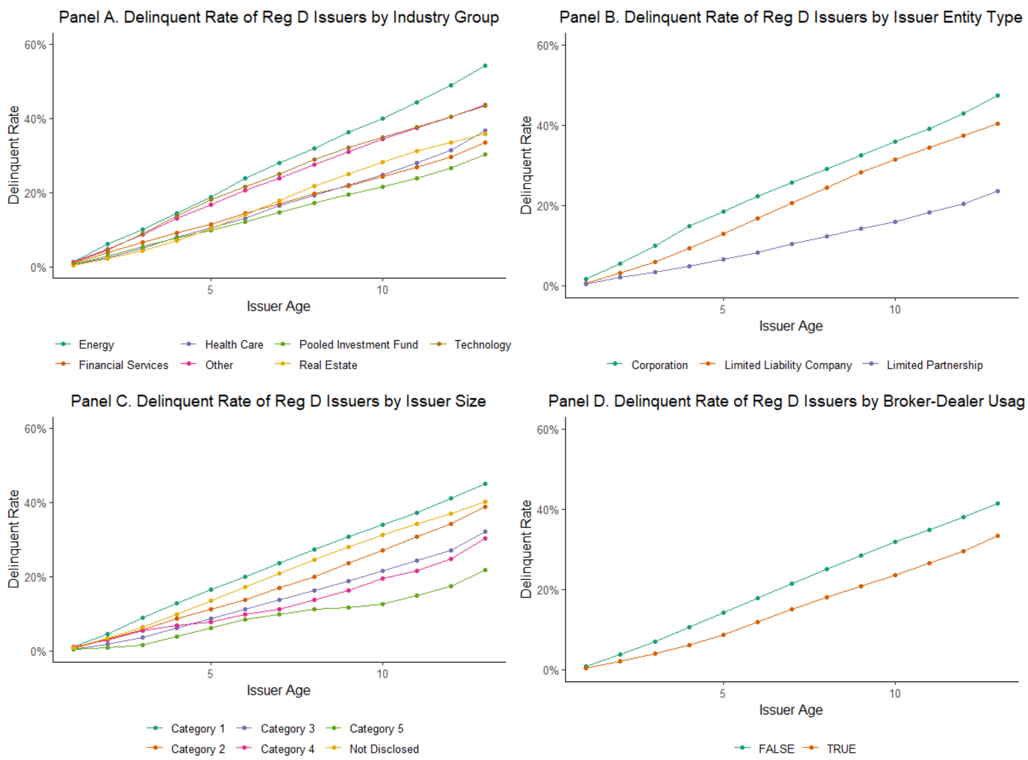

Figure 4. Probabilities of Delinquency Against Issuer Ages by Issuer Attributes

Note: This figure illustrates the probabilities of Reg D Issuers having a status of delinquency in the state SOS databases within n years of the issuer's first Reg D offering, for $n = 1, 2, \ldots, 13$, across issuer attribute groups. Panels A-D plot the delinquency rates against issuer age for different groups of issuers with respect to industry group, entity type, size and broker-dealer usage. In panel C, Category 1 includes issuers with a revenue no more than \$1,000,000 or an aggregate NAV no more than \$5,000,000, Category 2 includes issuers with a revenue between \$1,000,001 and \$5,000,000 or an aggregate NAV between \$5,000,001 and \$25,000,000, Category 3 includes issuers with a revenue between \$5,000,001 and \$25,000,000 or an aggregate NAV between \$25,000,001 and \$50,000,000, Category 4 includes issuers with a revenue between \$25,000,001 and \$100,000,000 or an aggregate NAV between \$50,000,001 and \$100,000,000, and Category 5 includes issuers with a revenue over \$100,000,000 or an aggregate NAV over \$100,000,000. The sample of Reg D issuers include the 63,814 issuers with a Form D notice filed between January 2009 and July 2022 that can be matched to a business entity in the open-records states' SOS data downloaded during the first week of October.

38 of the 41 delinquent issuers of public offerings never issued any offering after 2012, and 318 companies that issued Reg D offerings after 2012 were delinquent by December 2022. Among issuers that stopped raising capital after 2012, Reg D issuers are 4.7 (23.7%/5%) times as likely to be delinquent in periodic filings as issuers of public offerings. In contrast, companies conducting Reg D offerings after 2012 are 103 (8.8%/0.09%) times as likely to be delinquent as companies issuing registered securities over the past decade.

Table 9—Reporting Issuers Delinquent in SEC Periodic Filings

	Issuers Raising Capital in 2009-2022		Issuers Raising Capital Only Before 2013		Issuers Raising Capital in 2013-2022	
	All	Delinquent	All	Delinquent	All	Delinquent
Reporting companies offering Reg D securities	5,161	684 (13.3%)	1,545	366 (23.7%)	3,616	318 (8.8%)
Reporting companies never offering Reg D securities	4,267	41 (1%)	758	38 (5%)	3,509	3 (0.09%)

Note: This table reports the number and percentage of reporting companies sanctioned by the SEC due to delinquency in filing Form 10-K or 10-Q as of December 31, 2022. Columns 2 and 3 present delinquency statistics for the reporting companies that offered Reg D securities between 2009 and 2022 and those that never offered Reg D securities. The statistics in Columns 4 and 5 are similar to those in Columns 2 and 3 but only involve reporting companies that did not raise any capital after 2012. Columns 6 and 7 concern reporting companies that raised capital between 2013 and 2022. Any company issuing both registered offerings and Reg D offerings is considered a Reg D issuer in this table. A company is sanctioned by the SEC due to filing delinquency if its securities registration is revoked or it is named in a SEC press release related to delinquent filings.

Table 10 presents the number and percentage of reporting Reg D issuers that were sanctioned for failing to comply with filing requirements across issuer industry groups. Reporting issuers from the “other”, energy, business services and agriculture industries are the most likely to be delinquent in periodic filings. The health care industry has the most reporting issuers and a relatively low probability of delinquency of 6.4%. Private funds and financial services issuers are the least likely to be delinquent. The relative order between delinquency rates in Table 10 is similar to that based on state SOS data reported in Table 8.

IV. Broker-Sold Offerings and Risk to Retail Investors

In this section we switch focus to broker-dealers' role in connecting Reg D issuers with retail investors and potential losses arising from investments in Reg D securities sold by broker-dealers. We estimate the commission rate of broker-sold Reg D offerings and document the scale and trends of customer complaints against broker-dealers alleging losses from *illiquid products*, a large portion of which are unregistered securities sold through Reg D offerings.[45] We present evidence that

date of an enforcement release could lag the date the company first falls into delinquency by years.

[45]These include the following illiquid instruments typically sold through Reg D offerings: alternative investment, tenancy in common, business development company, direct investment, direct participation

Table 10—Reporting Reg D Issuers Delinquent in SEC Periodic Filings by Industry Group

	Issuers	Delinquent Issuers	% Delinquent Issuers
Health Care	1,266	81	6.4%
Other	999	234	23.4%
Technology	835	103	12.3%
Energy	540	120	22.2%
Financial Services	489	19	3.9%
Real Estate	247	16	6.5%
Manufacturing	241	34	14.1%
Retailing	160	24	15%
Pooled Investment Fund	145	2	1.4%
Business Services	106	24	22.6%
Agriculture	71	18	25.4%
Travel	32	4	12.5%
Restaurants	30	5	16.7%

Note: This table reports the number and percentage of Reg D issuers required to file Form 10-K or 10-Q that were sanctioned by the SEC due to delinquency in filing these registration forms by December 31, 2022 across issuer industry groups. A company is sanctioned by the SEC due to filing delinquency if its securities registration is revoked or it is named in a SEC release related to delinquent filings.

broker-dealers target retail investors when placing Reg D securities. Reg D offerings sold by broker-dealers, and especially those sold by broker-dealers with a retail clientele, attract more purchasers on average. Broker-dealers dually registered as RIAs which have a larger clientele of non-HNW individuals tend to sell Reg D offerings to more investors and raise less capital from each investor. We also demonstrate a link between customer complaints related to illiquid products and Reg D offering characteristics such as sales commissions and selling firms' specialization in private placements. Broker-dealers that receive higher commissions for placing Reg D securities and have a high percentage of representatives selling Reg D securities are more likely to receive customer complaints arising from illiquid products. Viewed together, our findings support the narrative that retail investors suffer from losses caused by Reg D securities recommended by brokers who put their own interests in front their clients' in pursuit of commissions.

program, equipment leasing, hedge fund, limited partnership interests, non-traded REITs and other real estate securities, energy investments, private equity, private placement and venture capital. While not all products on this list are sold through Reg D offerings, restricting to the list allows us to exclude most registered securities sold in public markets.

A. Commissions of Broker-Sold Offerings and Customer Complaints Involving Illiquid Products

Table 11 provides estimates of sales commission rate and upfront cost rate in broker-sold Reg D offerings.[46] The upfront cost of an offering is defined as the sum of sales commissions and the proceeds used for payments to directors, officers or promoters ("related persons") of the issuer. Panel A shows that there are significant variations in commission and upfront cost rates across industry groups. Private fund investors pay the lowest rate of commissions and upfront costs, and the average upfront costs of energy offerings are the highest with 6.6% of the proceeds distributed to broker-dealers and nearly 10% of the proceeds paid to either broker-dealers or related persons of the issuers on average. Broker-sold offerings in most industry groups have a median commission rate between 4% and 5% and a median upfront cost rate between 4.5% and 5.5%. Industries with relatively high commissions and upfront costs include business services, energy and health care, while private fund and financial services offerings incur relatively low commissions and upfront costs. Panel B shows that commission and upfront costs rates are the highest for offerings raising the lowest amount and lowest for offerings raising the highest amount. The average commission rate of offerings raising no more than $500,000 is 5 times as high as that of offerings with a sold amount larger than $50 million.

Figure 5 illustrates time trends of FINRA arbitration cases filed by customers between January 2013 and November 2022 alleging losses arising from illiquid products. Both the number and percentage of customer complaints involving illiquid products fell in the first half of the past decade before rising rapidly during 2018 through 2021. Panel A shows that the number of arbitration cases filed involving illiquid products had a year-over-year increase of 74% in 2020, and the number of illiquid-product-related arbitration cases resolved had a year-over-year increase of 104% in 2021. Panel B shows that while only 16% of the new cases filed in 2018 were related to illiquid products, that percentage jumped to 46% in 2020 and 58% in 2021. The percentage of resolved cases involving illiquid products also increase steeply in recent years with about 40% of the cases resolved in 2021 and 2022 involving illiquid products.

Table 12 describes the relationship between customer complaints involving illiquid products received by broker-dealers and their participation in Reg D offerings. The analysis includes broker-dealers that employed at least 50 brokers between 2012 and 2022 and complaints filed in 2012 and later.[47] The more Reg D offerings sold by the broker-dealer, the higher percentage of its broker employees receiving complaints involving illiquid products. Individual brokers employed by broker-dealers selling more than 50 Reg D offerings is on average 38 (1.52%/0.04%) times

[46] The rates are calculated as fees as a percentage of the total amount raised. The sales commissions and other fees are typically a percentage of the total amount raised, but they can also be a flat fee.

[47] We remove broker-dealers with few brokers to increase the robustness of the calculated average percentage of brokers receiving complaints involving illiquid products.

Table 11—Rates of Commissions and Upfront Costs of Broker-Sold Reg D Offerings

	Offerings	Commissions		Upfront Costs	
		Mean	Median	Mean	Median
Panel A. Issuer Industry Group					
Pooled Investment Fund	11,538	2.1%	0.7%	2.7%	0.9%
Real Estate	8,938	5.6%	5%	7.6%	5%
Other	2,940	4.7%	4%	6.1%	4.8%
Financial Services	2,748	3.8%	2.9%	4.7%	3%
Health Care	2,579	5.5%	5.2%	8.5%	6%
Technology	1,744	4.9%	4.4%	7%	5%
Energy	1,625	6.6%	6%	9.8%	6.2%
Manufacturing	496	5.1%	5%	7.5%	5.9%
Retailing	277	5.1%	4.8%	6.5%	5%
Business Services	159	5.7%	5.8%	7.9%	7%
Agriculture	147	4.8%	4.9%	6.8%	5.4%
Restaurants	89	5%	5%	7.2%	5%
Travel	45	4.3%	4%	8.1%	5%
Panel B. Sold Amount					
No more than $500K	9,336	6%	5%	7.6%	5%
Between $500K and $5 million	8,346	5%	4.9%	7%	5%
Between $5 million and $50 million	8,428	3.8%	2.8%	5.6%	3.3%
More than $50 million	7,215	1.2%	0.5%	1.8%	0.6%

Note: This table presents estimates of commission and upfront cost rates of broker-sold Reg D offerings. Panel A reports mean and median rates of commissions and upfront costs across issuer industry groups, and panel B reports the same statistics for offerings with different sizes. Commission rate is calculated as the ratio of total sales commissions divided by maximum offering amount. Upfront cost rate is calculated as the ratio of the sum of sales commissions and proceeds used for payments to related persons of the issuer divided by maximum offering amount. Offerings reporting zero upfront cost or an upfront cost exceeding the maximum offering amount are excluded from the estimation.

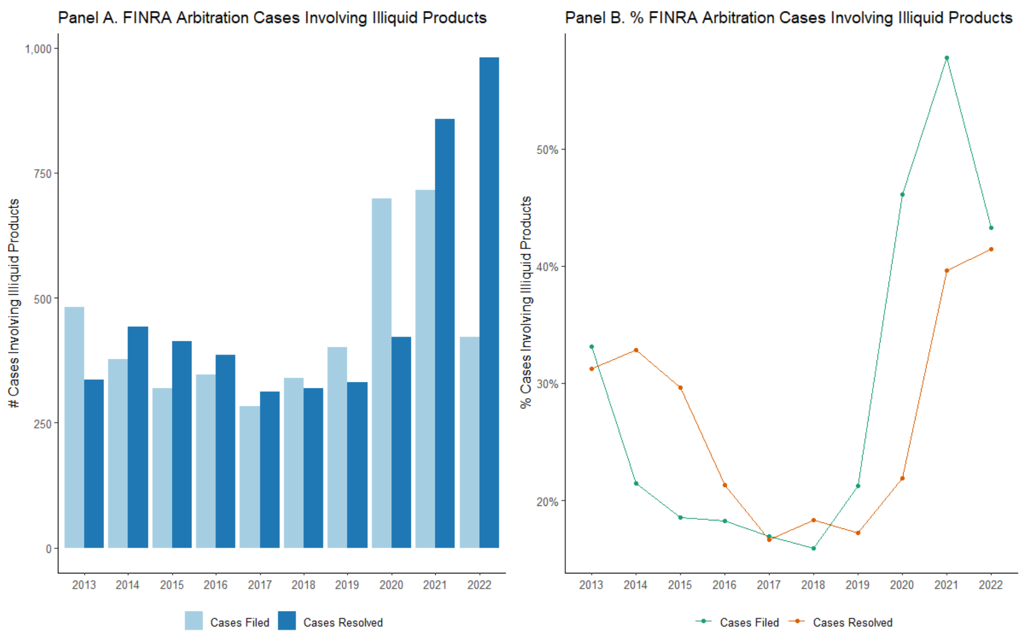

Figure 5. Trends of Offerings and Sold Amount by Private Fund Type

Note: This figure illustrates trends in number and percentage of FINRA customer claimant arbitration cases filed between January 2013 and November 2022 alleging losses arising from at least one of the following products: alternative investment, tenancy in common, business development company, direct investment, direct participation program, equipment leasing, hedge fund, limited partnership interests, non-traded REITs and other real estate securities, energy investments, private equity, private placement and venture capital. Arbitration cases involving illiquid products are identified using the FINRA case number from customer disputes disclosed on individual brokers' BrokerCheck reports accessed on December 2, 2022.

as likely to receive complaints involving illiquid products as those registered with broker-dealers that never place any Reg D offering. Among broker-dealers receiving at least one complaint (involving any securities), those selling more Reg D offerings receive a higher percentage of complaints related to illiquid products. The average percentage of complaints involving illiquid products equals 37.9% for broker-dealers with complaints that sold more than 50 offerings and 5.7% for complaint-receiving broker-dealers that never sold any Reg D offering. These results demonstrate a positive correlation between participation in Reg D offerings and receiving complaints involving illiquid products.

Table 12—Relationship Between Customer Complaints Involving Illiquid Products and Participation in Reg D Offerings

Offerings Sold	Broker-Dealers	Mean % Brokers with Complaints Involving Illiquid Products	Broker-Dealers with Complaints	Mean % Complaints Involving Illiquid Products
None	582	0.04%	140	5.7%
Between 1 and 10	415	0.3%	156	14.7%
Between 11 and 50	318	0.67%	172	25.4%
More than 50	263	1.52%	172	37.9%

Note: This table shows a positive correlation between Reg D offering placement and receiving complaints involving illiquid products for broker-dealers employing 50 or more representatives between 2012 and 2022. The third column is estimated as the average ratio of the number of brokers receiving illiquid-product-related complaints divided by the total number of brokers employed between 2012 and 2022, with the average taken over all broker-dealers in each category. The fifth column is calculated as the average ratio of the number of complaints involving illiquid products divided by the total number of complaints, with the average taken over the broker-dealers with at least one complaint in each category. This analysis includes all customer disputes filed in 2012 and later that are disclosed on individual brokers' BrokerCheck reports accessed on December 2, 2022.

B. Evidence of Broker-Dealers Selling Reg D Securities to Retail Customers

Table 13 reports the number of investors and amounts sold to each investor in new offerings not sold by broker-dealer, new offerings sold by broker-dealer serving only institutional investors and new offerings sold by broker-dealers serving retail investors. Broker-dealers are considered serving retail investors (retail broker-dealer) if they are required to file a customer relationship summary (Form CRS) with the SEC; otherwise they are considered serving institutional investors (institutional broker-dealer).[48] Reg D offerings sold by retail broker-dealers tend to attract the most investors. The average number of investors in retail-broker-sold offerings is more than 3 times as much as in either offerings not sold by any broker-dealer or offerings sold by institutional broker-dealer only. The amount raised per investor in offerings sold by retail broker-dealers is much lower than

[48]Filing From CRS is mandatory for any registered broker-dealer that offers services retail investors. We identify Form CRS filing status of broker-dealers from BrokerCheck data downloaded in February 2023.

offerings sold by institutional broker-dealers only. Given that larger cohorts of investors and lower sold amount per investor are consistent with individual investors' participation in the offerings, these results suggest that broker-dealers sell Reg D securities to retail investors.

Table 13—Investors and Sold Amount Per Investors in Broker-Sold and Non-Broker-Sold New Offerings

	Offerings	Investors		Sold Amount Per Investor	
		Mean	Median	Mean	Median
Not sold by any broker-dealer	234,209	16.4	7	\$4.2M	\$175K
Sold by institutional broker-dealer only	3,579	15.5	6	\$16.9M	\$4.1M
Sold by retail broker-dealer	26,212	56.4	20	\$5.8M	\$157K

Note: This table reports the number of investors and amounts sold per investor in new offerings not sold by broker-dealer, new offerings sold by broker-dealer serving solely institutional investors and new offerings sold by broker-dealers serving retail investors. Retail broker-dealers are defined as broker-dealers that are required to file a Form CRS with the SEC, and institutional broker-dealers are those not under this obligation. Broker-dealers not registered with the SEC as of February 2023 are removed from this analysis due to unknown Form CRS filing status. New offerings include new notice filings and amendment filings that have no previous filing available and were filed within a year of the first date of sale of the offering.

We provide more evidence of broker-dealers placing Reg D offerings to retail customers by showing that the number of investors in a broker-sold Reg D offering is positively correlated with the size of retail clientele of the broker-dealers placing the offering. Since the number of brokerage clients of a broker-dealer is not publicly available, we focus on a sample of broker-dealers that are "dually-registered" as RIAs and therefore must disclose information about their clientele in Form ADV filings. Beginning in 2018, RIAs are required to report the number of clients with whom they have an investment advisory relationship (advisory clients) and regulatory AUM attributed to these clients for four types of clients: (i) non-HNW individuals, (ii) HNW individuals, (iii) institutional clients and (iv) fund clients.[49] We use the number of advisory clients of a given type as proxy for the number of brokerage clients of that type, following the approach of Egan, Matvos, and Seru (2019).[50] Dually-registered broker-dealers offer both brokerage and investment advisory services and are expected to help clients make an educated choice between the two or using both based on their own financial situations.[51] Assuming most dually-registered firm do not intentionally disfavor one

[49]Institutional clients include banks and thrift institutions, pension and profit sharing plans, charitable organizations state or municipal government entities, investment advisers, insurance companies, sovereign wealth funds and corporations or other businesses. Fund clients include investment companies, business development companies and other pooled investment vehicles (i.e., private funds).

[50]This paper examines the correlation between serving retail clients and broker misconduct using a sample of dually-registered broker-dealers very similar to ours.

[51]Form CRS prepared by dually-registered firms is required to include a detailed comparison between the brokerage and investment advisory account offerings and encourage the client to ask questions along the lines of "given my financial situation, should I choose an investment advisory service or a brokerage service?" See, for example, Merrill Lynch's Form CRS available at https://reports.adviserinfo.sec.gov/crs/crs_7691.pdf.

business line by enticing clients into the other, firms with more advisory clients of a given type should also have more brokerage clients of the same type, which justifies using advisory clients as proxy for brokerage clients. We find indirect evidence supporting this assumption from a simple linear regression of the number of employees registered as representatives of a broker-dealer on the number of employees performing investment advisory function for all dually-registered broker-dealers that sold Reg D offerings.[52] The number of investment adviser employees is strongly positively correlated with the number of broker employees: the slope and R-squared statistic of the regression are 1.3 and 94.3%, respectively.

Table 14 displays the results of seven OLS regressions relating the number of investors in Reg D offerings sold by dually-registered broker-dealers to the broker-dealers' advisory clientele. The sample used to estimate the regressions includes 2,900 new Reg D offerings sold by 205 dually-registered broker-dealers between 2017 and 2021.[53] The dependent variable of each regression is the log number of investors in a Reg D offering. Intended to measure the broker-dealer's advisory clientele, the independent variables of interest are the log numbers of non-fund clients of each type for the first four specifications and the percentages of AUM attributable to each type of non-fund client in the last three specifications. To take into account variations in size and business practices across firms, we control for the following broker-dealer characteristics: log AUM attributable to four types of advisory clients, the log number of broker employees, the squared log number of broker employees and a dummy variable that equals 1 if the broker-dealer is one of the "wirehouse" full-service brokerage firms.[54] We exclude the log AUM control for a given type of client to avoid potential multicolinearity whenever the number or AUM percentage of that type of clients is the variable of interest. All broker-dealer characteristics are estimated as the average over year-end Form ADV filings between 2018 and 2022 and aggregated on the offering level across broker-dealers for offerings sold by multiple firms. We also include the following offering-specific variables to control for heterogeneity in offering characteristics that may affect the number of investors of a Reg D offering: log sold amount, number of broker-dealers placing the offering, year of sale, issuer's industry, issuer entity type, issuer's jurisdiction of incorporation, whether the offering is intended to last more than one year, whether the offering claims an exemption under Rule 506(b), Rule 506(c) or other rule, and whether the issuer is excluded from the definition of investment company under Section 3(c)(1) of the Investment Company Act of 1940.

Columns (1)-(4) of Table 14 present estimates of the relation between the num-

[52] Both numbers are reported under Item 5 of Form ADV.

[53] The regressions are conducted on the offering level. We restrict the time period of the regression sample the to 2017-2021 because Form D data for the number of advisory clients are only available for filing years from 2018 through 2022, and Form D report information current as of the previous fiscal year. We only include new offerings to ensure the number of investors reported in each offering reflects the number of investors purchasing the reported sold amount within 15 days of the filing date.

[54] These wirehouse broker-dealers are Morgan Stanley, Bank of America Merrill Lynch, Wells Fargo, UBS and JP Morgan Chase.

ber of investors in a Reg D offering sold by dually-registered broker-dealers and the number of clients of a given type who have an advisory relationship with the broker-dealers. Column (1) shows that there is a statistically significant positive relationship between the number of investors in a Reg D offering and the total number of individual clients of the dually-registered broker-dealers selling the offering. Since both the dependent variable and variable of interest are log-transformed, the estimated coefficient of 0.102 indicates that for every 50% increase in the total number of individual clients of the selling broker-dealers, the number of investors in each offering sold by these broker-dealers increases by $4.2\% = 1.5^{0.102} - 1$, and for every 100% increase in the total number of individual clients of the selling firms, the number of investors in each offering increases by $7.3\% = 2^{0.102} - 1$. Columns (2) and (3) show that the number of neither HNW individual clients nor institutional clients of the selling broker-dealers is positively correlated with the number of Reg D investors. The regression reported in Column (4) includes the log numbers of clients of all three types and produces estimates of the same sign and significance levels. The coefficient of 0.171 for the log number of individual clients suggests a 7.2% (12.6%) increase in the number of investors in an offering for every 50% (100%) increase in the total number of individual clients. Column (5) reports a positive and statistically significant correlation between the number of investors in an offering sold by dually-registered broker-dealers and the percentage of total AUM of the broker-dealers selling the offering attributable to individual clients. To put the estimated coefficient of 1.241 into perspective, for an increase of 10% in the percentage of AUM attributable to individual clients at the broker-dealers selling a Reg D offering, the number of investors in the offering increases by $13.2\% = e^{1.241\times 0.1} - 1$, and for an increase of 20% in the percentage of AUM attributable to individual clients, the number of investors in the offering increases by $28.2\% = e^{1.241\times 0.2} - 1$. Columns (6)-(7) show that the number of Reg D investors is not correlated with the percentage of AUM attributable to HNW individual clients or institutional investors. All seven regression models estimate a significant and positive correlation of the number of investors in an offering with the log number of dually-registered broker-dealers selling the offering and the log sold amount of the offering.

Since the log sold amount is included as control variable, the regressions using the log ratio of sold amount divided by number of investors as dependent variable and the same controls would produce coefficient estimates of the same magnitude and significance level but opposite sign. Our findings show that Reg offerings sold by dually-registered broker-dealers with a larger base of non-HNW individual clients tend to be sold to more investors and raise a smaller amount of capital from each investor, while a larger clientele of HNW individuals or institutional investors is not associated with a larger cohort of investors in Reg D offerings. To the extent that advisory clients are representative of the overall customer base of dually-registered broker-dealers (e.g., firms with more individual advisory clients have more individual brokerage clients), our findings suggest that dually-

Table 14—Relation Between Investors of Broker-Sold Reg D Offerings and Advisory Clients of Dually-Registered Broker-Dealers

	Dependent variable:						
	log(investors)						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
log(individual clients + 1)	0.102***			0.171***			
	(0.028)			(0.041)			
log(HNW individual clients + 1)		−0.081*		−0.098*			
		(0.042)		(0.051)			
log(institutional clients + 1)			−0.049	−0.055			
			(0.031)	(0.045)			
Individual client AUM %					1.241***		
					(0.295)		
HNW individual client AUM %						−0.586	
						(0.364)	
Institutional client AUM %							0.022
							(0.295)
Firm characteristics							
log(individual client AUM + 1)		0.066***	0.071***			0.053***	0.070***
		(0.017)	(0.017)			(0.012)	(0.020)
log(HNW individual client AUM + 1)	−0.006		−0.026*		0.013*		−0.036**
	(0.011)		(0.015)		(0.007)		(0.015)
log(institutional client AUM + 1)	−0.023***	−0.009			−0.0003	−0.017**	
	(0.008)	(0.009)			(0.008)	(0.008)	
log(fund client AUM + 1)	−0.019**	−0.018**	−0.016**	−0.020***	−0.015**	−0.022***	−0.017**
	(0.008)	(0.007)	(0.008)	(0.007)	(0.007)	(0.008)	(0.008)
Offering characteristics							
log(sold amount)	0.461***	0.472***	0.466***	0.467***	0.478***	0.466***	0.463***
	(0.026)	(0.026)	(0.025)	(0.026)	(0.027)	(0.026)	(0.025)
log(selling firms)	0.256**	0.282***	0.247**	0.258***	0.209**	0.260***	0.228**
	(0.105)	(0.096)	(0.101)	(0.099)	(0.096)	(0.097)	(0.103)
Other firm & offering variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	2,900	2,900	2,900	2,900	2,900	2,900	2,900
Adjusted R^2	0.535	0.540	0.538	0.539	0.544	0.539	0.537

Note: This table presents OLS estimates of the relation between the number of investors of broker-sold offerings and the selling broker-dealers' clientele. The regression sample includes 2,900 new offerings sold by 205 dually-registered broker-dealers between 2017 and 2021. 600 of the 2,900 offerings were sold by multiple dually-registered broker-dealers. Observations are on the offering level. The dependent variable is the log number of investors in a Reg D offering. The independent variable of interest is the log number of advisory clients of a given type or the percentage of AUM attributable to a given type of client, depending on specification. Broker-dealer controls include log AUM attributable to four types of advisory clients, the log number of broker employees, the squared log number of broker employees and a dummy variable that is 1 if the broker-dealer is a "wirehouse" full-service brokerage firm. Offering controls include log sold amount, number of broker-dealers selling the offering, year of sale, issuer's industry, issuer entity type, issuer's state of jurisdiction, whether the offering is intended to last more than one year, exemption claimed, and whether the issuer relies on Section 3(c)(1) of the Investment Company Act. Standard errors are clustered by the group of selling firms and reported in parentheses. Statistical significance of 10%, 5% and 1% is represented by $*$, $**$ and $***$, respectively.

registered broker-dealers place Reg D offerings to retail customers who do not have a high net worth.

C. *Relation Between Offering Characteristics and Customer Complaints Involving Illiquid Products*

Our previous findings that broker-dealers place Reg D securities to retail customers (Table 14) and receive more complaints involving illiquid products when selling more Reg D offerings (Table 12) suggest that retail investors suffer from losses caused by Reg D securities recommended by broker-dealers. We now examine the potential drivers of these losses by relating complaints against broker-dealers to attributes of broker-sold Reg D offerings. We define the *rate of complaints* of a broker-dealer as the number of broker representatives registered with the broker-dealer who received customer complaints in 2012 or later divided by the total number of representatives registered with the broker-dealer between 2012 and 2022. Table 15 reports the average rate of complaints involving illiquid products for each quartile of broker-dealers sorted by each of four offering attributes.[55] Receiving a higher commission in Reg D offerings on average is strongly indicative of a higher rate of complaints involving illiquid products, with broker-dealers receiving the highest rates of commissions 20 (1.83%/0.09%) times as likely to receive complaint involving illiquid products as those receiving the lowest commission rates. Broker-dealers with the highest percentage of broker employees receiving commissions in Reg D offerings, those selling Reg D offerings together with the largest number of other broker-dealers, and those co-selling Reg D offerings with firms that have the highest average rate of complaints tend to have the highest rate of complaints involving illiquid products.

Table 15—Mean Rate of Complaints Involving Illiquid Products Across Quartiles of Offering Characteristics

	Mean Rate of Complaints Involving Illiquid Products			
	1st Quartile	2nd Quartile	3rd Quartile	4th Quartile
Average commission rate	0.09%	0.39%	0.89%	1.83%
% brokers receiving commissions	0.38%	0.22%	0.6%	1.93%
Co-sellers	0.27%	0.27%	0.51%	2.16%
Average complaint rate of co-sellers	0.22%	0.12%	0.86%	2%

Note: This table presents mean and median rates of complaints involving illiquid products across broker-dealers in quartiles of five offering attributes. The sample used for this analysis includes 920 broker-dealers that employed at least 50 brokers between 2012 and 2022 and sold at least one Reg D offering between 2009 and 2022.

High commissions can be associated with customer losses for three reasons.

[55]The offering attributes are summarized across all offerings sold by each broker-dealer. For example, the average commission rate of a broker-dealer is the average commission rate over all offerings sold by the broker-dealer.

First, commissions reduce the amount of proceeds available for the issuers to make investments and erode potential returns. Second, higher commissions may create a greater incentive for the broker-dealer to recommend investments not aligned with the customer's objectives and financial conditions. Third, transactions charging higher commissions may be more complex and risky and have a higher chance of failure. Given that the unique risk profiles of Reg D securities are not suitable for many retail investors, having an unusually large proportion of broker employees placing private offerings could be an indicator of firm-level failure of risk control and lack of diligence. Reg D offerings sold by a larger syndicate of broker-dealers could be marketed to a more diverse group of retail customers some of which may be financially unsophisticated and have difficulty understanding the complex structure of the securities, leading to more complaints. A broker-dealer working with peers with high complaint rates could indicate problematic business practices at all these firms and the riskiness of the Reg D securities placed by the syndicate.

Table 16 report estimates of the relations between complaints against a broker-dealer involving illiquid products and attributes of the offerings sold by the broker-dealer using OLS regressions. The regression sample consists of 920 broker-dealers that employed at least 50 brokers between 2012 and 2022 and sold at least one Reg D offering between 2009 and 2022. We run three regressions with different controls for each of two dependent variables, the rate of complaints involving illiquid products and a dummy variable for employing at least one broker receiving complaints involving illiquid products. In addition to the four offering characteristics summarized in Table 15, we include in all regressions five other variables controlling for offering characteristics potentially correlated with complaint rate: number of energy offerings sold per broker, number of financial services offerings sold per broker, number of offerings by issuers from an industry other than energy and financial services sold per broker, percentage of offerings sold by the broker-dealer that report limited partnership interests (LP interests) as the type of securities offered, and percentage of offerings reporting limited liability company interests (LLC interests) as the type of securities offered. To account for variations in firm characteristics that may affect complaint rate, we include nine variables that describe the size, history, business practices and compliance culture of the selling broker-dealers. Notably, we include the rate of complaints *not involving* illiquid products in two regressions to provide a baseline propensity for complaints and isolate the relation between offering attributes and complaints involving illiquid products. Columns (1)-(3) of Table 16 presented estimates for the 3 regressions using rate of complaints as dependent variable, and columns (4)-(6) display results from 3 other regressions using the complaint dummy as dependent variable. The regressions reported in columns (1) and (4) do not include any firm control, those reported in columns (3) and (6) include all firm controls, and column (2) and (5) report estimates from regressions using firm controls excluding the rate of complaints not involving illiquid products.

Table 16—Estimates of the Relation Between Complaints Involving Illiquid Products and Offering Attributes

	Dependent variable:					
	Rate of Complaints Involving Illiquid Products			$\mathbb{1}$(Complaints Involving Illiquid Products > 0)		
	(1)	(2)	(3)	(4)	(5)	(6)
Commission rate	0.110***	0.094***	0.064**	1.542***	1.705***	1.011**
	(0.035)	(0.034)	(0.028)	(0.541)	(0.531)	(0.462)
% Brokers receiving commissions	0.096***	0.080***	0.091***	0.057	0.396**	0.665***
	(0.022)	(0.023)	(0.022)	(0.349)	(0.190)	(0.235)
Co-sellers	0.0001***	0.0001***	0.0001***	0.002***	0.001***	0.001***
	(0.00001)	(0.00001)	(0.00001)	(0.0001)	(0.0002)	(0.0002)
Average complaint rate of co-sellers	0.036	0.008	−0.038	2.523***	2.067***	0.978
	(0.024)	(0.024)	(0.028)	(0.687)	(0.727)	(0.694)
Financial services offerings per broker	−0.012***	−0.012***	−0.011***	−0.141	−0.100	−0.073
	(0.004)	(0.004)	(0.004)	(0.111)	(0.107)	(0.115)
Energy offerings per broker	0.029**	0.025*	0.029**	0.366*	0.625***	0.720***
	(0.014)	(0.014)	(0.014)	(0.214)	(0.174)	(0.164)
Other offerings per broker	−0.003**	−0.003**	−0.003**	−0.076**	−0.016	−0.025
	(0.001)	(0.001)	(0.001)	(0.033)	(0.016)	(0.019)
% offerings with LP interests	0.027*	0.025*	0.029**	0.165	0.247	0.347*
	(0.015)	(0.013)	(0.015)	(0.193)	(0.175)	(0.200)
% offerings with LLC interests	0.007	0.008	0.006	0.404*	0.416**	0.371**
	(0.005)	(0.005)	(0.004)	(0.238)	(0.204)	(0.176)
Firm characteristics						
log(broker employees)		0.004	0.004		−0.034	−0.036
		(0.003)	(0.003)		(0.059)	(0.056)
(log(broker employees))^2		−0.0005**	−0.0004**		0.005	0.005
		(0.0002)	(0.0002)		(0.005)	(0.004)
log(branch offices)		0.0001	−0.0003		0.060***	0.052***
		(0.0004)	(0.0004)		(0.014)	(0.013)
Founded before 2009		0.003***	0.003***		0.054**	0.046*
		(0.001)	(0.001)		(0.025)	(0.024)
Investment adviser		0.0005	0.0001		0.111***	0.102***
		(0.002)	(0.002)		(0.031)	(0.030)
Wirehouse broker-dealer		0.003	−0.0004		0.020	−0.051
		(0.003)	(0.003)		(0.098)	(0.101)
Regulatory events per broker		0.008	−0.013		0.312	−0.183
		(0.016)	(0.012)		(0.417)	(0.268)
Expelled by FINRA		0.011**	−0.001		0.261***	−0.033
		(0.005)	(0.005)		(0.087)	(0.076)
Complaint rate - non-illiquid product			0.174***			4.119***
			(0.035)			(0.456)
Observations	920	920	920	920	920	920
Adjusted R^2	0.286	0.302	0.359	0.414	0.490	0.548

Note: This table presents OLS estimates of the relation between customer complaints involving illiquid products and Reg D offering attributes. The regression sample consists of 920 broker-dealers which employed at least 50 broker representatives between 2012 and 2022 and sold at least one Reg D offering between 2009 and 2022. Observations are at the broker-dealer level. Estimates of three regressions are presented for two dependent variables: the rate of complaints involving illiquid products and a dummy variable that equals 1 if the broker-dealer employs at least one representative receiving complaints involving illiquid products. The independent variables of interest are the four offering characteristics summarized in Table 15. The other independent variables include five offering attributes and nine firm-specific controls that account for the size, history, business practices and compliance culture of the selling broker-dealers. Heteroskedastic robust standard errors are reported in parentheses. Statistical significance of 10%, 5%, and 1% is represented by $*$, $**$ and $***$, respectively.

The coefficient estimate for commission rate is positive and statistically significant in all six regressions. Columns (1)-(3) of Table 16 show that 1 percentage point increase in commission rate is associated with an increase of 0.06-0.11 percentage points in the rate of illiquid-product-related complaints, representing a 8%-14% percentage increase relative to the unconditional mean rate of illiquid-product-related complaints (0.8%). Columns (4)-(6) show that 1 percentage point increase in commission rate corresponds to an increase between 1 and 1.5 percentage points in the probability of the broker-dealer having at least one broker employee with illiquid-product-related complaints. The coefficient estimate for the percentage of registered brokers receiving commissions for placing Reg D offerings is positive and statistically significant in five of the six regressions, suggesting that broker-dealers specializing in placing Reg D securities are more likely to cause complaints arising from these securities. 1 percentage point increase in the proportion of brokers receiving commissions is associated with an increase between 0.08 and 0.1 percentage points in the rate of complaints involving illiquid products, or a 10%-12.5% percentage increase relative to the unconditional mean. The number of other broker-dealers in a group of firms placing the same Reg D securities has a significant positive correlation with illiquid-product-related complaints according to all six regressions, supporting the hypothesis that larger syndicate sell to more unsophisticated investors. The average complaint rate of co-selling broker-dealers is positively correlated with the probability of receiving illiquid-product-related complaints, although the correlation between average co-seller complaint rate and rate of complaints involving illiquid products is not statistically significant. The number of financial services offerings sold per broker and the number of offerings by issuers not from financial services or energy industries sold per brokers appear to be negatively correlated with complaints involving illiquid products, indicating that all else equal, placing a larger number of offerings could indicate a more successful business model and lower risk. On the other hand, having more energy offerings sold per broker and a higher percentage of offerings with LP interests and LLC interests are associated with more complaints involving illiquid products. Our regression estimates suggest that charging high commissions, concentrating in private placements and acting as part of a large broker-dealer syndicate are all strong indicators of investor losses arising from Reg D securities.

V. Investors and Conflicts of RIA-Sponsored Offerings

This section investigate potential conflicts of interest between RIAs sponsoring Reg D offerings and their retail advisory clients. We show that the number of investors in a RIA-sponsored offering is positively correlated with the size of the RIA's HNW individual clientele. No such positive association is found between investors of RIA-sponsored offerings and the non-HNW individual or institutional clients of the RIA sponsor. We also find that RIA advising non-fund clients are more likely to disclose a set of conflicts of interest indicative of the practice of placing advisory clients in self-sponsored investment vehicles if they have sponsored or are actively sponsoring Reg D offerings. Our findings indicate that HNW individuals are especially prone to ill-advised recommendations about Reg D securities from their advisory firms which act as sponsor to these securities.

A. *RIAs Sponsoring Reg D Offerings and Advising Retail Clients*

Reg D offerings sponsored by RIAs account for over three quarters of the capital raised through Reg D securities (Table 4), making RIAs a predominant force in the markets of exempt offerings. Most large asset managers and alternative investment management firms are RIAs, and many RIAs are set up with the sole purpose of managing private funds that pool money from external wealthy investors.[56] Hampered by the prohibition of general advertising, RIAs that advise no client other than private funds largely rely on their connections and networks and sometimes use third-party placement agents to market the funds. On the other hand, some RIA fund managers have an advisory relationship with non-fund clients including HNW individuals and institutional investors, whose assets under management provide an additional source of capital for the private funds. Since these RIAs owe a fiduciary duty to both the private funds and their non-fund advisory clients, the opportunity of allocating non-fund clients' assets into self-managed private funds creates potential conflicts of interest between the RIAs and their non-fund clients.

The performance-based fee charged by most private funds in addition to the regular management fee may incentivize RIAs to recommend some clients' to invest more in these funds than can be justified by their objectives and risk tolerance. These clients may be better off solely investing in traditional assets, and other RIAs that do not manage private funds may have never recommended private funds to similar clients. RIAs may also have a motivation to recommend riskier investment to achieve better returns to meet the hurdle in the performance fee arrangement. Even if private funds are appropriate for the client, other funds managed by third-party managers may be superior to the in-house funds and recommending the in-house funds would be against the client's best interests. In addition to fee-related incentives, the RIA may have other misaligned incentives to recommend self-sponsored private funds and other private placements. For example, these in-house illiquid products may have peculiar risk profiles and other RIAs may not be willing to accept them during account transfers, effectively "locking in" the client with the original firm even if they are dissatisfied.

These conflicts are particularly concerning for RIAs acting as sponsor to Reg D offerings and managing assets for retail clients. Panel A of Table 17 reports the total amount sold, number of investors per new offering and amount sold per

[56]For example, Citadel Advisors and Renaissance Technologies, two of the largest hedge funds in the world, do not advise any client other than pooled investment funds. See Citadel Advisors' Form ADV filing at https://reports.adviserinfo.sec.gov/reports/ADV/148826/PDF/148826.pdf and Renaissance Technologies' Form ADV filing at https://reports.adviserinfo.sec.gov/reports/ADV/106661/PDF/106661.pdf.

investor in new offerings for RIAs with different retail clienteles. 55.1% of the amount sold in RIA-sponsored offerings is attributable to offerings sponsored by RIAs with no retail client, and offerings sponsored by RIAs with more than 25% of AUM coming from retail clients account for $529 billion (7.1%) of the amount sold in RIA-sponsored offerings. Offerings sponsored by RIAs with more than a quarter of AUM attributable to retail clients tend to be sold to more investors and have a significantly lower amount sold per investor than those sponsored by RIAs with a smaller percentage of retail AUM. Panel B of Table 17 displays the recent trends in RIA-sponsored offerings with respect to RIAs with different retail bases. "Retail-oriented" RIAs (i.e., those with more than a quarter of AUM attributable to retail clients) have shown a growing appetite for self-sponsored Reg D offerings in recent years. The number of retail-oriented RIA sponsors to Reg D offerings grows by 14.4% during 2017 through 2022, whereas the number of non-retail-oriented RIAs that sponsored Reg D offerings only increases by 3.2% over the same period. Between 2017 and 2022, the amount of capital raised by retail-oriented and non-retail-oriented RIAs through self-sponsored Reg D offerings grow by 76.6% and 30.7%, respectively.

Table 17—Summary statistics of offerings sponsored by RIAs with varying retail clienteles

Panel A. Sold amounts and investors of offerings sponsored by RIAs with varying retail clienteles

	Offerings	Sold Amount	Investors in New Offerings		Sold Amount Per Investor in New Offerings	
			Mean	Median	Mean	Median
No retail client	20,151	$4.1T (55.1%)	36.4	10	$16.2M	$1.9M
0% < Retail AUM ≤ 25%	7,430	$2.8T (37.8%)	42.3	9	$27.4M	$1.9M
Retail AUM > 25%	5,289	$529B (7.1%)	43.0	18	$5.6M	$388K

Panel B. Recent trends of offerings sponsored by RIAs with varying retail clienteles

	Num. of RIAs			Sold Amount		
	No retail client	Retail AUM > 0 and ≤ 25%	Retail AUM > 25%	No retail client	Retail AUM > 0 and ≤ 25%	Retail AUM > 25%
2017	1,980	414	444	$659B	$639B	$68.5B
2018	2,052	427	444	$849B	$354B	$73.3B
2019	2,061	420	459	$757B	$427B	$91.6B
2020	2,082	405	463	$765B	$370B	$88.3B
2021	2,174	411	509	$980B	$433B	$103B
2022	2,063	407	508	$936B	$760B	$121B

Note: This table presents the total amount sold, number of investors per new offering and amount sold per investor in new offerings for RIA Reg D sponsors with different retail client bases. The sample used for this analysis includes all RIAs that sponsored a Reg D offering sold between 2017 and 2022.

B. *RIAs Placing High-Net-Worth Individual Clients in Self-Sponsored Reg D Offerings*

While a significant and increasing amount of capital has been raised through Reg D offerings sponsored by RIAs that also advise retail clients, the question of whether these RIAs systematically place their advisory clients in self-sponsored Reg D ventures needs to be answered using data.[57] We provide empirical evidence

[57]It is possible that the private investment management and advisory arms of the RIA are completely separated and all investors of the in-house investments are external customers.

suggesting that RIAs place their wealthy individual clients into self-sponsored Reg D offerings. Table 18 presents the results of seven OLS regressions examining the relations between the number of investors in RIA-sponsored Reg D offerings and the sponsoring RIA's advisory clientele. The regression sample includes 8,704 new Reg D offerings sold between 2017 and 2021 that were sponsored by 1,235 RIAs advising non-fund clients. The regression specifications are similar to those reported in Table 14. The dependent variable in each regression is the log number of investors in a Reg D offering. The independent variables of interest include the log number and percentage AUM of non-HNW individuals, HNW individuals and institutional clients, which measure the focus of the RIA's advisory business on three types of non-fund clients.[58] The following RIA characteristics are controlled for to absorb variations in size and business practices across RIA sponsors: log AUM attributable to each of four types of advisory clients,[59] log number of investment adviser employees, squared log number of investment adviser employees, log number of affiliated RIAs under common control, the state of the RIA's principal office and a group of 20 dummy variables constructed from answers to Items 5.G, 7.A and 7.B of Form ADV Part 1A regarding the RIA's advisory services and its related persons' business practices.[60] We control for the following offering characteristics that potentially affect the number of investors of a Reg D offering: log sold amount, whether the offering is sold by a broker-dealer, year of sale, issuer's industry, issuer entity type, issuer's jurisdiction of incorporation, whether the offering is intended to last more than one year, exemption claimed and whether the issuer relies on the exception to registration provided by Section 3(c)(1) of the Investment Company Act of 1940.

Columns (1)-(4) of Table 18 report estimates of the relation between the number of investors in a RIA-sponsored Reg D offering and the number of clients of a given type advised by the RIA sponsor. Column (2) presents a positive and statistically significant correlation between the number of investors in a RIA-sponsored offering and the number of HNW individual advisory clients of the RIA sponsor. The estimated coefficient of 0.093 indicates that for every 50% increase in the number of HNW individuals advised by a RIA, the number of investors in each offering sponsored by the RIA increases by 3.8%, and for every 100% increase in the number of HNW individual clients of a RIA, the number of investors in each offering sponsored by the RIA increases by 6.7%. Columns (1) and (3) show that the number of either non-HNW individuals or institutional clients advised by the RIA has a weakly negative correlation with the number of investors in a RIA-sponsored offering. The regression reported in column (4) includes the

[58]We allow for temporal variability in the number of clients and percentage of AUM attributable to each type of clients by using annual data from year-end Form ADV filings between 2018 and 2022.

[59]Similar to the regressions reported in Table 14, we exclude the log AUM variable for a given type of client if the number or AUM percentage of that type of clients is the variable of interest.

[60]For example, Items 5.G.(1)-(2) ask if the RIA provides financial planning services and portfolio management for individuals and/or small businesses, Item 7.A.(1) asks if the RIA has a related person that is a broker-dealer, Item 7.A.(16) asks if the RIA has a related person that is a sponsor to pooled investment vehicles, and Item 7.B asks if the RIA is an adviser to private funds.

log numbers of clients of all three types as independent variables and confirms that the number of Reg D investors is positively correlated with the number of HNW individual clients but negatively correlated with the number of either non-HNW individuals or institutional clients. The regression reported in column (6) estimates a positive and statistically significant relation between the number of investors in a RIA-sponsored offering and the percentage of the RIA sponsor's AUM attributable to HNW individual clients. The estimated coefficient of 1.266 in column (6) can be interpreted such that the number of investors in the offering sponsored by the RIA increases by 13.5% (28.8%) for an increase of 10% (20%) in the percentage of the RIA's AUM attributable to HNW individuals. Columns (5) and (7) show that the number of investors in a RIA-sponsored offering does not have a positive correlation with the percentage of the RIA's AUM attributable to either non-HNW individuals or institutional investors. All seven regression models estimate that the number of investors in a RIA-sponsored offering is positively correlated with both the log sold amount of the offering and the offering being sold by broker-dealers. Since the log sold amount is included as control variable, our results also imply a statistically negative correlation between the amount sold to each investor of a RIA-sponsored offering and the number and percentage AUM of the RIA sponsor's HNW individual clients.

The estimated positive relationship between the number of investors of a RIA-sponsored offering and the RIA sponsor's HNW individual clientele provides evidence of RIAs wooing their HNW individual advisory clients for investments in self-sponsored Reg D offerings. The regression estimates also indicate that RIA sponsors to Reg D securities do not systematically allocate the assets of their non-HNW individual and institutional clients into these securities. Since RIAs are permitted to charge an individual client performance fees only if the client is a HNW individual,[61] our findings strongly support the notion that many RIAs set up in-house private funds or other investment vehicles funded by their HNW individual clients for the purpose of earning higher fees.

C. Conflicts of Interest of RIAs Sponsoring Reg D Offerings and Advising HNW Individuals

A positive relation between investors of RIA-sponsored offerings and RIA sponsors' HNW individual clientele alone does not rule out the possibility that RIAs advising more HNW individuals are somehow more successful in marketing self-sponsored Reg D offerings to external investors. We find evidence against this scenario using information about potential conflicts of interest between RIA and advisory clients disclosed under Items 8.A and 8.B of Form ADV Part 1A, which are also used by previous studies to measure RIA conflicts (Casavecchia and Tiwari 2016; Del Guercio, Genc, and Tran 2018). See Table 19 for the original

[61] Rule 205-3 of the Investment Advisers Act of 1940 exempts RIAs from the prohibition of charging performance fees when the individual client is a "qualified client", which is equivalent to the definition of HNW individuals used by Form ADV.

Table 18—Relation Between Investors of RIA-Sponsored Reg D Offerings and Advisory Clients of RIA Sponsor

	Dependent variable:						
	log(investors)						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
log(individual clients + 1)	−0.026			−0.053***			
	(0.017)			(0.018)			
log(HNW individual clients + 1)		0.093***		0.123***			
		(0.022)		(0.022)			
log(institutional clients + 1)			−0.037*	−0.063***			
			(0.021)	(0.021)			
Individual client AUM %					0.105		
					(0.296)		
HNW individual client AUM %						1.266***	
						(0.170)	
Institutional client AUM %							−0.740***
							(0.142)
Firm characteristics							
log(individual client AUM + 1)		−0.016***	−0.004			−0.004	−0.009
		(0.006)	(0.006)			(0.005)	(0.006)
log(HNW individual client AUM + 1)	0.032***		0.033***		0.030***		0.031***
	(0.008)		(0.008)		(0.008)		(0.007)
log(institutional client AUM + 1)	−0.009*	−0.011**			−0.010*	−0.007	
	(0.005)	(0.005)			(0.005)	(0.005)	
log(fund client AUM + 1)	−0.035***	−0.037***	−0.036***	−0.038***	−0.033***	−0.005	−0.041***
	(0.010)	(0.010)	(0.010)	(0.010)	(0.010)	(0.009)	(0.010)
log(related RIAs)	−0.047	−0.081	−0.052	−0.074	−0.062	−0.035	−0.066
	(0.070)	(0.072)	(0.070)	(0.072)	(0.071)	(0.058)	(0.066)
Offering characteristics							
log(sold amount)	0.231***	0.233***	0.231***	0.233***	0.232***	0.235***	0.232***
	(0.022)	(0.022)	(0.022)	(0.022)	(0.022)	(0.022)	(0.022)
Sold by broker-dealer	0.419***	0.438***	0.424***	0.446***	0.417***	0.473***	0.436***
	(0.101)	(0.100)	(0.101)	(0.099)	(0.102)	(0.101)	(0.101)
Other firm & offering variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	8,704	8,704	8,704	8,704	8,704	8,704	8,704
Adjusted R^2	0.366	0.366	0.366	0.369	0.365	0.376	0.371

Note: This table presents OLS estimates of the relation between the number of investors in RIA-sponsored offerings and RIA sponsors' non-fund clienteles. The regression sample includes 8,704 new Reg D offerings sold between 2017 and 2021 which were sponsored by 1,235 RIAs advising non-fund clients. Observations are at the offering level. The dependent variable in each regression is the log number of investors of a Reg D offering. The independent variables of interest include the log number and percentage AUM of non-HNW individual, HNW individual and institutional clients advised by the RIA sponsoring the offering as reported in the last Form ADV filing of the year when the offering was sold. RIA-specific controls include log AUM of four types of advisory clients, log number of investment adviser employees, squared log number of investment adviser employees, log number of affiliated RIAs under common control, the state of the RIA's principal office and a group of 20 dummy variables constructed using information reported on Form ADV about the RIA's advisory services and its related persons' business practices. All RIA characteristics are aggregated over separately registered RIAs within the same group of related RIAs and averaged over year-end Form ADV filings. Offering-specific controls include log sold amount, whether the offering is sold by a broker-dealer, year of sale, issuer's industry, issuer entity type, issuer's state of jurisdiction, whether the offering is intended to last more than one year, exemption claimed and whether the issuer relies on Section 3(c)(1) of the Investment Company Act. Standard errors are clustered by RIA and reported in parentheses. Statistical significance of 10%, 5% and 1% is represented by $*$, $**$ and $***$, respectively.

language from Form ADV. We are particularly interested in whether RIAs sponsoring Reg D offerings are more likely to indicate that they have a proprietary interest in (8.A.(3)), serve as underwriter or general or managing partner for (8.B.(2)), or have some sales interest other than broker commissions in (8.B.(3)) the securities they recommend to their advisory clients. RIAs allocating advisory clients' assets to self-sponsored Reg D offerings are expected to report one or more of these three types of interests in client transactions.

Table 19—Items 8.A and 8.B of Form ADV Part 1A

8.A. Proprietary Interest in Client Transactions Do you or any related person: (1) buy securities for yourself from advisory clients, or sell securities you own to advisory clients (principal transactions)? (2) buy or sell for yourself securities (other than shares of mutual funds) that you also recommend to advisory clients? (3) recommend securities (or other investment products) to advisory clients in which **you or any related person has some other proprietary (ownership) interest** (other than those mentioned in Items 8.A.(1) or (2))?
8.B. Sales Interest in Client Transactions Do you or any related person: (1) as a broker-dealer or registered representative of a broker-dealer, execute securities trades for brokerage customers in which advisory client securities are sold to or bought from the brokerage customer (agency cross transactions)? (2) recommend to advisory clients, or act as a purchaser representative for advisory clients with respect to, the purchase of securities for which **you or any related person serves as underwriter or general or managing partner**? (3) recommend purchase or sale of securities to advisory clients for which **you or any related person has any other sales interest** (other than the receipt of sales commissions as a broker or registered representative of a broker-dealer)?

Note: This table displays the original wording of Items 8.A and 8.B from Form ADV Part 1A.

Table 20 presents the percentage of RIAs with non-fund advisory clients that answer yes to each of the six questions under Items 8.A and 8.B of according to whether the RIA sponsors Reg D offerings. This descriptive analysis includes 12,146 RIAs that advised non-fund clients between 2017 and 2021. Among RIAs advising non-fund clients, those sponsoring Reg D offerings are more likely to report having a potential conflict regarding proprietary or sales interest in client transactions in all six items except for 8.A.(2). Sponsors to Reg D offerings are 6.8 (59%/8.7%), 10.2 (59.4%/5.8%) and 5.3 (29.2%/5.5%) times as likely as those that do not sponsor any Reg D offering to report a potential conflict under 8.A.(2), 8.B.(2) and 8.B.(3), respectively. These findings suggest that many RIAs recommend self-sponsored Reg D securities to their individual or institutional advisory clients. If most RIA sponsors to Reg D securities refrain from placing their non-fund clients in these securities, they would not have reported a higher incidence of conflicts under 8.A.(2), 8.B.(2) and 8.B.(3) than RIAs not sponsoring any Reg D offering.

We now establish the positive correlation between sponsoring Reg D offerings and reporting conflicts of interest indicative of the practice of placing advisory clients in self-sponsored investments in a regression setting. We use the following two fixed effects specifications:

$$\mathbb{1}\{\text{report conflicts}\}_{it} = \mu_i + \eta_{s(i)t} + \beta_1 \mathbb{1}\{\text{have sponsored Reg D offerings}\}_{it} + \varepsilon_{it}$$

Table 20—Likelihoods of Reporting Conflicts of Interest for RIAs Advising Non-Fund Clients

	% RIAs Reporting Potential Conflicts of Interest					
	Item 8.A.(1)	Item 8.A.(2)	Item 8.A.(3)	Item 8.B.(1)	Item 8.B.(2)	Item 8.B.(3)
Never sponsored Reg D offerings	3%	91.6%	8.7%	1.8%	5.8%	5.5%
Sponsored Reg D offerings	21.3%	89.5%	59%	10.8%	59.4%	29.2%

Note: This table reports the percentages of RIAs with non-fund advisory clients that report having a proprietary or sales interest in client transactions by whether the RIA sponsors Reg D offerings. The analysis includes 12,146 RIAs that advised at least one non-fund client between 2017 and 2021.

and

$$\mathbb{1}\{\text{report conflicts}\}_{it} = \mu_i + \eta_{s(i)t} + \beta_2 \mathbb{1}\{\text{active Reg D sponsor}\}_{it} + \varepsilon_{it},$$

where i is a RIA, t is the year of reporting the conflicts and $s(i)$ is the state of RIA i's principal office. The dependent variable $\mathbb{1}\{\text{report conflicts}\}_{it}$ is a dummy variable taking the value of 1 if RIA i reports a certain type of conflict on its Form ADV filed in year t. The first independent variable of interest, $\mathbb{1}\{\text{have sponsored Reg D offerings}\}_{it}$, is a dummy variable equal to 1 if RIA i sponsors a Reg D offering that has a Form D notice filed no later than year t. The second independent variable of interest, $\mathbb{1}\{\text{active Reg D sponsor}\}_{it}$, is an indicator variable that is 1 if RIA i sponsors a Reg D offering that has a Form D notice filed in year t. The coefficients β_1 and β_2 measure the correlation between reported conflicts of interest and the status of having sponsored or actively sponsoring Reg D offerings. We use firm fixed effects μ_i to control for unobserved heterogeneity in RIA characteristics and state-year fixed effects $\eta_{s(i)t}$ to account for state-specific trends in the RIA industry. The sample used for the regressions includes 19,933 RIA-year observations involving 1,737 RIAs that advised non-fund clients and sponsored Reg D offerings sold between 2009 and 2022. We cluster standard errors by state, allowing for residuals for RIAs within the same state to be correlated.

Table 21 displays estimates of the relation between disclosed conflicts of interest and Reg D sponsorship based on six fixed effects OLS regressions for each independent variables of interest. The estimated coefficients of both independent variables of interest are not only statistically significant but also economically large for the dependent variables associated with Items 8.A.(3) and 8.B.(2). Column (3) shows that the probability of a RIA recommending to advisory clients securities in which it has some proprietary interest in a given year increases by 13.1% if the RIA has sponsored Reg D offerings up to that year, and increases by 12% if the RIA actively sponsors Reg D offerings in that year. Column (5) shows that the probability of a RIA recommending to advisory clients securities for which it serves as underwriter or general or managing partner in a given year is 17% higher if the RIA has sponsored Reg D offerings up to that year and 15.5% higher when the RIA actively sponsors Reg D offerings in that year. These results present strong evidence suggesting that the initiation of Reg D sponsorship which taps advisory clients for capital prompts RIAs to disclose the potential conflicts of interest arising from these arrangements. The coefficient estimates reported in columns (2) and (6) are also statistically significant although the estimated increases in the probability of reporting conflicts are smaller than those estimated for Items 8.A.(3) and 8.B.(2), indicating that some RIAs recommend to advisory clients self-sponsored Reg D securities for which they have some sales interests including buying or selling these securities for themselves. Not surprisingly, columns (1) and (4) show that Reg D sponsorship is not significantly correlated with an increased probability of the occurrence of transactions between advisory clients and the RIA or the brokerage customers of the RIA.

Table 21—Relation Between Reported Conflicts of Interest and Reg D Sponsorship

	Dependent variable:					
	$\mathbb{1}$\{Yes to 8.A.(1)\}	$\mathbb{1}$\{Yes to 8.A.(2)\}	$\mathbb{1}$\{Yes to 8.A.(3)\}	$\mathbb{1}$\{Yes to 8.B.(1)\}	$\mathbb{1}$\{Yes to 8.B.(2)\}	$\mathbb{1}$\{Yes to 8.B.(3)\}
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A. Conflicts and Reg D sponsorship						
Have sponsored Reg D	0.012	0.040***	0.131***	0.004	0.170***	0.042***
	(0.009)	(0.010)	(0.016)	(0.004)	(0.026)	(0.008)
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes
State-year FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	19,933	19,933	19,933	19,933	19,933	19,933
Adjusted R^2	0.729	0.703	0.716	0.792	0.667	0.736
Panel B. Conflicts and active Reg D sponsorship						
Active Reg D sponsor	0.014*	0.023***	0.120***	0.001	0.155***	0.030***
	(0.007)	(0.007)	(0.010)	(0.004)	(0.018)	(0.008)
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes
State-year FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	19,933	19,933	19,933	19,933	19,933	19,933
Adjusted R^2	0.729	0.702	0.718	0.792	0.669	0.736

Note: This table reports fixed effects OLS estimates of the relation between disclosed interest in client transactions and Reg D sponsorship. The regression sample includes 19,933 RIA-year observations corresponding to 1,737 RIAs that advised non-fund clients and sponsored Reg D offerings sold between 2009 and 2022. The dependent variable is a dummy variable that equals 1 if the RIA reports a certain type of conflict on its Form ADV filed in a given year. The first independent variable of interest, included in the six regressions presented in Panel A, is a dummy variable taking the value of 1 if the RIA sponsors a Reg D offering that has a Form D notice filed no later than the given year. The second independent variable of interest, used by the six regressions presented in Panel B, is an indicator taking the value of 1 if the RIA sponsors a Reg D offering that has a Form D notice filed in the given year. All specifications include firm and state-year fixed effects. Standard errors are clustered by RIA state and reported in parentheses. Statistical significance of 10%, 5% and 1% is represented by $*$, $**$ and $***$, respectively.

VI. Conclusion

We provide a comprehensive analysis of the markets of unregistered offerings using Reg D exemptions, focusing on activities of issuers and intermediaries and their impact on investors. We show that the Reg D market is enormous after growing incessantly over the past decade and surpassed the public offering markets recently in terms of capital formation. This expansion coincides with the participation of a wider range of investors: offerings have been sold to larger groups of investors, and the amount sold to each investor has declined significantly in recent years. While private funds raised 87% of the capital, non-fund issuers including operating companies account for more than half of the offerings. Intermediaries play an important role in the Reg D market: broker-sold offerings account for 37% of the total capital raised while 76% of the capital formation can be attributed to RIA-sponsored offerings. Survival analysis of a subset of issuers mostly comprised of non-fund companies shows that 14% of the issuers become delinquent and 30% go out of business within 5 years of the first Reg D offering, reflecting the inherent risks faced by these private businesses and their investors.

We document evidence of losses suffered by retail investors resulting from Reg D securities recommended by broker-dealers. Offerings placed by broker-dealers serving retail customers are sold to more investors and have a lower amount sold per investor, and there is a positive relation between the number of investors in offerings sold by dually-registered broker-dealers and these broker-dealers' retail clientele. Broker-dealers that sold offerings with higher commissions, specialize in placing Reg D offerings and act as part of a larger syndicate have higher rates of customer complaints involving illiquid products. These findings, viewed in the context of soaring complaints related to Reg D securities in recent years, should alert investors to broker-sold Reg D securities with certain attributes such as high commissions.

We also explore the potential conflicts of interest between RIAs as sponsor to Reg D offerings and their retail advisory clients. Offerings sponsored by RIAs with a significant retail clientele are sold to more investors and raise a lower dollar amount from each investor, indicating retail participation in RIA-sponsored offerings. The number of investors in a RIA-sponsored offering is positively correlated with the number and percentage AUM of HNW individual clients who are typically charged a performance fee, but not with the RIA's non-HNW individual or institutional clienteles. RIAs advising non-fund clients are more likely to report having an interest in client transactions when they sponsor Reg D offerings. Our results provide strong evidence of the presence of conflicts between RIAs and retail investors in the Reg D market. Wealthy individual investors should carefully review the prospectus and advisory agreement for potential conflicts and ensure any misaligned incentive of their RIA is eliminated.

REFERENCES

Bauguess, Scott, Rachita Gullapalli, and Vladimir Ivanov. 2018. "Capital Raising in the US: An Analysis of the Market for Unregistered Securities Offerings, 2009-2017." *White Paper, SEC Division of Economic and Risk Analysis.*

Bhattacharya, Vivek, Gaston Illanes, and Manisha Padi. 2019. "Fiduciary Duty and the Market for Financial Advice." National Bureau of Economic Research.

Burke, Jeremy, Angela Hung, Jack Clift, Steven Garber, and Joanne Yoong. 2015. "Impacts of Conflicts of Interest in the Financial Services Industry."

Casavecchia, Lorenzo, and Ashish Tiwari. 2016. "Cross Trading by Investment

Advisers: Implications for Mutual Fund Performance." *Journal of Financial Intermediation* 25: 99–130.

Charoenwong, Ben, Alan Kwan, and Tarik Umar. 2019. "Does Regulatory Jurisdiction Affect the Quality of Investment-Adviser Regulation?" *American Economic Review* 109 (10): 3681–3712.

Del Guercio, Diane, Egemen Genc, and Hai Tran. 2018. "Playing Favorites: Conflicts of Interest in Mutual Fund Management." *Journal of Financial Economics* 128 (3): 535–57.

DERA. 2020. "Report to Congress on Regulation a / Regulation d Performance." `https://www.sec.gov/files/report-congress-regulation.pdf`.

Dimmock, Stephen G, and William C Gerken. 2012. "Predicting Fraud by Investment Managers." *Journal of Financial Economics* 105 (1): 153–73.

Dimmock, Stephen G, William C Gerken, and Nathaniel P Graham. 2018. "Is Fraud Contagious? Coworker Influence on Misconduct by Financial Advisors." *The Journal of Finance* 73 (3): 1417–50.

Egan, Mark. 2019. "Brokers Versus Retail Investors: Conflicting Interests and Dominated Products." *The Journal of Finance* 74 (3): 1217–60.

Egan, Mark, Shan Ge, and Johnny Tang. 2022. "Conflicting Interests and the Effect of Fiduciary Duty: Evidence from Variable Annuities." *The Review of Financial Studies* 35 (12): 5334–86.

Egan, Mark, Gregor Matvos, and Amit Seru. 2019. "The Market for Financial Adviser Misconduct." *Journal of Political Economy* 127 (1): 233–95.

Ewens, Michael, and Joan Farre-Mensa. 2020. "The Deregulation of the Private Equity Markets and the Decline in IPOs." *The Review of Financial Studies* 33 (12): 5463–5509.

Finger, Wallis K. 2008. "Unsophisticated Wealth: Reconsidering the SEC's Accredited Investor Definition Under the 1933 Act." *Wash. UL Rev.* 86: 733.

Foerster, Stephen, Juhani T Linnainmaa, Brian T Melzer, and Alessandro Previtero. 2017. "Retail Financial Advice: Does One Size Fit All?" *The Journal of Finance* 72 (4): 1441–82.

Gao, Xiaohui, Jay R Ritter, and Zhongyan Zhu. 2013. "Where Have All the IPOs Gone?" *Journal of Financial and Quantitative Analysis* 48 (6): 1663–92.

Gullapalli, Rachita. 2020. "Misconduct and Fraud in Unregistered Offerings: An Empirical Analysis of Select SEC Enforcement Actions." `https://www.sec.gov/files/misconduct-and-fraud-unregistered-offerings.pdf`.

Honigsberg, Colleen, and Matthew Jacob. 2021. "Deleting Misconduct: The Expungement of BrokerCheck Records." *Journal of Financial Economics* 139 (3): 800–831.

Iliev, Peter. 2010. "The Effect of SOX Section 404: Costs, Earnings Quality, and Stock Prices." *The Journal of Finance* 65 (3): 1163–96.

Johnson, Jennifer J. 2013. "Private Placements: Will FINRA Sink in the Sea Change." *U. Cin. L. Rev.* 82: 465.

Kwon, Sungjoung, Michelle Lowry, and Yiming Qian. 2020. "Mutual Fund Investments in Private Firms." *Journal of Financial Economics* 136 (2): 407–43.

McCann, Craig, Chuan Qin, and Mike Yan. 2017. "How Widespread and Predictable Is Stock Broker Misconduct?" *The Journal of Investing* 26 (2): 6–25.

Qureshi, Hammad, and Jonathan S Sokobin. 2015. "Do Investors Have Valuable Information about Brokers?" *FINRA Office of the Chief Economist Working Paper*.