Regulation D Offerings: Issuers, Investors, and Intermediaries

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This paper presents an empirical analysis of the markets of unregistered securities offerings relying on Regulation D (Reg D) under the Securities Act. The Reg D offering market is similar to the public offering market in capital raised and has been growing rapidly over recent years. The proceeds from Reg D offerings sold between 2021 and 2023 total $6.2 trillion, 23% more than the capital raised in registered offerings over the same period and a 86% increase over the proceeds from Reg D offerings sold during 2011-2013. Reg D securities have recently been sold to more investors per offering with a less amount sold per investor, suggesting an increasing retail preference for unregistered securities. Intermediaries play an important role in reaching retail investors. Offerings sold by broker-dealers with more retail clients and offerings sponsored by investment advisers with more wealthy individual clients are purchased by more investors per offering and raise less capital per investor. Investors of unregistered offerings must be wary of intermediariy misconduct and conflicts of interest. Broker-dealers that receive more commissions and specialize in selling unregistered offerings tend to receive more customer complaints stemming from unregistered securities. Investment advisers with non-fund clients are more likely to disclose conflicts of interest in regulatory filings when they sponsor Reg D offerings, indicating that they allocate client 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 for exemption from registration. Due to great costs and extensive reporting requirements of securities registration, exempt offerings are widely used by private companies to fund day-to-day operations and by investment vehicles like hedge funds

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to raise money 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 ensure 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 was raised under Reg D in 2019, exceeding the registered offering proceeds of $1.2 trillion in the same year (DERA 2020). Acknowledging the efficacy of Reg D to help emerging companies raise capital, the SEC has implemented a series of 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 has 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, charge higher fees, and have a greater potential for losses due to issuer failure and fraud compared with 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 using Reg D exemptions to offer securities (Reg D issuers) are not required to make any detailed disclosure about their business operations or file financial statements. Second, Reg D securities cannot be resold by purchasers for at least six months to 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 of exempt offerings far exceed those of registered offerings. Investors typically pay an up-front cost including sales commissions and acquisition costs followed by an ongoing asset management fee plus a performance-based fee. The large costs reduce returns and create perverse incentives and conflicts of interest

[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.

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 been misused by fraudsters. 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 capable of evaluating the complexities of 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 assets in alternative investments with the goal of outperforming traditional markets and achieving broader diversification. Historically representing a relatively small share of private markets, *retail investors* have increasingly purchased private offerings and are projected to invest a significantly larger fraction of their wealth in alternative assets in the next decade.[6] Seeking to tap into the vast amount 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 equity to retail clients' portfolios, and emerging fintech companies build online platforms that offer retail investors low-cost access to alternative products.[7] This trend of expanding retail access to private markets coincides with diminishing regulatory barriers. Apart from 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 private market participants given inflation.[8]

Retail investors typically have a lower level of financial sophistication than

[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]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. 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 retail investor definition includes "mum-and-dad" (small-scale, non-professional) investors, high-net-worth (HNW) individuals and certain financial professionals.

[7]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/.

[8]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 net worth excluding their primary residence.

institutional investors, and 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 increasing transparency of the Reg D marketplace and informing investors of the characteristics of Reg D offerings and the conducts of market participants. Apart from documenting summary statistics, trends and performance of Reg D offerings, our work elucidates the roles and incentives of broker-dealers and registered investment advisers (RIA) with a focus on their retail clients' investment in Reg D offerings. The regulatory disclosure about clientele, customer complaints and conflicts of interest made by these intermediaries allows for a better understanding of the risks and outcomes of Reg D offerings for retail investors.

We first provide a detailed description of Reg D offerings sold between 2009 and 2023. The capital raised in Reg D offerings gradually increased from 2009 through 2020, rose sharply in 2021 and reached a historic high in 2022 before falling back modestly in 2023. The proceeds from Reg D offerings sold over the period of 2021-2023 is 86% more than the Reg D proceeds sold during 2011-2013. The Reg D market has a magnitude comparable to the public offering market. The proceeds from Reg D offerings amount to 92% of the proceeds from public offerings in 2009-2020 and 123% of the public offering proceeds sold over 2021-2023. Reg D securities offered in recent years were sold to more investors per offering with a lower amount sold per investor. Private fund issuers account for 87% of the capital raised through Reg D securities.[9] 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.

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

Broker-dealers' client relationships provide a crucial source of investors for Reg

[9] Reg D issuers can be categorized into private funds and non-fund issuers. 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.

D issuers thanks to Reg D's prohibition of general solicitation.[10] We show that broker-dealers play an important role in driving sales of Reg D offerings to retail investors. Offerings sold by broker-dealers with a retail clientele tend to have more investors per offering than either offerings with no selling agent or offerings sold by broker-dealers only serving institutional clients. Among offerings sold through brokers also registered as RIAs, those sold by brokers with a larger clientele of non-high-net-worth (non-HNW) individuals attract more investors per offering.[11] While broker-dealers are required to perform due diligence and ensure suitability for their clients,[12] they are compensated by sales commissions which may create incentives to recommend investments that do not fit the client's needs (Burke et al. 2015). We estimate that the average commissions of Reg D offerings vary across issuer industries and range between 2.1% (private fund) and 6.6% (energy) of the gross offering proceeds.[13] We also document a sharp rise in customer complaints against broker-dealers indicating losses related to Reg D securities over the past five years. Using Form D data merged with broker registration data (BrokerCheck), we show that complaints received by broker-dealers that have sold Reg D offerings are more likely to claim losses stemming from illiquid products. Among broker-dealers selling Reg D securities, those receiving higher commissions and specializing in marketing Reg D securities tend to receive more complaints per registered broker. Our results highlight the risk of unregistered securities for retail investors and provide evidence of brokers' conflicts of interest and misconduct in the Reg D market.

The most prominent role 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.[14] Common RIA sponsors of Reg D offerings include hedge fund managers, private equity firms, venture capital fund advisers and other alternative investment firms. The private fund offerings sponsored by RIAs account for 83.4% of the capital raised through private fund offerings between 2009 and 2022. In addition to advising private funds, some RIAs provide 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 these non-fund clients to whom they owe a fiduciary duty. Fund managers are

[10]The ban on 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. 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).

[11]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.

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

[13]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% (private fund) and 9.8% (energy) of the gross offering proceeds.

[14]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 (LPs).

typically compensated by a management fee as a fixed 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" funds as opposed to externally managed funds to earn a higher overall fee.[15] In addition to fee-based conflicts, RIAs may also be incentivized to invest in self-managed 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 (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 advising wealthy individuals systematically allocate these clients' assets to self-sponsored Reg D products. We also find that RIAs advising non-fund clients are more likely to disclose conflicts involving interests in client transactions when they sponsor Reg D offerings. These findings suggest that retail investors must be informed of their RIAs' incentives to recommend Reg D securities, and regulators should thoroughly examine disclosure filings to ensure RIAs act in their clients' best interests.

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.[16] First, our estimates of the Reg D market trends relate to the wide literature on firms' decision to go public. IPO volumes were low and firms elected to stay private for longer over the past two decades (Kwon, Lowry, and Qian 2020). Previous studies attribute 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-Mensa 2020). We find that the proceeds from Reg D offerings had grown steadily through 2020 before jumping sharply in 2021; in particular, the capital raised by private equity funds and venture capital funds had increased markedly over recent years. On the other hand, public equity offerings exhibit a more cyclic pattern with almost no increase in annual offering proceeds over the period of 2009-2023. 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;

[15] 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.

[16] 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 including statistical analyses of Form D filings.

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 sell Reg D securities to non-HNW individuals, and broker-dealers with a higher percentage of representatives marketing Reg D offerings and a concentration in certain risky offerings have a higher rate of complaints. Further, we observe that broker-dealers selling Reg D securities together with peer firms with 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 larger 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 complaints and higher rates 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, leading to broker-dealers recommending products with higher risk-adjusted returns and lower expenses. The positive relation between commissions and 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 showing that RIAs place HNW individual clients into self-sponsored offerings with 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 different clients' assets. 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 such "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 clients' portfolios but fail to adjust these portfolios according to client attributes such as risk tolerance and financial sophistication.

I. Data

A. Form D Data

Every Reg D issuer is required to 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 burden imposed by Form D is much lighter than registered offerings. The principal data elements reported include a brief description of the issuer such as 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 the securities sold (sold amount), number of investors and sales commissions. The issuer is also required to disclose any person receiving selling commissions as well as the amount of commissions received. The issuer is not required to provide any information about its financial conditions. 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.[17] Notably, 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 in this paper includes all Form D notices filed with the SEC's EDGAR system from January 2009 through December 2023. The SEC publishes the data in its original format as submitted by the issuer without any change or correction.[18]

Several steps have been taken to process the data. First, we create an "Offering ID" variable to uniquely identify an offering across the initial notice filing 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, we treat the sold

[17]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.

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

amount reported on Form D as the cumulative amount sold up to the filing date.[19] For each notice filing, we calculate the *incremental* amount sold as the reported sold amount (for initial notice filings) 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] Third, we make corrections to some reported sold amounts. Some small, obscure issuers reported abnormally and unrealistically large dollar amounts. 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 more than 100 times the sold amounts reported in both the previous and subsequent filings.[22] In a few Form D notices filed by private funds involving a master-feeder or parallel fund structure, each feeder or parallel fund reports the aggregate 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 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 that 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 made publicly available via BrokerCheck.[23] The majority of disclosed complaints specify the type of financial products involved, allowing us to identify complaints arising from Reg

[19]Some private funds appear to report net asset values (NAVs) as sold amounts, which could reflect fund performance and redemption in addition to new investment. Following DERA (2020), we treat the reported sold amount as the amount of capital raised in these fund offerings.

[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.

[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

D securities. We create a complete list of broker representatives registered with each broker-dealer that sold Reg D offerings by matching CRD number between Form D data and BrokerCheck.[24] We also use BrokerCheck to estimate the number of broker representatives with complaints involving Reg D offerings for each broker-dealer.

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 the SEC's Investment Adviser Public Disclosure (IAPD) database. We extract information on RIAs' employees, AUM, advisory clientele and business practices from Form ADV filings through December 2022, which is 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 the issuer's related persons across Form D and Form ADV data.[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 the RIA's principal office address 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 entities to identify the Reg D offerings sponsored by this single group.[27]

C. State SOS Data

Reg D 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 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

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

[25] According to Form D instructions, the 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.

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 exist by merging into another entity or moving 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 due to failure to comply with state regulations, such as missing an annual report, failing to pay registration fee or taxes, failing to maintain a registered agent and engaging in other types of illegal activity.[28] The delinquent company forfeits the right to transact business in the state and cannot sue or defend itself in a state court, and the directors 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

To provide benchmark for Reg D offerings, we estimate the dollar amount raised in public equity and debt offerings in each year between 2009 and 2023 using electronic filings downloaded from EDGAR. 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 unit 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 actions on its website. We use 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 with a focus on recent trends of offering activity and roles of broker-dealers and

[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 designate 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.

[30]A "REVOKED" form is filed for companies whose SEC registrations are revoked.

RIAs. We report summary statistics about offerings, capital raised and investors with respect to various offering characteristics such as issuer industry, exemption claimed and type of securities. The Reg D market has a magnitude similar to the public offering market and is growing. The activity of Reg D offering increased steadily from 2009 through 2020 before ramping up in 2021. The Reg D offerings sold more recently had more investors per offering and raised a smaller amount per investor. Intermediaries play a significant role: 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 of Reg D Offerings*

$21.15 trillion was raised through 318,495 Reg D offerings by 237,511 issuers from January 1, 2009 through December 31, 2023.[31] Table 1 presents five summary statistics of Reg D offerings with respect to four issuer attributes. Panel A of Table 1 displays the summary statistics by issuer's industry group. Private funds (i.e., pooled investment funds) constitute by far the largest issuer industry group, accounting for 35% of the offerings, 87% of the capital raised and 45% of the issuers. Technology issuers, issuers noting "Other" as industry group and real estate issuers rank from second to fourth in terms of either number of offerings or capital raised. The average issuer from technology and health care industries issues about two offerings while the average issuer from private fund and real estate industries makes about one offering. The average real estate offering tends to attract the most investors (47) while the average private fund offering raises the most money per investor ($15.2 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 nine times as much capital as venture capital funds, and the average venture capital fund offering has the fewest investors (31.4) and the least amount sold to each investor ($1.2 million).

Panel B of Table 1 reports the statistics by issuer's entity type. Corporation is the most common type of issuer entity by offerings (121,752) while issuers incorporated as limited partnerships raise the most capital ($9.92 trillion). Offerings by issuers formed as corporations have the fewest investors per offering and the least amount sold per investor on average. Limited liability company is the entity type utilized by the most issuers (90,784). Investors of limited partnerships, business trusts and entities of "Other" types tend to purchase a much larger amount on average than those investing in corporations and limited liability companies. Panel C presents the same statistics by issuer size. 213,655 (90%) 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 made the most offerings

[31] We use CIK to identify issuers.

(18,178) and the largest issuers raised the most capital ($1.09 trillion). The average smallest issuer attracts the fewest investors per offering (18.3) and raises the least capital per investor ($396,000), while the largest issuers on average sell to the most investors per offering (91.1) and raise the most capital from each investor ($31.1 million). Panel D summarizes Reg D offerings by issuer's jurisdiction of incorporation. 150,290 (63.3%) issuers are incorporated in Delaware and raise $11.54 trillion (54.6%) of the capital. The average offering by issuer incorporated in a U.S. state other than Delaware raises $2 million per investor, the least among all categories.

Table 2 summarizes the distribution of Reg D offerings with respect to four offering attributes. Panel A presents the percentages of offerings by the exemption claimed by the issuer.[32] 92.6% of the offerings relied upon Rule 506 prior to October 2013. After September 2013, 90.3% of Reg D offerings claimed exemption under Rule 506(b) while only 7% used Rule 506(c), indicating that most issuers are reluctant to undertake the burden of validating the accredited status of investors 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 non-fund issuers claim exemptions under Rule 504.[33] Panel B reports the frequency of offerings by the type of securities offered.[34] Pooled investment fund interest is the most common type of securities offered by private fund issuers while over two thirds of non-fund offerings sell equity securities. Non-fund issuers use debt securities and option, warrant or other right to acquire securities more frequently than private funds. Panel C displays the frequency of offerings by minimum investment amount. 45.4% of the offerings have no required minimum investment. Non-fund offerings are more likely to impose no minimum requirement, and private fund offerings are more than three times as likely to require a minimum investment exceeding $100,000 as non-fund offerings. Panel D shows that about one fifth of the offerings are intended to last for more than one year, with a much larger percentage of private fund offerings running over one year (42%) than non-fund offings (8.7%).

Table 3 displays time trends of Reg D offerings between 2009 and 2023. Panel A shows that the Reg D market had expanded continuously from 2012 through 2022, with the annual number of offerings sold, capital raised and number of issuers of new offerings going up by 95%, 109% and 144%, respectively. The Reg D market had the fastest growth in 2021, when the number of offerings sold, capital raised and number of issuers in new offerings increased by 38.9%,

[32]In September 2013, the SEC adopted amendments to replace the old Rule 506 with Rule 506(b) and Rule 506(c). 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.

[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 1—Issuer Summary Statistics

	Offerings	Sold Amount	Issuers	Mean Num. Investors	Mean Sold Amount Per Investor
Panel A. Issuer Industry Group					
Pooled Investment Fund	110,963	$18.35T	106,831	45.7	$15.2M
Venture Capital Fund	29,752	$739B	30,074	31.4	$1.2M
Other Investment Fund	29,608	$6.11T	28,172	48.8	$26M
Hedge Fund	27,771	$6.54T	25,136	60.4	$18.4M
Private Equity Fund	23,832	$4.96T	23,449	42.5	$15.7M
Technology	51,861	$550B	26,478	11.2	$1.5M
Other	44,720	$528B	26,786	13.5	$1.6M
Real Estate	39,671	$535B	37,861	47.0	$1.4M
Health Care	27,814	$315B	12,784	14.2	$1.8M
Financial Services	15,332	$516B	9,548	31.6	$4.4M
Energy	9,998	$170B	5,918	17.8	$3.5M
Manufacturing	5,707	$64.5B	3,162	12.1	$2M
Retailing	4,174	$40.3B	2,720	12.4	$1.5M
Business Services	3,192	$38.5B	1,775	12.2	$1.8M
Restaurants	2,381	$9.8B	1,932	12.1	$847K
Agriculture	1,622	$20.6B	940	14.7	$2.3M
Travel	1,044	$11.1B	756	16.6	$751K
Panel B. Issuer Entity Type					
Corporation	121,752	$2.33T	59,361	15.6	$2.2M
Limited Liability Company	105,103	$2.44T	90,784	33.3	$2.9M
Limited Partnership	74,704	$9.92T	72,407	44.7	$10.9M
Other	15,655	$5.44T	13,821	34.7	$42.2M
Business Trust	1,281	$1.02T	1,138	109.6	$26.7M
Panel C. Issuer Size					
Not Disclosed	283,768	$19.73T	213,655	29.9	$6.9M
Category 1	18,178	$56.1B	12,589	18.3	$396K
Category 2	7,469	$105B	5,250	20.4	$3.2M
Category 3	4,515	$77.1B	3,054	30.0	$2.2M
Category 5	2,417	$1.09T	1,700	91.1	$31.1M
Category 4	2,148	$90.2B	1,263	33.6	$5.6M
Panel D. Issuer Jurisdiction of Incorporation					
Delaware	200,699	$11.54T	150,290	32.2	$5.2M
U.S. State Other Than Delaware	83,944	$1.9T	61,574	23.7	$2M
Foreign	33,852	$7.71T	25,647	28.3	$25.7M

Note: This table provides a summary of Reg D offerings sold between January 2009 and December 2023 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.

36.2% and 57.4% year-over-year, respectively. The capital raised through Reg D offerings in a single year hit the record high of $2.3 trillion in 2022. From 2012 through 2022, the median number of investors in a new offering had more than doubled, and the median amount of capital raised per investor in new 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 2023			
Rule 506(b)	90.3%	91.7%	89.4%
Rule 506(c)	7%	7.1%	6.9%
Rule 504	2%	0.2%	3.2%
Other	0.7%	1%	0.5%
Panel B. Type of Securities Offered			
Equity	53.3%	27.1%	67.3%
Pooled Investment Fund Interests	25%	69.6%	1.2%
Option, Warrant or Other Right	12%	0.2%	18.4%
Debt	6%	0.5%	9%
Other	2.7%	0.4%	3.9%
LP Interests	1%	2.3%	0.3%
Panel C. Minimum Investment			
No minimum investment	45.4%	35.3%	50.8%
Between $1 and $100,000	44.2%	46.3%	43.1%
More than $100,000	10.4%	18.4%	6.1%
Panel D. Duration of Offering			
Less than one year	79.7%	58%	91.3%
more than one year	20.3%	42%	8.7%

Note: This table provides a summary of Reg D offerings sold between 2009 and 2023 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.

had shrunk by 37%, consistent with the recent acceleration of retail participation in private markets. Panels B and C report trend statistics separately for private fund and non-fund offerings. While the number of private fund offerings rose by 153% from 2012 to 2022, the number of non-fund offerings increased by only 51% over the same period. The growth rates of capital are more comparable: both private fund issuers and non-fund issuers raised about 111% more capital in 2022 than 2012. Both fund and non-fund issuers experienced a significant increase in the number of investors in new offerings between 2012 and 2022. The median amount sold per investor in private fund offerings decreased by 96% from 2012 to 2022, whereas the median amount raised per investor by non-fund issuers grew by 35% over the same period.

The year of 2023 saw the number of offerings, capital raised and number of issuers of new offerings drop 26%, 22% and 31% year-over-year, although all remained above their respective levels in 2020. The mean and median of the number of investors in new offerings decreased in both 2022 and 2023, breaking an upward trend that continued through 2021. The mean and median of the amount sold per investor in new offerings in 2023 also reversed a downward trend that started from around 2018. It appears that the large shock to the Reg D market in 2021 has largely dissipated by 2023 and the offering activity has reverted to pre-2021 levels.

Figure 1 illustrates the trends of private fund offerings across four fund types.[35] While hedge funds raised more capital than any other fund type, the number of hedge fund offerings and capital raised by hedge funds have not increased over the past decade. The number of offerings and capital raised by private equity funds, venture capital funds and other investment funds increase markedly and continuously from 2009 through 2022, with offering activities reaching historic highs between 2021 and 2022 for all three types of funds. Despite comprising a small share of capital raised, venture capital funds account for a significant portion of the recent dramatic increase in offerings. The number of venture capital fund offerings sold nearly tripled in 2021, and exceeded the number of any other type of fund offerings in each year between 2021 and 2023. The recent increase in the capital raised by private funds can be largely 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 2 compares Reg D offerings with registered offerings. The amount of capital raised through Reg D securities is similar to the proceeds from registered equity and debt securities combined. \$15 trillion was raised over 2009-2020 through Reg D offerings, while \$16.3 trillion was raised through registered equity and debt offerings over the same period. During 2021-2023, \$6.2 trillion was raised through Reg D offerings, 23% more than the proceeds from registered offerings over the same period (\$5 trillion) and 86% more than the proceeds from Reg D offerings over 2011-2013 (\$3.3 trillion). The Reg D and registered offerings have similar trends: the amounts raised in both markets trended upward from 2009 to 2017, slightly dropped in 2018 and 2019 and rose again in 2020 and 2021. The Reg D market continued to grow in 2022 before falling back slightly in 2023 while registered offerings, especially registered equity offerings, dwindled significantly.

B. Decomposition of the Reg D Market by Intermediary Participation

Broker-dealers match issuers with accredited investors, reducing search costs and enabling issuers to sell unregistered securities without general solicitation. Many private funds hire RIAs to provide investment advice or make investment decisions, which may also act as general partner of private funds structured as limited partnerships. We refer to a RIA acting as investment adviser, general

[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.

Table 3—Reg D Offering 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	11,960	$445B	9,477	14.9	5	$3.2M	$200K
2010	18,920	$810B	11,907	13.7	5	$4.3M	$201K
2011	21,925	$1.09T	12,830	13.6	5	$4.2M	$224K
2012	22,459	$1.1T	12,857	20.4	5	$3.9M	$198K
2013	24,213	$1.14T	14,043	15.3	6	$4.7M	$200K
2014	27,010	$1.4T	15,969	17.3	6	$4.9M	$188K
2015	27,679	$1.38T	16,772	16.8	7	$5M	$200K
2016	27,781	$1.4T	16,591	17.8	6	$4.6M	$191K
2017	29,142	$1.66T	17,729	20.4	7	$6.4M	$185K
2018	30,839	$1.55T	19,416	20.1	7	$5.6M	$200K
2019	31,375	$1.49T	19,705	20.3	8	$5M	$200K
2020	31,724	$1.52T	20,110	23.0	8	$4.4M	$184K
2021	44,062	$2.07T	31,648	27.3	12	$3.8M	$144K
2022	43,854	$2.3T	31,405	26.0	11	$3.6M	$125K
2023	32,413	$1.8T	21,605	24.2	9	$4.5M	$145K
Panel B. Private Fund Issuers							
2009	3,065	$356B	1,735	18.4	6	$10.9M	$1M
2010	6,756	$666B	2,530	18.7	5	$13.9M	$1M
2011	9,206	$965B	3,088	18.1	6	$13.1M	$1.3M
2012	9,772	$959B	2,976	18.1	6	$12.6M	$1.2M
2013	10,718	$1.01T	3,603	18.4	7	$14.5M	$1.5M
2014	11,913	$1.22T	4,179	25.1	9	$15M	$1M
2015	12,319	$1.2T	4,521	23.4	8	$13.8M	$950K
2016	12,421	$1.24T	4,598	22.1	8	$13.5M	$859K
2017	12,999	$1.48T	5,065	24.0	9	$19.6M	$711K
2018	14,166	$1.34T	6,120	24.1	10	$14.6M	$569K
2019	14,748	$1.31T	6,528	26.4	10	$12.2M	$500K
2020	16,147	$1.31T	7,918	28.9	12	$9.2M	$274K
2021	24,271	$1.7T	15,738	33.1	16	$5.9M	$73.9K
2022	24,733	$2.02T	15,736	27.7	14	$5.6M	$51.2K
2023	17,627	$1.57T	10,114	26.7	12	$8.4M	$94.4K
Panel C. Non-Fund Issuers							
2009	8,895	$88.1B	7,742	14.1	5	$1.5M	$144K
2010	12,164	$144B	9,377	12.5	5	$2M	$144K
2011	12,719	$124B	9,742	12.4	5	$1.7M	$143K
2012	12,687	$136B	9,881	21.0	5	$1.5M	$130K
2013	13,495	$134B	10,440	14.3	6	$1.7M	$126K
2014	15,097	$182B	11,790	14.9	6	$1.7M	$126K
2015	15,360	$182B	12,251	14.5	6	$2.1M	$144K
2016	15,360	$161B	11,993	16.3	6	$1.6M	$142K
2017	16,143	$178B	12,664	19.0	7	$1.6M	$140K
2018	16,673	$206B	13,296	18.4	7	$1.8M	$151K
2019	16,627	$180B	13,177	17.5	7	$1.8M	$157K
2020	15,577	$201B	12,192	19.5	7	$1.6M	$162K
2021	19,791	$371B	15,910	22.2	9	$2M	$189K
2022	19,121	$287B	15,669	24.5	9	$1.8M	$175K
2023	14,786	$226B	11,491	22.4	7	$1.7M	$167K

Note: This table summarizes trends of Reg D offerings between 2009 and 2023. 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 had no previous notice filing and were filed within a year of the first sale of the offering.

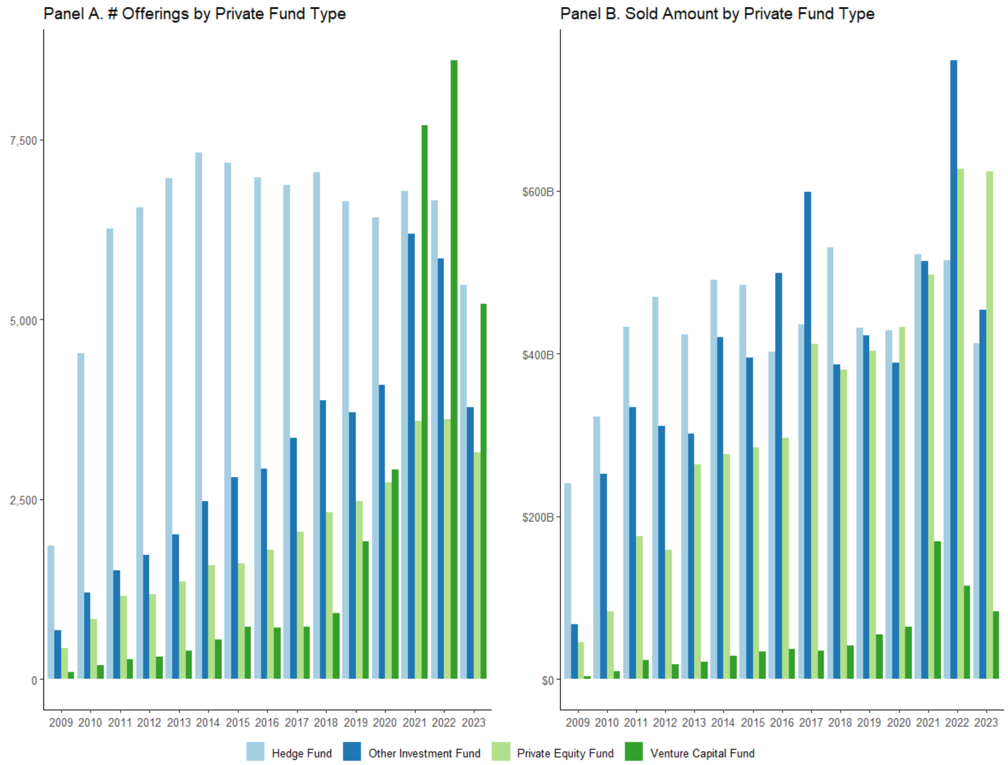

Figure 1. Trends of Offerings and Sold Amounts by Private Fund Type

Note: This figure illustrates the trends in the number of offerings and amounts sold by four types of private fund issuers between 2009 and 2023.

partner or managing member of a Reg D offering as the *sponsor* to the offering. In this section we describe the scope of participation of broker-dealers and RIAs in Reg D offerings and compartmentalize the Reg D market based on whether an offering is sold by broker-dealer or sponsored by RIA.

Table 4 breaks down the Reg D offerings sold and capital raised between 2009 and 2022 according to whether the offering is sold by broker-dealers or sponsored by RIAs. 55,902 (19%) of Reg D offerings are sponsored by RIAs, and \$14.65 trillion (75.7%) of the capital raised in Reg D offerings is attributable to RIA-sponsored offerings. Broker-sold offerings account for 14.2% of the offerings and 41.4% of capital raised. \$6.82 trillion (35.2%) was raised through offerings sponsored by RIAs and sold by broker-dealers. Although 72.2% of Reg D offerings are not sold by broker-dealer or sponsored by RIA, offerings involving neither broker-dealer nor RIA only account for 18.2% of the capital raised. Many offerings not sponsored by RIA are advised by exempt reporting advisers (ERA), which solely manage private funds with less than \$150 million in AUM or only advise venture

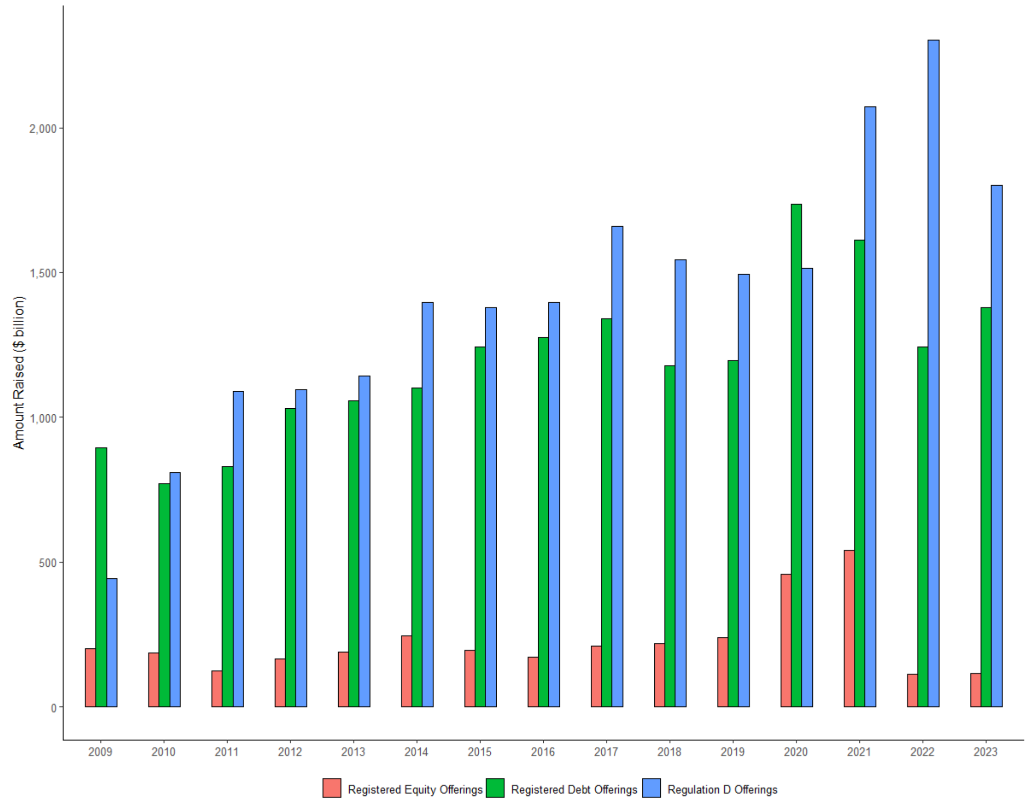

Figure 2. Aggregate Amount Sold in 2009–2023 through Reg D Offerings and Registered Offerings

Note: This figure illustrates the trends in capital raised through Reg D offerings and registered offerings from 2009 through 2023. 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.

capital funds.[36] ERAs advised 31,492 offerings sold for a total of $1.74 trillion, or 37% of the capital raised in offerings not sponsored by RIAs. These results show that investors have access to more information than required by Form D on a significant proportion of the Reg D market through regulatory disclosures filed by intermediaries participating in Reg D offerings.[37]

Panel A of Table 5 reports market shares of broker-sold and RIA-sponsored offerings by issuer industry group. A larger portion of private funds are sponsored by RIAs than any other industry group, with 44.3% of private fund offerings

[36] 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).

[37] Broker-dealers and RIAs are required to disclose criminal history, certain disciplinary actions and customer arbitration awards. 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	15,972 (5.4%)	$6.82T (35.2%)	39,930 (13.6%)	$7.83T (40.5%)	55,902 (19%)	$14.65T (75.7%)
Not RIA-sponsored	25,924 (8.8%)	$1.18T (6.1%)	212,848 (72.2%)	$3.52T (18.2%)	238,772 (81%)	$4.7T (24.3%)
Total	41,896 (14.2%)	$8T (41.4%)	252,778 (85.8%)	$11.35T (58.6%)		

Note: This table reports the number of offerings and amounts sold in each category 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.

and 83.4% of capital raised through private fund offerings attributable to RIA sponsors. 25.6% of real estate offerings were sold by broker-dealers, the highest percentage among all industry groups. While broker-sold offerings account for nearly 43.9% of the capital raised by private funds, issuers from technology, health care and "Other" industry groups are much less likely to enlist broker-dealers: less that 15% of the proceeds from each of these industries are sold through broker-dealers. Only 11.7% 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 industry groups are from offerings involving neither RIA nor broker-dealer. Among the four types of private funds, venture capital funds are the least likely to engage intermediaries. 9.3% of the venture capital fund offerings are sponsored by RIAs and merely 3.6% are sold by broker-dealers. Most of the 22,023 venture capital fund offerings not associated with RIA or broker-dealer are special purpose vehicles (SPVs) that pool capital from accredited investors online. 13,988 (63.5%) of these 22,023 offerings were administered by four equity crowdfunding or investment syndicate platforms.[38]

Panel B of Table 5 reports trends of broker-sold and RIA-sponsored private fund offerings. While RIA-sponsored private fund offerings and capital raised through these offerings have been on the rise since 2009, the proportion of private fund offerings sponsored by RIAs has been decreasing since 2012. The percentage of private fund offerings sold by broker-dealers has also been trending downward since 2012, although the number of broker-sold private fund offerings and proceeds sold in these offerings have been increasing since 2009. The number and percentage of private fund offerings not involving RIA or broker-dealer rose sharply during recent years. 13,693 private fund offerings were neither sold by broker-dealers nor sponsored by RIAs in 2022, a 577% increase from 2012. In untabulated analysis of non-fund offerings, we find that the percentage of capital raised in either RIA-sponsored or broker-sold non-fund offerings has been gradually declining since 2012, although the amounts sold in both types of offerings rose sharply in 2021. In contrast with private fund offerings, the percentages of RIA-sponsored and broker-sold non-fund offerings have both remained relatively

[38]These four crowdfunding or syndicate platforms are AngelList, OurCrowd, FundersClub and Alumni Ventures. Most SPVs report their fund administrators as manager or general partner of the issuer in Form ADV filings.

steady over the period of 2012-2022.

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

	Sponsored by RIA		Sold by Broker-Dealer		Not Using Intermediary	
	Offerings	Sold Amount	Offerings	Sold Amount	Offerings	Sold Amount
Panel A. Issuer Industry Group						
Pooled Investment Fund	44,528 (44.3%)	$14T (83.4%)	18,871 (18.8%)	$7.36T (43.9%)	49,582 (49.3%)	$1.96T (11.7%)
Other Investment Fund	11,086 (40.4%)	$4.94T (87.4%)	4,864 (17.7%)	$2.7T (47.8%)	14,491 (52.8%)	$480B (8.5%)
Hedge Fund	17,815 (66.7%)	$5.3T (86.4%)	5,768 (21.6%)	$2.13T (34.8%)	7,881 (29.5%)	$674B (11%)
Venture Capital Fund	2,304 (9.3%)	$236B (36%)	899 (3.6%)	$105B (16%)	22,023 (88.5%)	$373B (56.8%)
Private Equity Fund	13,323 (62.1%)	$3.53T (81.3%)	7,340 (34.2%)	$2.42T (55.7%)	5,187 (24.2%)	$438B (10.1%)
Technology	743 (1.5%)	$42.6B (8.2%)	1,834 (3.8%)	$65.2B (12.6%)	46,228 (94.8%)	$434B (83.7%)
Other	1,977 (4.7%)	$107B (22.2%)	3,098 (7.4%)	$59.7B (12.4%)	36,819 (88.1%)	$329B (68.4%)
Real Estate	4,614 (12.7%)	$185B (39%)	9,287 (25.6%)	$167B (35.1%)	25,147 (69.3%)	$216B (45.6%)
Health Care	549 (2.1%)	$16B (5.6%)	2,786 (10.6%)	$39.7B (13.9%)	22,890 (87.4%)	$231B (81.1%)
Financial Services	2,589 (18%)	$243B (50.5%)	3,040 (21.2%)	$229B (47.5%)	9,169 (63.9%)	$140B (29.1%)
Energy	295 (3.1%)	$23.1B (14%)	1,700 (17.7%)	$47.6B (28.8%)	7,652 (79.7%)	$98.9B (59.9%)
Manufacturing	241 (4.4%)	$12.7B (20.7%)	517 (9.5%)	$12.8B (20.8%)	4,680 (86.3%)	$37.8B (61.5%)
Retailing	108 (2.7%)	$7.5B (19.6%)	289 (7.3%)	$8B (20.7%)	3,577 (90.3%)	$24.5B (63.9%)
Business Services	154 (5.1%)	$4.5B (16.9%)	174 (5.8%)	$3.6B (13.4%)	2,699 (89.3%)	$18.4B (69.7%)
Restaurants	41 (1.8%)	$1B (11.1%)	96 (4.2%)	$837M (9%)	2,135 (94.2%)	$7.8B (83.6%)
Agriculture	31 (2%)	$5.8B (29%)	156 (10.2%)	$9.1B (45.5%)	1,350 (88.3%)	$9.5B (47.8%)
Travel	29 (2.9%)	$1.5B (13.4%)	48 (4.9%)	$4.7B (43%)	914 (92.5%)	$4.8B (43.9%)
Panel B. Private Fund Offerings						
2009	1,880 (61.3%)	$273B (76.5%)	793 (25.9%)	$132B (37.1%)	988 (32.2%)	$60.9B (17.1%)
2010	4,731 (70%)	$591B (88.7%)	2,111 (31.2%)	$329B (49.4%)	1,614 (23.9%)	$52.8B (7.9%)
2011	6,755 (73.4%)	$851B (88.2%)	3,044 (33.1%)	$441B (45.7%)	1,943 (21.1%)	$82.2B (8.5%)
2012	7,187 (73.5%)	$818B (85.4%)	3,233 (33.1%)	$440B (45.9%)	2,024 (20.7%)	$100B (10.4%)
2013	7,869 (73.4%)	$868B (85.9%)	3,570 (33.3%)	$521B (51.5%)	2,229 (20.8%)	$98.7B (9.8%)
2014	8,490 (71.3%)	$1.07T (88.3%)	3,808 (32%)	$570B (46.8%)	2,796 (23.5%)	$96.7B (7.9%)
2015	8,507 (69.1%)	$1.05T (87.6%)	3,748 (30.4%)	$551B (46%)	3,162 (25.7%)	$102B (8.5%)
2016	8,505 (68.5%)	$1.09T (88%)	3,804 (30.6%)	$501B (40.5%)	3,186 (25.7%)	$103B (8.3%)
2017	8,713 (67%)	$1.24T (83.5%)	3,901 (30%)	$699B (47.2%)	3,459 (26.6%)	$199B (13.4%)
2018	8,947 (63.2%)	$1.11T (82.6%)	3,977 (28.1%)	$588B (43.9%)	4,349 (30.7%)	$175B (13%)
2019	9,100 (61.7%)	$1.1T (83.5%)	4,064 (27.6%)	$541B (41.2%)	4,672 (31.7%)	$159B (12.1%)
2020	9,268 (57.4%)	$1.07T (81.3%)	4,021 (24.9%)	$569B (43.3%)	5,875 (36.4%)	$169B (12.8%)
2021	10,416 (42.9%)	$1.28T (74.9%)	4,346 (17.9%)	$668B (39.2%)	12,615 (52%)	$297B (17.4%)
2022	9,719 (39.3%)	$1.6T (79.5%)	4,123 (16.7%)	$806B (39.9%)	13,693 (55.4%)	$271B (13.4%)

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 reports trends of offering and capital raised for private fund issuers.

Table 6 presents the four 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 offerings using intermediaries. These three types of fund issuers account for 77% of RIA-sponsored offerings and 43% of broker-sold offerings over 2009-2019, and 79% of RIA-sponsored offerings and 52% of broker-sold offerings over 2020-2022. Another major issuer industry for broker-sold offerings is REITs and Finance under the real estate industry group which includes more than 10% of broker-sold offerings. During 2020-2022, private equity fund surpassed hedge fund to become the most common issuer industry for broker-sold offerings, while venture capital fund overtook Other Technologies as the most common issuer industry for offerings not involving RIA or broker-dealer. These results are consistent with the recent trends of "democratization" in private markets featuring raising capital from retail investors through digital platforms without involvement of traditional intermediaries.

Table 6—Top 4 Issuer Industries for RIA-Sponsored and Broker-Sold Offerings

Offerings Sold in 2009-2019	Offerings Sold in 2020-2022
Panel A. RIA-Sponsored Offerings	
Hedge Fund (37.4%)	Hedge Fund (33.7%)
Private Equity Fund (21.5%)	Private Equity Fund (22.9%)
Other Investment Fund (18.4%)	Other Investment Fund (22.5%)
REITS and Finance (3.5%)	Venture Capital Fund (5.5%)
Panel B. Broker-Sold Offerings	
Hedge Fund (17.4%)	Private Equity Fund (21.2%)
Private Equity Fund (14.7%)	Hedge Fund (16.6%)
Other Investment Fund (11.1%)	Other Investment Fund (14.7%)
REITS and Finance (10.8%)	REITS and Finance (13.1%)
Panel C. Offerings Not Using Intermediary	
Other Technology (21.5%)	Venture Capital Fund (23.7%)
Other (18.7%)	Other Technology (15.2%)
Other Health Care (5.4%)	Other (14.2%)
Other Investment Fund (5.4%)	Other Investment Fund (9.9%)

Note: This table reports provides a summary of RIA-sponsored and broker-sold offerings between 2009 and 2022. Panels A reports the top four issuer industries ranked by the number of offerings 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. Reg D Issuer Performance

In this section we analyze the state registration status of Reg D issuers using the SOS business databases of 46 U.S. states. 13.6% of the Reg D issuers identified in state SOS data become delinquent due to failure to comply with state filing requirements within 5 years of the sale of the issuer's first offering. Issuers not using broker-dealers, those from technology and "other" industry groups, corporation issuers and small issuers are more likely to be delinquent. Since some companies continue to maintain an active state registration even after filing for bankruptcy, our estimates of delinquent issuers provide a *lower bound* for the Reg D issuers that have failed. We also estimate the probability of SEC filing delinquency for issuers required to file periodic reports. The Reg D issuers under SEC filing obligations are more likely to be delinquent in periodic filings than issuers of registered offerings that never offered Reg D securities.

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,[39] 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% of the issuers incorporated in the open-records states. While only 5.2% of pooled investment fund issuers can be identified from SOS data,[40] we obtain SOS business status information for 52.2% of real estate issuers, 44.8% of energy issuers and 42.8% of financial services issuers.

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 reports the number and percentage Reg D issuers with an inactive status as of 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 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 issuers have the highest probability of merging into another entity or switching jurisdictions (10.2%). Real estate and private fund issuers are the least likely to be merged or converted, possibly reflecting the long-term nature of investments in these industries. 18.3%

[39]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.

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

of private fund issuers had voluntarily dissolved their business by October 2022, a percentage higher than any other industry except business services.

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.

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 issuer's first Reg D offering sold in 2009-2022 for $n = 1, 2, \ldots, 13$.[41] 13.6% of Reg D issuers became delinquent within 5 years of the sale of the issuer's first offering, and 30.8% became delinquent within 10 years of the first offering. The probability of voluntary dissolution is 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 issuer's first offering, respectively. Issuer are much less likely to be reported as merged or converted compared with other 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. The 63,814 Reg D issuers in our sample stay active for an average of 6.9 years.

Figure 4 illustrates the probabilities of delinquency in state filings at various issuer ages across four groups of issuer attributes. Panel A shows that issuers from the energy industry group have the highest rate of delinquency for each year of issuer age, followed by those from technology and "other" industry groups, and private fund issuers have the lowest rate of delinquent status for most issuer age 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 the one-year delinquency rates for other industry groups are more stable over the issuer's lifespan. Panel B shows that issuers organized as corporation are the most likely to be delinquent at

[41]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.

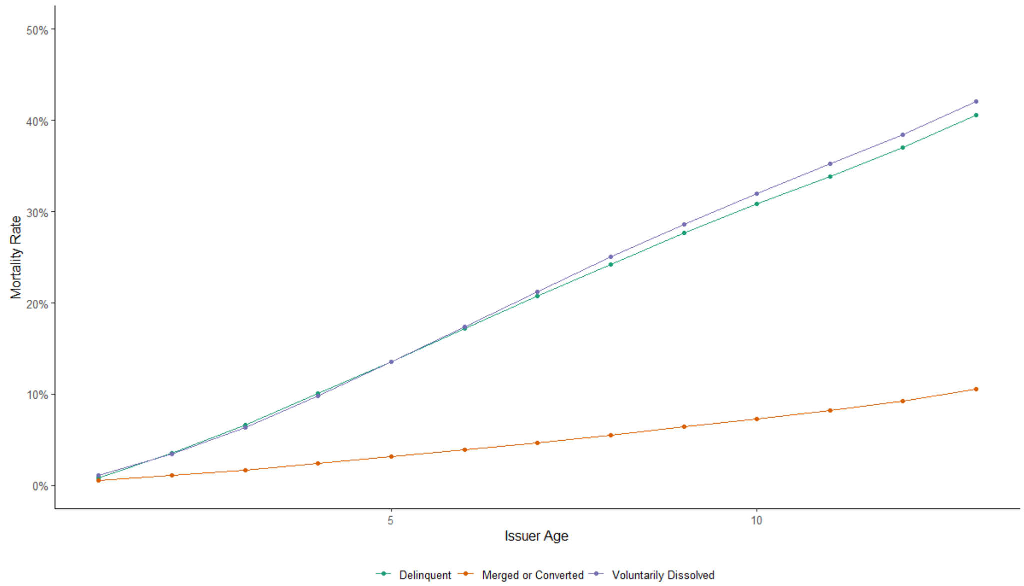

Figure 3. Probabilities of Delinquency, Voluntary Dissolution and Merging or Conversion Against Issuer Ages

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.

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 opt not to disclose their sizes and then by the second smallest issuers (Category 2). This indicates that the average issuer that does not disclose its size has a revenue or NAV between those of the smallest and second smallest issuer categories. According to Panel , the largest issuers (Category 5) are more likely to remain compliant than those from any other category at each year of issuer age. Panel D illustrates that issuers who never use broker-dealers to sell are more likely to be delinquent in every year of issuer age than those engaging broker-dealers, indicating that issuers of broker-sold offerings are more successful.

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

While the large 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

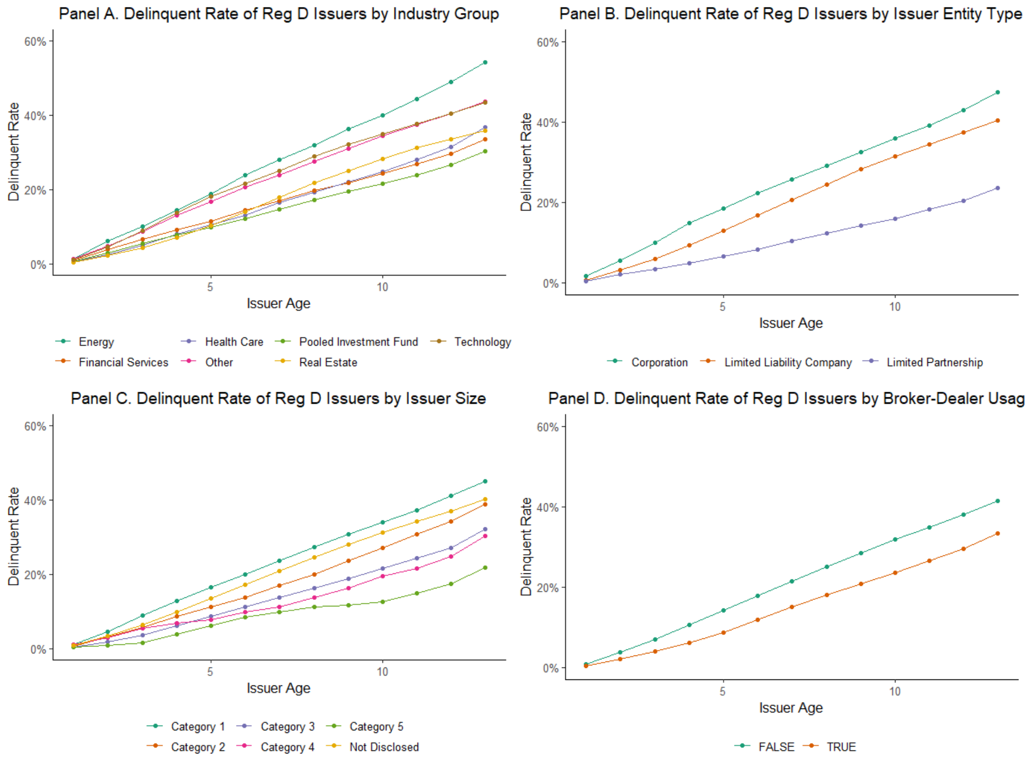

Figure 4. Probabilities of Delinquency Against Issuer Ages by Issuer Attributes

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.

issuers by estimating their likelihoods of failing to comply with periodic filing requirements ("delinquent"). A comparison of delinquency probabilities between Reg D issuers under periodic filing obligations and issuers of registered securities that never offered Reg D securities suggest that companies issuing Reg D securities are much more prone to failure, 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 Reg D issuers and issuers offering solely registered securities. The delinquency statistics are further 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.[42] 684 (13.3%) of these Reg D issuers under periodic reporting obligations had been subject to SEC enforcement actions related to delinquent filings by 2022. In contrast, 4,267 issuers of registered offerings never offered Reg D securities, with only 41 (1%) of these issuers delinquent in periodic filings by 2022.[43] 366 of the 684 delinquent Reg D issuers did not raised any capital between 2013 and 2022, while 38 of the 41 delinquent issuers with no Reg D offering stopped selling any securities after 2012. 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 that never offered Reg D securities. Among issuers that sold securities between 2013 and 2022, Reg D issuers are 103 (8.8%/0.09%) times as likely to be delinquent as those that never offered Reg D securities.

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.

IV. Broker-Sold Offerings and Risk to Retail Investors

In this section we focus on broker-dealers' role in connecting Reg D issuers with retail investors and the 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 trends of customer complaints against

[42]An issuer is considered under the obligation to file periodic reports 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.

[43]We analyze SEC enforcement releases published by December 31, 2022. Notice that the publication date of an enforcement release could lag the date the company first falls into delinquency by years.

broker-dealers involving *illiquid products*, a large portion of which are unregistered securities sold through Reg D offerings.[44] We find evidence that broker-dealers sell Reg D securities to retail investors. Reg D offerings sold by broker-dealers, and especially those sold by broker-dealers with a retail clientele, attract more purchasers per offering. Broker-dealers dually registered as RIAs with a larger clientele of non-HNW individuals sell Reg D securities to more investors per offering and raise less capital per investor. We also show that broker-dealers receiving higher commissions for selling Reg D offerings and those with a higher percentage of representatives selling Reg D securities are more likely to receive complaints arising from illiquid products. Viewed together, our findings support the narrative that retail investors suffer losses stemming from Reg D securities recommended by brokers who pursue commissions at the expense of their clients' best interests.

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

Table 10 presents estimates of sales commission and upfront cost rates in broker-sold Reg D offerings.[45] 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 funds pay the lowest commissions and upfront costs, and energy offerings pay the highest front-end loads with 6.6% of the proceeds allocated to broker-dealers and 9.8% of the proceeds paid to 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%. Industry groups with the highest commissions and upfront costs are business services, energy and health care, while private fund and financial services offerings charge the lowest upfront fees. Panel B shows that commissions and upfront costs 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 sold for more than $50 million.

Figure 5 depicts time trends of FINRA-arbitrated complaints filed by customers between January 2013 and November 2022 alleging losses arising from illiquid products. Both the number and percentage of complaints involving illiquid products fell in the first half of the last decade before rising rapidly during 2018

[44]These include the following illiquid instruments typically sold through Reg D offerings: 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. 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.

[45]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.

Table 10—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.

through 2021. Panel A illustrates that the number of filed arbitrations involving illiquid products had a year-over-year increase of 74% in 2020, and the number of resolved arbitrations mentioning illiquid products had a year-over-year increase of 104% in 2021. Panel B shows that while only 16% of the complaints filed in 2018 are related to illiquid products, that percentage jumps to 46% in 2020 and 58% in 2021. The percentage of resolved complaints involving illiquid products also increases steeply in recent years with about 40% of the cases resolved in 2021 and 2022 involving illiquid products.

Table 11 characterizes the relationship between complaints arising from 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.[46] The more Reg D offerings sold by the broker-dealer, the higher percentage of its representatives receiving complaints involving illiquid products. Individual brokers registered with broker-

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

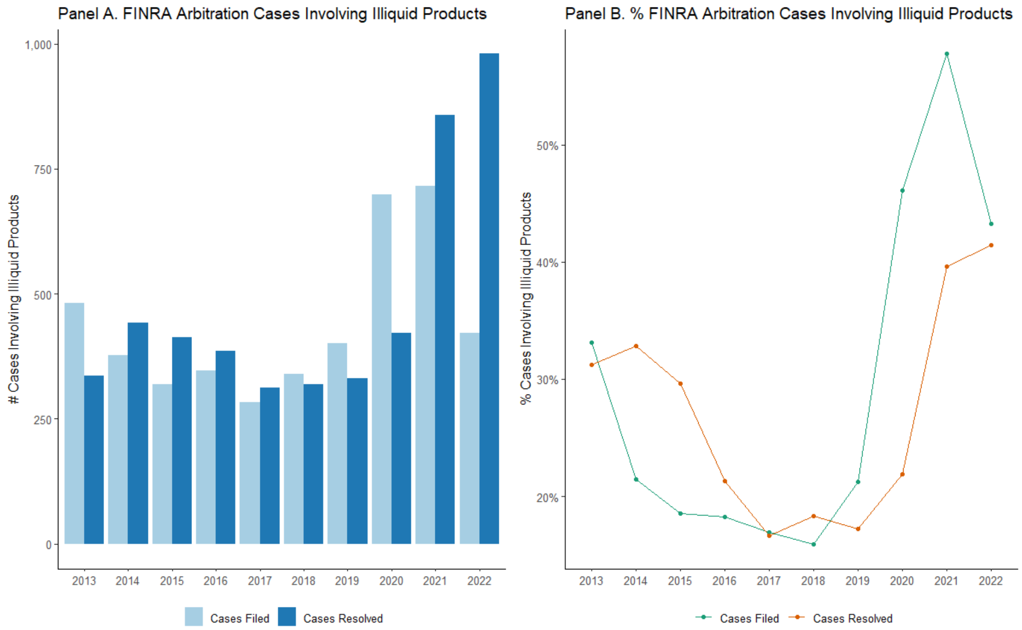

Figure 5. Trends of Offerings and Sold Amount by Private Fund Type

Note: This figure illustrates trends of FINRA customer claimant arbitrations 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.

dealers selling more than 50 Reg D offerings is on average 38 (1.52%/0.04%) times as likely to receive complaints involving illiquid products as those registered with broker-dealers that never sell any Reg D offering. Among broker-dealers receiving at least one complaint (involving any securities), those selling more Reg D offerings have 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 complaints involving illiquid products.

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

Table 12 reports the number of investors and amount sold to each investor in new Reg D offerings not sold by broker-dealer, sold by broker-dealer serving institutional investors only and sold by broker-dealers serving retail investors. Broker-dealers are considered serving retail investors (retail broker-dealer) if they

Table 11—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.

are required to file a customer relationship summary (Form CRS) with the SEC; otherwise they are considered serving institutional investors only (institutional broker-dealer).[47] New offerings sold by retail broker-dealers tend to attract the most investors per offering. The average number of investors in retail-broker-sold offerings is more than 3 times as much as those in offerings sold by institutional broker-dealers only and offerings not sold by any broker. The amount raised per investor in offerings sold by retail broker-dealers is much lower than offerings sold by institutional broker-dealers only. Our results are consistent with the idea that retail broker-dealers sell Reg D securities to their individual clients resulting in larger cohorts of investors and lower sold amounts per investor.

Table 12—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-dealers only	3,579	15.5	6	$16.9M	$4.1M
Sold by retail broker-dealers	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.

[47]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.

We provide further evidence of retail customers purchasing Reg D securities through broker-dealers 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 selling the offering. Since the number of brokerage clients of a broker-dealer is not publicly available, we focus on a sample of broker-dealers which are "dually-registered" as RIAs and required to disclose information about their clientele in Form ADV filings. Beginning in 2018, RIAs are required to report the number and AUM of clients with whom they have an investment advisory relationship (advisory clients) for four types of clients: (i) non-HNW individuals, (ii) HNW individuals, (iii) institutional clients and (iv) fund clients.[48] 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).[49] Dually-registered broker-dealers offer both brokerage and investment advisory services and must advise clients to choose between the two based on their financial situations.[50] Assuming dually-registered firms do not systematically favor one service line over 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.[51] 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 13 displays the results of seven OLS regressions relating the 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.[52] The dependent variable of each regression is the log number of investors in a Reg D offering. The independent variables of interest are the log

[48]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).

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

[50]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.

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

[52]The regressions are run 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.

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 clients in the last three specifications. To account for heterogeneity in size and business practices across firms, we include following broker-dealer control variables: log AUM attributable to four types of advisory clients, log number of broker employees, squared log number of broker employees and a dummy variable that equals 1 if the broker-dealer is a "wirehouse" full-service firm.[53] We exclude the log AUM control for a given type of client to avoid multicolinearity when the number or AUM percentage of that type of clients is the independent variable of interest. All broker-dealer characteristics are averaged 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 control for the following offering characteristics: 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 13 present the estimated relationship between the investors in Reg D offerings sold by dually-registered broker-dealers and the broker-dealers' non-fund clients of a given type. Column (1) shows that there is a positive and statistically significant correlation between the number of investors in an offering and the total number of non-HNW individual clients of the broker-dealers selling the offering. The estimated coefficient of 0.102 indicates that for a 50% (100%) increase in the total number of selling brokers' non-HNW individual clients, the number of investors in the offering increases by 4.2% (7.3%). Columns (2) and (3) show that neither HNW individual clients nor institutional clients of the selling brokers have a positive association with Reg D investors. The regression in Column (4) includes the log numbers of advisory clients of all three types. The coefficient of 0.171 on the log number of non-HNW individuals suggests that a 50% (100%) increase in the total number of selling brokers' non-HNW individual clients is associated with a 7.2% (12.6%) increase in the number of investors in the offering. 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 share of selling brokers' total AUM attributable to non-HNW individual clients. To put the coefficient of 1.241 into perspective, for a 10 (20) percentage point increase in the share of selling brokers' total AUM attributable to non-HNW individuals, the number of investors in the offering increases by 13.2% (28.2%). Columns (6)-(7) show that the number of Reg D investors is uncorrelated with the share of AUM attributable to HNW individuals or institutional clients. It follows from all seven specifications that the

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

Table 13—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(non-HNW individuals + 1)	0.102***			0.171***			
	(0.028)			(0.041)			
log(HNW individuals + 1)		−0.081*		−0.098*			
		(0.042)		(0.051)			
log(institutional clients + 1)			−0.049	−0.055			
			(0.031)	(0.045)			
Non-HNW individual AUM %					1.241***		
					(0.295)		
HNW individual AUM %						−0.586	
						(0.364)	
Institutional client AUM %							0.022
							(0.295)
Firm characteristics							
log(non-HNW individual AUM + 1)		0.066***	0.071***			0.053***	0.070***
		(0.017)	(0.017)			(0.012)	(0.020)
log(HNW individual 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.

number of investors of a broker-sold offering is positively correlated with both the number of selling broker-dealers and the amount sold in the offering.

Since the log sold amount is a control variable, replacing the log sold amount per investor for the log number of investor as dependent variable in the above regressions leads to coefficient estimates with the same magnitude and significance level but opposite sign. Thus, our findings show that Reg D offerings sold by dually-registered broker-dealers with more non-HNW individual clients tend to be sold to more investors and raise a smaller amount of capital per investor, while a larger clientele of HNW individuals or institutional investors is not indicative of a larger cohort of Reg D investors. To the extent that advisory clients are representative of the overall customer base of dually-registered broker-dealers, our results provide evidence that Reg D offerings are sold through broker-dealers 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 sell Reg D securities to retail customers (Table 13) and receive more complaints involving illiquid products when selling more Reg D offerings (Table 11) indicate that retail investors suffer losses arising from Reg D securities recommended by brokers. We now examine the potential drivers of these losses by associating complaints against brokers with 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 14 reports the average rate of complaints involving illiquid products for each quartile of broker-dealers sorted by each of four offering attributes.[54] Receiving higher commissions in Reg D offerings on average is strongly indicative of a higher rate of complaints involving illiquid products, with broker-dealers receiving the highest commissions 20 (1.83%/0.09%) times as likely to receive complaint involving illiquid products as those receiving the lowest commissions. Broker-dealers with a higher proportion of employees receiving commissions from Reg D offerings, those selling Reg D offerings together with a larger number of other broker-dealers, and those co-selling Reg D offerings with firms that have a higher average rate of complaints tend to have higher rates of complaints involving illiquid products.

Table 14—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.

[54]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.

High commissions can lead to customer losses for three reasons. First, commissions reduce the amount of proceeds available for the issuers to make investments and erode returns. Second, commissions may create an 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 the riskiness of Reg D securities, having an unusually large proportion of broker employees selling Reg D 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 whom may be 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 across the syndicate or the unfavorable outcome of the recommended Reg D investments.

Table 15 report the estimated relationships between complaints involving illiquid products and attributes of Reg D 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 of employing at least one broker with complaints involving illiquid products. In addition to the four offering characteristics in Table 14, we include in all regressions five other variables to control for offering characteristics that may affect complaint rate: number of energy offerings sold per broker, number of financial services offerings sold per broker, number of offerings other than energy and financial services offerings sold per broker, percentage of offerings sold by the broker-dealer which sell limited partnership interests (LP interests), and percentage of offerings selling limited liability company interests (LLC interests). To account for heterogeneity in firm characteristics that may affect complaint rate, we include nine variables that describe the size, history, business practices and compliance culture of the broker-dealer. 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.

The coefficient on commission rate is positive and statistically significant in all six specifications. Columns (1)-(3) of Table 15 show that a one percentage point increase in commission rate is associated with a 6-11 basis point increase 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 a one percentage point increase in commission rate corresponds to an increase between 1 and 1.5 percentage points in the probability that at least one broker representative of the broker-dealer receives illiquid-product-related complaints. The coefficient on the percentage of

Table 15—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 14. 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.

broker representatives receiving commissions for selling Reg D offerings is positive and statistically significant in five of the six regressions, suggesting that broker-dealers with specialty in Reg D securities are more likely to receive complaints arising from these securities. A one percentage point increase in the proportion of brokers receiving commissions is associated with an increase between 8 and 10 basis 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 marketing the same Reg D securities is positively correlated with illiquid-product-related complaints in all six regressions, supporting the notion that larger syndicates target more unsophisticated investors. The average complaint rate of co-selling broker-dealers is positively correlated with the probability of employing at least one broker with illiquid-product-related complaints, although the correlation between average co-seller complaint rate and rate of illiquid-product-related complaints 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 broker appear to be negatively correlated with complaints involving illiquid products, indicating that having sold a larger number of offerings alone could indicate a more successful business and lower risk. On the other hand, more energy offerings sold per broker and a higher fraction of offerings with LP interests and LLC interests are associated with more complaints involving illiquid products. Our results indicate that high commissions, specialization in unregistered offerings and participation in a large broker-dealer syndicate are strong indicators of investor losses involving Reg D securities.

V. Investors and Conflicts of RIA-Sponsored Offerings

This section examines conflicts of interest between the 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 association is found between investors of RIA-sponsored offerings and the RIA sponsor's non-HNW individual or institutional clients. We also find that RIAs with non-fund clients are more likely to disclose conflicts of interest indicative of placing clients in self-sponsored investment vehicles when 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 if their investment advisers also sponsor 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.[55] Restricted by the prohibition of general advertising, RIAs that advise

[55]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.

no client other than private funds largely rely on industry connections and third-party placement agents to find external investors. On the other hand, some RIA managers of private funds have an advisory relationship with non-fund clients including individual and institutional investors, whose assets under management provide an important 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 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 similar 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 private placements. For example, these in-house illiquid products may have peculiar risk characteristics 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 sponsoring Reg D offerings and managing assets for retail clients. Panel A of Table 16 reports the total amount sold, number of investors in new offerings and amount sold per 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 (Retail-oriented RIAs) tend to be sold to more investors for a significantly lower amount per investor than those sponsored by RIAs with a smaller share of retail AUM. Panel B of Table 16 displays the recent trends in RIA-sponsored offerings with respect to RIAs with different retail bases. Retail-oriented RIAs have shown an increasing appetite for self-sponsored Reg D offerings over 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 amounts of capital raised through Reg D offerings sponsored by retail-oriented and non-retail-oriented RIAs grow by 76.6% and 30.7%, respectively.

Table 16—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	$4.12T (55.1%)	36.4	10	$16.2M	$1.9M
0% < Retail AUM ≤ 25%	7,430	$2.83T (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 substantial 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 with data.[56] We provide empirical evidence suggesting that RIAs place their wealthy individual clients into self-sponsored Reg D offerings. Table 17 presents the results of seven OLS regressions examining the relations between investors of RIA-sponsored Reg D offerings and the sponsoring RIA's advisory clientele. The regression sample consists of 8,704 new Reg D offerings sold between 2017 and 2021 that were sponsored by 1,235 RIAs which also advise non-fund clients. The regression specifications are similar to those reported in Table 13. 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.[57] 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,[58] 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

[56] 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.

[57] 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.

[58] Similar to the regressions reported in Table 13, 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.

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.[59] We also control for the following offering characteristics that potentially affect the number of investors in 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 17 report estimates of the relation between the number of investors in a RIA-sponsored Reg D offering and the number of the RIA sponsor's non-fund clients of a given type. 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 clients of the RIA sponsor. The estimated coefficient of 0.093 indicates that a 50% (100%) increase in the number of HNW individuals advised by a RIA is associated with a 3.8% (6.7%) increase in the number of investors in each offering sponsored by the RIA. Columns (1) and (3) show that the number of either non-HNW individuals or institutional clients advised by the RIA has a weak negative correlation with the number of investors in a RIA-sponsored offering. The regression reported in column (4) includes the log numbers of clients of all three types as independent variables and confirms that the number of Reg D investors increases with the number of HNW individual clients and decreases 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 can be interpreted such that the number of investors in a RIA-sponsored offering increases by 13.5% (28.8%) for a 10 (20) percentage point increase in the share of the RIA sponsor'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 statistically significant positive correlation with the share of the RIA sponsor's AUM attributable to either non-HNW individuals or institutional investors. All seven regressions conclude that the number of investors in a RIA-sponsored offering is larger when the offering has a larger sold amount and when the offering is sold by broker-dealers. Since the log sold amount is included as control variable, our results also imply a negative and statistically significant relationship between the amount sold per investor of a RIA-sponsored offering and the number and percentage AUM of the RIA sponsor's HNW individual clients.

The positive relationship between the number of investors of a RIA-sponsored

[59]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.

Table 17—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(non-HNW individuals + 1)	−0.026			−0.053***			
	(0.017)			(0.018)			
log(HNW individuals + 1)		0.093***		0.123***			
		(0.022)		(0.022)			
log(institutional clients + 1)			−0.037*	−0.063***			
			(0.021)	(0.021)			
Non-HNW individual AUM %					0.105		
					(0.296)		
HNW individual AUM %						1.266***	
						(0.170)	
Institutional client AUM %							−0.740***
							(0.142)
Firm characteristics							
log(non-HNW individual AUM + 1)		−0.016***	−0.004			−0.004	−0.009
		(0.006)	(0.006)			(0.005)	(0.006)
log(HNW individual 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.

offering and the RIA sponsor's HNW individual clientele provides evidence of RIAs wooing their HNW individual clients for investments in self-sponsored Reg D offerings. The regression estimates also indicate that RIAs do not systematically allocate the assets of their non-HNW individual and institutional clients into self-managed Reg D securities. Since RIAs are permitted to charge an individual client performance fees only if the client is a HNW individual,[60] our findings strongly

[60]Rule 205-3 of the Investment Advisers Act of 1940 exempts RIAs from the prohibition of charging

support the notion that many RIAs set up in-house alternative investment vehicles funded by their HNW individual clients' assets in pursuit of advisory fees.

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

A positive relationship 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 conflicts of interest between RIAs and advisory clients disclosed under Items 8.A and 8.B of Form ADV Part 1A, which has been used by previous studies to measure RIA conflicts (Casavecchia and Tiwari 2016; Del Guercio, Genc, and Tran 2018). See Table 18 for the original language from Form ADV. We are especially 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. The RIAs allocating advisory clients' assets to self-sponsored offerings should be expected to report one or more of these interests in client transactions.

Table 18—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 19 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 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. The RIAs

performance fees when the individual client is a "qualified client", which is equivalent to the definition of HNW individuals used by Form ADV.

sponsoring Reg D offerings are more likely to report a potential conflict regarding proprietary or sales interest in client transactions in all six items except for 8.A.(2). RIA 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.(3), 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. Had RIA sponsors of Reg D securities refrained from placing their advisory clients in these securities, they would not have reported a higher incidence of conflicts under 8.A.(3), 8.B.(2) and 8.B.(3) than RIAs not sponsoring any Reg D offering.

Table 19—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.

We formally analyze the relationship between sponsoring Reg D offerings and reporting conflicts of interest indicative of placing advisory clients in self-sponsored investments through the following two fixed-effects specifications:

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

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 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 a dummy variable equal to 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 past or active sponsorship of 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 consists of 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 20 reports estimates of the relation between disclosed conflicts of interest and Reg D sponsorship from six fixed-effects regressions for each specification. 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 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 by 12% when the RIA actively sponsors Reg D offerings in that year. Column (5) shows that the probability of a RIA recommending to 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 if the RIA is an active sponsor to Reg D offerings in that year. These results are strong evidence that the initiation of Reg D sponsorship which taps advisory clients for capital prompts RIAs to disclose potential conflicts of interest arising from these arrangements. The coefficients reported in columns (2) and (6) are also statistically significant although the estimated increases in the probability of reporting conflicts are smaller than those 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 increased transactions between advisory clients and the RIA or the brokerage customers of the RIA.

VI. Conclusion

We provide a comprehensive analysis of the markets of unregistered offerings using Reg D exemptions, focusing on the roles of issuers and intermediaries and their impact on retail 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 raised. 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 per investor has declined significantly over recent years. While 87% of the capital is raised by private funds, non-fund issuers including operating companies account for 65% of the offerings. Intermediaries play an important role in the Reg D market: broker-sold offerings account for 41% of the total proceeds from Reg D offerings, and 76% of the capital raised 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 became delinquent and 30% went out of business within five years of the issuer's first Reg D offering, reflecting the inherent risks faced by investors of Reg D securities.

We document evidence of losses suffered by retail investors resulting from Reg D securities recommended by broker-dealers. Offerings marketed by broker-dealers

Table 20—Relation Between Reported Conflicts of Interest and Reg D Sponsorship

	Dependent variable:					
	𝟙{Yes to 8.A.(1)}	𝟙{Yes to 8.A.(2)}	𝟙{Yes to 8.A.(3)}	𝟙{Yes to 8.B.(1)}	𝟙{Yes to 8.B.(2)}	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.

serving retail customers are sold to more investors and have a lower amount sold per investor, the number of investors in offerings sold by dually-registered broker-dealers is positively correlated with the size of the selling broker-dealers' retail clientele. Broker-dealers that receive higher commissions, specialize in selling Reg D offerings and work with a larger group of co-sellers have higher rates of customer complaints involving illiquid products. These findings, viewed in the context of recently soaring complaints against brokers involving Reg D securities, should alert investors to the heightened risks in Reg D securities due to broker conflicts and misconduct.

We also explore potential conflicts of interest between RIA sponsors of Reg D offerings and their retail clients. Offerings sponsored by RIAs with a larger retail clientele are sold to more investors and raise a lower dollar amount from each investor, indicating retail participation in these RIA-sponsored offerings. The number of investors in a RIA-sponsored offering is positively correlated with the number and percentage AUM of the RIA's HNW individual clients, but not with the RIA's non-HNW individual or institutional clienteles. RIAs advising non-fund clients are more likely to disclose an interest in client transactions when they sponsor Reg D offerings. Our results provide strong evidence of conflicts of interest 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.

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