The Price of Power: The Big Three and IPO Underpricing

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The meteoric rise of asset management giants over the last two decades has ignited intense scrutiny among legal scholars and economists. The control wielded by these behemoths over vast capital pools and their outsized influence over corporate America is argued to pose myriad economic, social, and corporate governance challenges. In this Article, we uncover a critical yet overlooked arena in which the concentration in the asset management industry and the rising dominance of giant institutional investors manifest additional deleterious consequences: capital markets, specifically in the context of Initial Public Offerings (IPOs).

We present empirical evidence that concentrated market power in the hands of a core group of giant asset managers has exacerbated IPO underpricing—defined as the difference between the offer price and the stock's closing price on the first day of trading. Our analysis indicates that from 2002 to 2022, the simultaneous participation of the three largest asset managers—BlackRock, Vanguard, and Fidelity—in IPOs increased underpricing levels by an average of 16.7 percentage points. Even after controlling for IPO size, bookrunner, industry, and year fixed effects, this impact remains substantial at 9.7 percentage points.

The participation of such market-moving institutional investors can drive up underpricing through various mechanisms. Our analysis pinpoints several channels through which these investors signal their bidding intentions, share information, and even coordinate their positions during the IPO process. Some of these mechanisms warrant closer scrutiny, as they may constitute collusive behavior by institutional investors in their role as competing bidders in IPOs—potentially violating antitrust laws.

Our novel analysis of underpricing through the lens of institutional-investor market power adds a crucial piece to the IPO underpricing puzzle and illuminates the marked correlation between rising underpricing levels and the ascendancy of asset manager capitalism. Notably, over the past decade, underpricing has soared to extraordinary levels, resulting in an unprecedented $90 billion left "on the table" by issuers. To counteract this effect of asset manager capitalism, we propose a three-pronged approach: first, introducing market-structure changes to limit the size and curb the market power of asset

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managers; second, enhancing transparency within the book-building process; and third, imposing communication restrictions among prospective bidders during the pricing process.

INTRODUCTION

Initial public offering (IPO) underpricing has been a persistent feature of the United States capital markets landscape.[1] While research findings on the determinants of underpricing show considerable variation,[2] a consistent trend emerges: when firms undertake an IPO, their shares are almost always sold for less than their value on the first day of trading. Since 1980, corporate America has forfeited over 20 cents of potential proceeds for every dollar raised in IPOs—totaling approximately $237 billion—as evidenced by immediate post-IPO stock price increases.[3]

The prevalence and magnitude of this systematic undervaluation have risen almost continuously over the past four decades, with a notable spike over the past two decades. While average IPO underpricing in the United States stood at a modest 7% in the 1980s,[4] the last two decades have witnessed an average first-day return of 18.9% on an equally weighted basis.[5] Even more strikingly, since 2014, this figure has risen to nearly 25%, underscoring a significant intensification of the phenomenon.[6]

Recent high-profile offerings exemplify the magnitude of this underpricing. Take Airbnb, Inc., for instance, whose 2020 IPO has the dubious honor of being the second-most underpriced issue in history.[7] The company priced its shares at $68, raising approximately $3.5 billion.[8] However, a staggering 112% surge on the first trading day equated to Airbnb's relinquishing nearly $4 billion in potential proceeds—surpassing the total amount raised in the offering.[9] Other notable examples from the last decade include Snowflake, Inc., Snap, Inc., and DoorDash, Inc., all of which left billions of dollars on the table due to significant first-day price jumps.[10]

1. *See, e.g.*, Tim Loughran & Jay R. Ritter, *Why Has IPO Underpricing Changed over Time?*, 33 FIN. MGMT. 5, 5 (2004); JAY R. RITTER, INITIAL PUBLIC OFFERINGS: UNDERPRICING 2 tbl. 1 (2025), https://site.warrington.ufl.edu/ritter/files/IPOs-Underpricing.pdf [https://perma.cc/6CTJ-UGUJ] (documenting that the average first-day returns for IPOs from 1980 to 2023 were 16.22% on an equally weighted basis, measured as the difference between the closing price on the first day and the IPO offer price, expressed as a percentage of the IPO offer price). Note that IPO underpricing has been identified in virtually every stock market around the world. *See infra* note 56.

2. *See, e.g.*, Catherine M. Daily et al., *IPO Underpricing: A Meta-Analysis and Research Synthesis*, 27 ENTREPRENEURSHIP THEORY & PRAC. 271, 272 (2003) ("While there is an extensive, and growing, body of empirical research investigating IPOs, the extant literature reveals little consistency in reported findings when focusing on the correlates of underpricing; i.e., those *ex ante* factors associated with underpricing.") (citation omitted).

3. RITTER, *supra* note 1, at 2.

4. *Id.*

5. *Id.*

6. *Id.* The last five years of this period, from 2019 to 2023, saw a further increase, with an average first-day return of approximately 31% on an equally weighted basis. *Id.*

7. JAY R. RITTER, MONEY LEFT ON THE TABLE IN IPOS BY FIRM 2 (2025), https://site.warrington.ufl.edu/ritter/files/money-left-on-the-table-in-IPOs.pdf [https://perma.cc/96A4-CKWT].

8. Erin Griffith, *Airbnb Prices I.P.O. at $68 a Share, for a $47 Billion Valuation*, N.Y. TIMES (Dec. 9, 2020), https://www.nytimes.com/2020/12/09/business/airbnb-ipo-price.html [https://perma.cc/CDM2-T2A9].

9. Lauren Feiner, *Airbnb Skyrockets 112% in Public Market Debut, Giving It a Market Cap of $86.5 Billion*, CNBC (Dec. 10, 2020), https://www.cnbc.com/2020/12/10/airbnb-ipo-abnb-starts-trading-on-the-nasdaq.html [https://perma.cc/NW4V-YHSD]; RITTER, *supra* note 7, at 2.

10. RITTER, *supra* note 7, at 2.

This systematic undervaluation of newly issued shares has been one of the most extensively researched phenomena in capital markets. Over the last half-century, it spawned a vast body of corporate law scholarship and finance literature attempting to determine its causes.[11] The current IPO underpricing research encompasses a broad spectrum of theories, including information asymmetry-based models, principal-agent frameworks, and behavioral factors, among others.[12] Despite the plethora of studies examining this phenomenon, the persistence of IPO underpricing continues to challenge our understanding of market efficiency and the dynamics of capital formation.[13] The precise mechanisms and underlying factors driving IPO underpricing remain elusive, with many prevailing theories failing to adequately explain the surge in underpricing observed in recent decades in particular.[14]

In this Article, we introduce a novel proposition—supported by empirical evidence—to explain IPO underpricing.[15] We posit that the ascent of certain asset management behemoths, which now control unprecedented pools of capital and exert enormous influence over financial markets, has endowed them with substantial market power. This power, we argue, is strategically leveraged in IPOs to depress offer prices, thereby emerging as a significant driver of underpricing.

Our analysis centers on the three largest asset management institutions—the BlackRock Group (BlackRock), the Vanguard Group (Vanguard), and Fidelity Investments (Fidelity) (collectively known as the "Big Three").[16] We demonstrate that the market power of these titans in the primary market manifests in two distinct forms, direct and indirect.

11. For a comprehensive review of the extant literature, see Alexander Ljungqvist, *IPO Underpricing*, *in* HANDBOOK OF CORPORATE FINANCE: EMPIRICAL CORPORATE FINANCE 375, 381–84 (2007). One of the first empirical analyses examining IPO underpricing was conducted by Ibbotson and Jaffe in 1975. Roger G. Ibbotson & Jeffrey F. Jaffe, *'Hot Issue' Markets*, 30 J. FIN. 1027 (1975) (conducting an empirical analysis examining IPO underpricing).

12. *See infra* Part I.B.

13. *See, e.g.*, Kathleen Weiss Hanley, *The Economics of Primary Markets*, *in* SECURITIES MARKET ISSUES FOR THE 21ST CENTURY 36 (Merritt B. Fox et al., eds. 2018) ("[T]here is no clear consensus about . . . the equilibrium level of underpricing . . . ."); Supriya Katti & B.V. Phani, *Underpricing of Initial Public Offerings: A Literature Review*, 4 UNIVERSAL J. ACCT. & FIN. 35, 35 (2016) ("Although many factors have justified the degree of underpricing, controlling for these factors does not completely eliminate the degree of underpricing. The justification of residual underpricing through these factors has limitations in terms of failure to completely explain the IPO underpricing.").

14. *See e.g.*, Daily et al., *supra* note 2; *see also infra* Part I.B.

15. *See infra* Part II.

16. While much of the literature on institutional ownership focuses on the "Big Three" defined as BlackRock, Vanguard, and State Street Global, recent research by Lund and Robertson notes that Fidelity has surpassed State Street in terms of assets under management (AUM). *See* Dorothy S. Lund & Adriana Robertson, *Giant Asset Managers, the Big Three, and Index Investing* 2 (Ctr. for L. & Soc. Sci., Rsch. Paper Series, Paper No. 23-13, 2023), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4406204 ("For example, the term [Big Three] excludes Fidelity, even though it is larger than State Street in terms of AUM and has also benefitted from a steady inflow of investor funds over the past several years.") (citation omitted). Moreover, for the purposes of this Article, which focuses on primary markets in which passive funds rarely participate, BlackRock, Vanguard, and Fidelity are particularly relevant as they are also the largest managers of actively managed AUM. *See also infra* notes 173–75.

The direct form of market power stems from their sheer size in terms of assets under management (AUM) and their substantial order volume.[17] The Big Three participate in a significant number of offerings and are prominent players in the primary market.[18] Typically, they maintain sizeable equity stakes in their portfolio companies and are among the largest shareholders of their portfolio companies. As of 2023, each of these institutions held equity positions in approximately 5,000 U.S. companies,[19] collectively controlling around 23% of the average S&P 500 company.[20]

The indirect market power of the Big Three is attributed to several factors, chief of which are their reputation in capital markets, the signaling effect of their participation in IPOs, and the critical role they play in the pricing process.[21] Notably, when high-profile asset managers like the Big Three allocate funds to an IPO, their involvement often serves as a de facto "seal of approval" for the issuing company, conveying a positive signal about its prospects.[22] This creates a strong incentive for issuers to include these institutions in their shareholder base, granting these investors the ability to undervalue the issuer. Furthermore, as sophisticated, informed investors, institutional investors such as the Big Three provide feedback on the value of the issuer during roadshows[23] and, more recently, during test-the-water (TTW) communications, which help the issuing company gauge investor

17. As of 2024, BlackRock, Vanguard, and Fidelity collectively manage over $24 trillion in assets. *See About BlackRock in Singapore*, BLACKROCK https://www.blackrock.com/sg/en/introduction-to-blackrock [https://perma.cc/JG9L-XBWD]; *Vanguard's History*, VANGUARD https://investor.vanguard.com/about-us/why-vanguard [https://perma.cc/2HYM-3ENF]; *We Are Fidelity*, FIDELITY https://www.fidelity.com/about-fidelity/our-company [https://perma.cc/BB2Q-6JUX]. BlackRock oversees approximately over $11 trillion and Vanguard oversees approximately $9 trillion USD, while Fidelity manages more than $5 trillion. Sean Ross, *The 3 Biggest Mutual Fund Companies in the U.S.*, INVESTOPEDIA (Oct. 20, 2025), https://www.investopedia.com/articles/investing/100815/3-biggest-mutual-fund-companies-us.asp [https://perma.cc/75NK-DX3D].

18. *See infra* Part II.A.

19. *See* Todd Gormley & Manish Jha, *Bonds Improve Institutional Investors' Equity Monitoring*, PROMARKET (May 10, 2023), https://www.promarket.org/2023/05/10/bonds-improve-institutional-investors-equity-monitoring/ [https://perma.cc/Z2JK-X46F].

20. City Press Office, *Exploring the Pros and Cons of Index Funds and ETFs*, BAYES BUS. SCH. (June 9, 2023) https://www.bayes.city.ac.uk/news-and-events/news/2023/june/exploring-the-pros-and-cons-of-index-funds-and-etfs [https://perma.cc/X6TC-TXHU]. It is important to note that the precise percentage of a company's stock held by each of the Big Three immediately following an IPO is difficult to establish. The ownership stakes of these major institutional investors in newly public companies can vary significantly and may fluctuate rapidly in the post-IPO period. The ownership stakes of these major institutional investors in newly public companies can vary significantly and may fluctuate rapidly in the post-IPO period.

21. *See infra* Part II.B.1.ii.

22. *Institutional Investors: Unlocking IPO Success: The Role of Institutional Investors*, FASTERCAPITAL (Apr. 12, 2025) [hereinafter *Unlocking IPO Success*], https://fastercapital.com/content/Institutional-Investors--Unlocking-IPO-Success--The-Role-of-Institutional-Investors.html [https://perma.cc/MAL6-L5WH] (discussing institutional investor involvement in IPOs and noting "[t]heir reputation, expertise, and financial resources can . . . provide a vote of confidence to retail investors").

23. For a review of the roadshow process, see Ljungqvist, *supra* note 11, at 379–80 (explaining that "[o]nce the S.E.C. declares the offer 'effective', the investment bank introduces the company to institutional investors on a so called 'road show'. The managers pitch the company's investment case, and the investors provide feedback in the form of more or less explicit, but always non-binding, indications of interest. On the basis of these indications of interest, which are recorded in a 'book', and the state of the market, the investment bank proposes an offer price to the company. Once priced, investors are asked to confirm their indications of interest, shares are allocated, and a few hours later, trading begins. This process is known as bookbuilding.").

interest in its shares in principle at earlier stages of the IPO.[24] The institutional investors' essential role as providers of valuation feedback grants them significant pricing power, which amplifies their ability to influence offer prices.[25]

In this Article, we elucidate how the Big Three can exercise their market power to depress offer prices and analyze the mechanisms they employ to exploit the unique features of the predominant IPO method for conducting an IPO in the United States: the book-building.[26] The book-building process involves extensive interaction among institutional investors, issuers, and underwriters.[27] This interaction allows for two-sided information flow among these market actors concerning the issuing company and its prospects, as well as details on price and demand information related to the offering.[28] Some of the shared information, especially as it concerns bids and the development of the book, can be used strategically by institutional bidders to lower offer prices.[29]

Moreover, because the main purpose of the book-building process is to gauge the level of demand from institutional investors at different price points, it enhances the ability of powerful investors, in their role as price-makers, to affect both the file price range and the final offer price.[30] As the literature suggests, institutional investors that place larger bids and are more frequent bidders are more likely to affect offer prices.[31] Finally, the discriminatory nature of book-building, where allocations are not necessarily made to the highest bidders, further increases the potential for strategic conduct by influential institutional investors, allowing them to receive preferential treatment in IPO allocation even with conservative orders.[32] Furthermore, considering the empirical evidence showing that underwriters tend to allocate shares more favorably to institutional investors that generate significant revenues across other business lines,[33] giants like the Big Three are more likely to receive preferential treatment even when submitting conservative bids.

This analysis reveals a critical gap in current scholarly and regulatory approaches: the failure to fully consider how these distinctive features of the IPO process, combined with the growing influence of dominant asset managers, impact the efficiency and integrity of pricing and allocation mechanisms in the primary market.

24. TTW communications are interactions between a company considering making an IPO and potential institutional investors before it officially files its registration statement with the Securities and Exchange Commission (SEC). In the United States, this practice was expanded under the Jumpstart Our Business Startups (JOBS) Act of 2012 for EGCs and was later extended to all issuers in 2019. *See infra* notes 199–201 and accompanying text.

25. *Id.*

26. *See infra* Part II.B.

27. *See* Ljungqvist, *supra* note 11, at 389–90.

28. *See* FIN. CONDUCT AUTH., ANTI-COMPETITIVE CONDUCT IN THE ASSET MANAGEMENT SECTOR 31 fig.2 (2019), https://www.fca.org.uk/publication/notices-and-decisions/anti-competitive-conduct-in-asset-management-sector.pdf [https://perma.cc/W6SE-M4YH].

29. *See id.* at 36 (explaining the price-setting process in book-building).

30. *See id.* at 28 ("In practice . . . the price and allocation decisions are often made jointly between the company and book-builder.").

31. *See, e.g.*, Francesca Cornelli & David Goldreich, *Bookbuilding: How Informative Is the Order Book?*, 58 J. FIN. 1415 (2003).

32. Given the critical role of underwriters in determining IPO allocations, our analysis of the Big Three's indirect market power builds on existing literature examining underwriters' incentive structures. *See infra* notes 96–101 and accompanying text.

33. FIN. CONDUCT AUTH., *supra* note 28, at 28–29.

As we explain, explicit coordination among the Big Three as to their bidding strategies is not required for the exercise of their collective market power. The Big Three may leverage their collective influence to depress offer prices in multiple ways. For example, they can engage in information exchange regarding their valuation of the issuing company or share concerns that were raised during their research and analysis of the issuer.[34] Such information sharing—despite its ability to impair the competitiveness of the book-building process and undermine its goal of revealing the true cost of equity capital for the issuing company[35]—is currently not restricted under Securities Regulations.[36] Alternatively, institutional investors can also signal their bidding intentions through third-parties such as the book-builder or other market participants involved in the IPO process.[37]

Evidence from industry practice supports this view. Several asset managers have recently stated that information sharing "is 'an accepted and essential aspect of the price formation process in IPOs and placings'" and that bids they submit during price discovery "relied on 'the perceived level of interest from other investors' that was 'obtained from conversations with other asset managers.'"[38] By sharing pricing feedback information or signaling their intentions, dominant institutional bidders such as the Big Three can better utilize their market power to force lower offer prices and benefit therefrom.[39]

While explicit coordination or collusion is not required for institutional investors to engage in parallel conduct that may induce lower offer prices, we also identify instances of more explicit coordination among large institutional investors.[40] Notably, we show that in recent years, powerful institutional investors, including the Big Three, have aligned their positions regarding various corporate governance arrangements adopted by issuers and argued, both publicly and privately, that the inclusion of such governance arrangements

34. This scenario is consistent with recent empirical evidence suggesting that institutional investors in the United States engage in communication and information sharing during the IPO process. *See, e.g.*, Thomas J. Chemmanur et al., The Geography of Institutional Investors, Information Sharing Among Institutions, and Initial Public Offerings 1 (Nov. 22, 2023) (unpublished manuscript), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4079632 (explaining how geographic locations of institutions can facilitate communication and information sharing among them and thus affect the precision of the information produced by each of these institutions). This also aligns with information obtained through interviews with key market participants in the IPO process, including underwriters and financial advisors (interviews on file with authors).

35. FIN. CONDUCT AUTH., *supra* note 28, at 45.

36. The underlying rationale is that such information sharing may be useful for price discovery and increase price efficiency.

37. FIN. CONDUCT AUTH., *supra* note 28, at 10.

38. John Kwan, *Initial Public Offerings and Antitrust: Selected Cases and Issues*, 19 CAP. MKTS. L.J. 56, 61 (2024).

39. *Cf.* FIN. CONDUCT AUTH., *supra* note 28, at 46 (assessing the potential for anti-competitive effects of information sharing by institutional investors in an IPO, the U.K. authorities viewed the combined market influence of entities participating in information sharing as a critical factor).

40. While these behaviors may constitute antitrust violations, they are likely to enjoy immunity under the "implied antitrust immunity" doctrine. For a general overview of the doctrine and its application to securities markets, see Samuel N. Weinstein, *Financial Regulation in the (Receding) Shadow of Antitrust*, 91 TEMPLE L. REV. 447 (2019); *cf.* Herbert Hovenkamp, *Antitrust Violations in Securities Markets*, 28 J. CORP. L. 607, 631 (2003) ("No statutory language confers a general antitrust exemption on activity within the jurisdiction of the SEC.").

should affect the offer price.[41] A prominent example is the dual-class structure, which features two classes of stock with unequal voting rights.[42] It follows, then, that the aligned views of these investors would likely lead them to provide similar feedback on issuers adopting such arrangements during price discovery. In other words, institutions sharing the same views would likely communicate similar "penalties" to issuers (in the form of expected discounts) for adopting certain governance arrangements.

In another publication, one of the authors of the present Article identified the potential anticompetitive effects of institutional investor coalitions and industry associations. That work demonstrated how the targeted efforts of the coalition against dual-class issuers could facilitate tacit collusion among competing share-buyers, thereby distorting prices in dual-class offerings under the pretense of promoting sound corporate governance.[43] Somewhat surprisingly, the IPO literature has yet to analyze investor coalitions and industry associations as effective mechanisms to induce coordination among powerful institutional investors which may amplify underpricing.

To substantiate our hypothesis, we conduct a first-of-its-kind study examining the impact of the Big Three participation in IPOs on underpricing levels.[44] Analyzing data from 2002 to 2022, we uncover a statistically significant correlation between the simultaneous participation of the Big Three and heavy underpricing. Our findings reveal that, when the Big Three are involved in an IPO, underpricing levels increase by 16.7 percentage points on average. Even after controlling for various factors—including IPO size, bookrunner, industry, and year fixed effects—a substantial gap persists: underpricing in IPOs involving these three institutions is 9.65 percentage points higher than in IPOs in which not all three are involved.

The results demonstrate statistical robustness when subjected to examination across different time intervals. Crucially, our analysis shows that underpricing intensified in the latter portion of our sample (2012–2022), supporting our hypothesis that there is a link between underpricing and the recognized increase in concentration in the asset management industry. As the Big Three grew in size and influence during this period, underpricing levels in IPOs involving these giants correspondingly surged.

In a follow-up study, we address the causal identification problem in our initial study—namely, that the observed correlation might reflect the ability of giant institutional investors to identify steep underpricing rather than their market power to influence prices. In this study, we examine the period from 2012 to 2019. During this period, only Emerging Growth Companies (EGCs) were allowed to engage in TTW communications,[45] a practice

41. For a review of how the IPO market-price governance arrangements to which institutional investors generally object—such as dual-class share structures, staggered boards, or limitations on the ability to nominate or remove directors, see Albert H. Choi, *Pricing Corporate Governance*, 75 UC L.J. 67 (2023).

42. *See infra* notes 219–24 and accompanying text (explaining other governance arrangements that tend to be priced into the offer price are staggered boards and CEO-duality).

43. *See* Danielle A. Chaim, *Investor Coalitions Through an Antitrust Lens*, 15 U.C. IRVINE L. REV. 969 (2025).

44. *See infra* Part III.

45. Throughout this study, we assume that EGCs permitted to conduct TTW communications have utilized this option. This assumption is supported by extensive conversations with industry participants, including investment bankers, securities lawyers, and corporate executives, who confirmed that TTW communications have become standard practice for EGCs preparing for an IPO. The widespread adoption of TTW communications

which allows EGCs to consult with key institutional investors about the appropriate IPO pricing before filing the registration. This practice grants institutional investors substantially more influence over pricing compared to traditional roadshow processes, where price ranges are predetermined.

If institutional investors are indeed capable of leveraging their pricing role to depress prices, we would expect greater underpricing in IPOs that utilize TTW. Our findings confirm this hypothesis: underpricing is 8.4 percentage points higher in IPOs of EGCs compared to IPOs of non-EGCs. Moreover, when focusing on IPOs of EGCs involving the simultaneous participation of the Big Three, underpricing levels increase even further, with an additional 8.3 percentage points compared to other IPOs of EGCs. These results reinforce our assertion that underpricing is driven by the market power of the Big Three.

This Article makes several novel contributions to the literature on IPO underpricing and the growing body of research on the adverse consequences of the concentration of power among giant asset managers. By providing a groundbreaking theoretical and empirical account of how the Big Three influence underpricing levels, we advance the discourse in multiple critical areas.

First, our analysis incorporates major capital market developments largely overlooked in current IPO underpricing literature—most notably, the increasing concentration of the asset management industry and the emergence of industry behemoths. By shifting the focus to the role of these actors, our theory offers explanatory power for the marked increase in IPO underpricing, which coincided with the rise of asset manager capitalism. This approach, therefore, addresses a significant gap in existing research, which has yet to fully account for the implications of these seismic shifts in the financial landscape.

Second, we reveal a previously unexamined market distortion stemming from the concentration of power among a core group of giant institutional investors. While the growing antitrust literature on institutional ownership has primarily focused on the product and labor markets where the portfolio companies of these powerful market players compete,[46] we advocate for broadening the scope of the analysis to include new spheres in which giant institutional investors wield influence. Our work redirects attention toward markets where these investors compete *directly*.[47] The primary market, where institutional investors compete on share allocation and hope to realize returns once the shares begin trading, is a necessary market to focus on. As we demonstrate, this market is particularly susceptible to the exercise of market power by giant asset managers.

following the JOBS Act underscores their value in gauging investor interest and refining offering terms prior to a public filing.

46. *See, e.g.*, José Azar, Martin C. Schmalz & Isabel Tecu, *Anticompetitive Effects of Common Ownership*, 73 J. FIN. 1513 (2018) (finding that overlapping ownership in competing airlines by institutional investors is associated with higher airline ticket prices); Zohar Goshen & Doron Levit, *Agents of Inequality: Common Ownership and the Decline of the American Worker*, 72 DUKE L.J. 1 (2022) (arguing that common ownership by institutional investors exacerbates economic inequality in the United States by reducing portfolio companies' incentives to invest); José Azar, Yue Qiu & Aaron Sojourner, Common Ownership Reduces Wages and Employment (Nov. 18, 2021) (unpublished manuscript), https://scholars.org/sites/scholars/files/2021-12/Common_Ownership_Wages%20(1).pdf (on file with the *Journal of Corporation Law*) (investigating the impact of common ownership on labor markets and arguing that, when large shareholders own stakes in multiple companies within the same industry, it may lead to reduced competition for workers and potentially lower wages).

47. *Cf.* Chaim, *supra* note 43 (arguing that investor coalitions on governance issues may facilitate anticompetitive behavior in capital markets).

Third, our findings contest the prevailing positive view of the traditional book-building method used in the majority of U.S. offerings. Originally designed to facilitate efficient price discovery by incorporating market information from sophisticated institutional investors,[48] we argue that this process fails to serve its intended purpose when the key participants are concentrated institutional investors wielding imbalanced market power over both issuers and underwriters.[49] This insight challenges long-held assumptions about the efficacy of current IPO practices and the credibility of the book-building process as a way to raise capital.

The implications of pricing distortions caused by the rise of financial giants, as evidenced by surging underpricing levels and unprecedented amounts of money left on the table, are profound. An IPO represents a critical juncture in a company's life cycle, providing access to public equity capital, potentially lowering funding costs, and offering a venue for share trading. As IPO offer prices increasingly deviate from market value, widespread inefficiencies materialize, with far-reaching consequences for market participants and the broader economy.[50]

These inefficiencies may deter private companies from going public due to concerns about undervaluation, potentially impeding economic growth and depriving public market investors of opportunities to invest in promising ventures. Alternatively, companies may resort to less traditional, and arguably more controversial, means of accessing equity markets, such as de-SPAC (Special Purpose Acquisition Company) transactions or direct listings.[51]

48. *See, e.g.*, Ljungqvist, *supra* note 11, at 388–96 (explaining that the book-building process is intended to serve as a mechanism to incentivize bidders to bid truthfully and overviewing empirical work that supports the view that, in fact, this method may be adopted to extract information from investors).

49. *Cf.* Gregory Scopino, *Expanding the Reach of the Commodity Exchange Act's Antitrust Considerations*, 45 HOFSTRA L. REV. 573, 584 (2016) ("Given the concentrated, even oligopolistic nature of some markets for derivatives, the possibility that a handful of dominant derivatives market participants could collude to harm competition (or attempt to harm competition) in the future is real.").

50. The concept of share price accuracy and its significance in capital markets has been a fundamental topic in financial literature since the 1970s. *See, e.g.*, Eugene F. Fama, *Efficient Capital Markets: A Review of Theory and Empirical Work*, 25 J. FIN. 383 (1970). According to Kahan, the importance of accurate pricing is particularly salient in the primary market, where issuers are looking to raise new capital. *See* Marcel Kahan, *Securities Laws and the Social Costs of 'Inaccurate' Stock Prices*, 41 DUKE L.J. 977, 1013 (1992) (arguing that "[t]his limitation on the impact of stock prices on capital allocation to periods in which companies issue or consider issuing stock has important consequences. To foster an efficient allocation of capital, it is sufficient that stock prices are accurate whenever companies actually issue stock. As long as managers know that the price at which they can issue stock will always be accurate, they have incentives to issue stock only if they have profitable investment opportunities. Thus, to induce an efficient allocation of capital, it is of paramount importance that stocks are accurately priced whenever companies issue stock; but it is not necessary that stock prices always be accurate.").

51. *See* Spenser Skates, *Letter: Financial Conduct Authority Should Back Direct Listings*, FIN. TIMES (June 14, 2022), https://www.ft.com/content/14239e44-bd23-4919-a60d-92645ca441f2 (on file with the *Journal of Corporation Law*). Skates cites the co-founder and CEO of a company that went public in the United Kingdom through direct listing who notes that the decision to opt for a direct listing was associated with the fact that "IPOs systematically undervalue companies by giving away their shares at a hefty discount." *Id.* The CEO also states that "[b]y going through a direct listing, supply and demand determine your company's stock price rather than a room full of bankers and executives. I believe this gets current shareholders (like employees) a better deal—it's the free market at its finest." *Id.*; *see also* Matt Levine, *SPACs Aren't Cheaper Than IPOs Yet*, BLOOMBERG (July 27, 2020), https://www.bloomberg.com/opinion/articles/2020-07-27/spacs-aren-t-cheaper-than-ipos-yet (on file with the *Journal of Corporation Law*). In a direct listing, then, the opening price of the company's common stock is determined by market demand and supply. This route enables companies to enter the public market without the

To foster a more efficient allocation of capital and a more equitable IPO process in an era of asset manager capitalism, we propose in this Article a three-pronged approach.[52] First, we recommend market-structure changes to limit the size and power of financial giants in capital markets. Second, we suggest procedural modifications to the IPO process aimed at enhancing transparency and competitiveness. We propose mandating increased disclosure from both underwriters and bidders to help detect strategic conduct that may influence IPO pricing. The current regulatory environment maintains a high degree of confidentiality regarding bidder identities, bidding offers, and allocations. This lack of transparency impedes efforts to ensure fair and efficient price discovery in the IPO process. Finally, we argue for *limiting* communication between bidders in IPOs, which is generally viewed as desirable for aggregating market information. We identify critical stages of the IPO process where such communication can distort prices and call for restrictions on bidders' interactions during these stages.

This Article is organized into four parts. Part I examines the IPO underpricing phenomenon and its significant growth in recent years. It also reviews prevailing theories and their limitations in explaining contemporary IPO underpricing. Part II introduces our novel hypothesis: that the market power exerted by giant institutional investors, specifically the Big Three, significantly drives up underpricing levels. We explore how the intensified concentration that now characterizes the asset management industry, coupled with other shifts in the capital market landscape, have endowed these giants with both direct and indirect market power in public offerings and explain how this power can be used to depress prices in IPOs. Part III presents empirical evidence supporting our hypothesis. Focusing on IPO data from the past two decades, we conduct a comprehensive analysis of the correlation between concurrent investments in IPOs by the Big Three and underpricing levels. To address causal identification challenges, we supplement our initial analysis by examining how TTW communications between issuers and institutional investors affect underpricing levels. Our examination employs multiple statistical approaches to assess the magnitude and statistical significance of this relationship while also considering alternative explanations and potential confounding factors. We then interpret these results within the broader context of primary market dynamics. Finally, Part IV offers policy recommendations to address the issues highlighted by our theoretical and empirical findings, aiming to mitigate the market distortions caused by these financial giants.

I. IPO UNDERPRICING: EXTENT, TRENDS, AND PREVAILING EXPLANATIONS

IPO underpricing—the percentage price increase between the IPO offer price and the first-day closing price—is considered one of the most puzzling phenomena in capital markets. For many years, the sale of newly issued shares by issuers to investors for less than their price in the open market has been a topic of interest for scholars, the business world,

traditional underwriting and pricing (book-building) process. Going public through a Special Purpose Acquisition Company (SPAC) transaction, also known as a de-SPAC transaction, involves a private operating company merging with a SPAC—a blank-check company that raises capital through an IPO without a specific acquisition target in mind. Once a suitable target is found, the SPAC and the target company merge, allowing the target company to become publicly traded.

52. *See infra* Part IV.

the media, and the public.[53] Despite numerous theories proposed to decipher its intricacies, the precise mechanisms and underlying factors driving IPO underpricing have resisted attempts to convincingly explain its persistence.[54]

In this Part, we review the array of explanations offered by scholars to elucidate this phenomenon. As we demonstrate, recent developments in global capital markets—namely, the widespread adoption of the book-building approach and the dominance of large institutional investors as primary bidders, as well as the regulatory environment governing IPOs—have rendered many prevailing theories on underpricing less applicable, particularly within the United States.

A. The Enduring Persistence of IPO Underpricing

Half a century ago, researchers identified a consistent tendency among U.S. IPOs to deliver positive first-day returns.[55] Over the years, it has been found that this phenomenon extends beyond the United States and has become a global norm.[56] Across all stock markets, IPOs are almost always "underpriced": companies that go public are consistently selling their shares at a lower price than the public is ultimately willing to pay for them.

While this phenomenon has long been a common feature of capital markets, not only has it become increasingly prevalent, but the percentage degree of underpricing has also risen over time. For instance, in the 1980s, the average underpricing in the United States stood at 7% on an equally weighted basis.[57] This figure doubled to nearly 15% between 1990 and 1998 and soared to 65% during the "dot-com bubble" of 1999–2000.[58] Subsequently, underpricing receded to lower levels in the first decade of this century, averaging 12% in the years leading to the global financial crisis,[59] after which underpricing levels again surged significantly. Over the span of a decade from 2014 to 2023, first-day returns averaged just under 25% on an equally weighted basis.[60] Notably, the last five years of this

53. For a comprehensive review of the literature on IPO underpricing, see Ljungqvist, *supra* note 11; *see also* Katti & Phani, *supra* note 13.

54. *See, e.g.*, Katti & Phani, *supra* note 13, at 35 (concluding that "the degree of underpricing is dynamic and various markets forces interact simultaneously in observing the variation in pricing the new equity issues.").

55. *See* Roger G. Ibbotson, *Price Performance of Common Stock New Issues*, 2 J. FIN. ECON. 235, 235 (1975) ("Positive initial performance along with aftermarket efficiency indicate that new issue offerings are underpriced.").

56. *See, e.g.*, Fouad Jamaani & Manal Alidarous, *Review of Theoretical Explanations of IPO Underpricing*, 6 J. ACCT. BUS & FIN. RSCH. 1, 1 (2019) ("The IPO underpricing phenomenon is reported . . . in virtually in every stock market around the globe."); Ljungqvist, *supra* note 11, at 381–84 (providing evidence of IPO underpricing in European, Asia-Pacific, and Latin American countries during the 1990s and early 2000s); Tim Loughran, Jay R. Ritter & Kristian Rydqvist, *Initial Public Offerings: International Insights*, 2 PACIFIC-BASIN FIN. J. 165 (1994) (reporting short- and long-run positive performance of companies going public in many countries and analyzing the differences in underpricing levels in terms of the regulatory environment, contractual mechanisms, and the characteristics of the issuers). In an annually updated version of this paper, the authors report the average level of underpricing in 52 countries. This data can be found on Jay Ritter's website. *See IPO Data*, WARRINGTON COLL. BUS., https://site.warrington.ufl.edu/ritter/ipo-data/ [https://perma.cc/3AAF-C6HP].

57. Loughran & Ritter, *supra* note 1, at 2.

58. *Id.*

59. *Id.*

60. RITTER, *supra* note 1, at 2.

period, from 2019 to 2023, saw a further increase, with an average first-day return of nearly 31%.[61]

The rise in IPO underpricing in recent years can also be discerned from the substantial amounts of money companies have left on the table, defined as the difference between the closing price on the first day of trading and the offer price multiplied by the number of shares sold. Since 1980, corporate America has forfeited over 20 cents of potential proceeds for every dollar raised in IPOs—totaling approximately $237 billion.[62]

Professor Jay Ritter's ranking of the most underpriced IPOs since 1985 provides a fascinating snapshot.[63] The data show that only 16 of the offerings included in the list preceded the dot-com-bubble years (1999–2000) and that the majority (244) occurred within the last two decades.[64] Of these, over 200 underpriced IPOs were launched from 2010 onward (that is, after the global financial crisis).[65]

Table 1: Breakdown of Most Underpriced IPOs by Year[66]

Years	Number of IPOs
1985–1998	16
1999–2000	144
2001–2006	21
2007–2009	14
2010–2022	201

Since 2010, 1,743 companies going public have left a record $100 billion-plus in IPOs.[67] In the period 2020–2021 alone, the aggregate amount of unrealized capital in IPOs was nearly $60 billion.[68] Notable offerings from this period, such as Airbnb, Inc., Snowflake Inc., and Snap Inc., exemplify the magnitude of underpricing, with billions of dollars relinquished on the first day of trading. Airbnb, the online marketplace and hospitality service company whose 2020 IPO is the second-most underpriced issue in history,[69] set its initial share price at $68, raising capital of approximately $3.5 billion.[70] However, the market's response was explosive, with the stock price skyrocketing by 112% on the first day of trading. This unprecedented surge meant Airbnb effectively forfeited nearly $4 billion in potential capital—an amount that exceeded the total IPO fundraising.[71]

61. *Id.*
62. *Id.*
63. RITTER, *supra* note 7, at 2–10.
64. *Id.*
65. *Id.*
66. *See* RITTER, *supra* note 1, at 2.
67. *Id.* Note that this amount refers to IPOs with an offer price of at least $5.00, excluding American Depositary Receipts (ADRs), unit offers, closed-end funds, Real Estate Investment Trusts, blank-check companies, natural resource limited partnerships, small best-efforts offers, banks and Savings & Loans. Proceeds from overallotment shares are also not included.
68. *Id.*
69. RITTER, *supra* note 7, at 2.
70. Griffith, *supra* note 8.
71. RITTER, *supra* note 7, at 2.

In the same year, the cloud-based data warehousing company Snowflake Inc. embarked on its IPO, pricing its shares at $120, with a valuation of approximately $33 billion.[72] Had the company set the share price at the closing price on the first day, nearly $254 per share, it could have secured over $7 billion, compared to the $3.36 billion it actually raised in the IPO,[73] marking the third-largest "loss" due to underpricing in history.[74] Other recent IPOs rated among the top ten most underpriced issues are Rivian Automotive Inc., DoorDash Inc., Coupang Inc., and Bumble Inc. These companies could have pocketed a total of $17 billion more, had their IPOs been priced in line with demand.[75]

These amounts represent a considerable opportunity cost for a firm going public, constituting a wealth transfer from the issuing company and its preexisting shareholders to its IPO investors. These amounts often surpass any other expense a company incurs as it goes through a public offering. For example, underpricing typically exceeds, twofold,[76] the underwriting fees paid to investment banks—the most significant direct cost associated with going public.[77] On average, underpricing accounts for 5% of the company's post-issue market cap.[78]

B. The Theoretical Explanations of IPO Underpricing

The consistently high—and occasionally remarkable—first-day returns that share prices of newly listed companies record have been the subject of extensive research and analysis exploring its correlates and factors. The central question surrounding the IPO underpricing puzzle is this: why are issuers selling their shares at such a heavily reduced price compared to the proceeds they could secure in the open market immediately after the IPO?

Broadly speaking, the extant theories addressing this question are grounded in three broad rationales: (1) information asymmetry; (2) ownership and control; and (3) behavioral factors.

1. Information Asymmetry Theories

i. Winner's Curse

Researchers have identified and modeled information asymmetry as a crucial determinant of IPO underpricing.[79] Among prevailing theories in this domain is the concept of

72. Corrie Driebusch, *Snowflake Prices IPO at $120 a Share*, WALL. ST. J. (Sept. 15, 2020), https://www.wsj.com/articles/snowflake-poised-to-price-ipo-above-expected-range-with-valuation-topping-30-billion-11600186369?mod=article_inline (on file with the *Journal of Corporation Law*).

73. RITTER, *supra* note 7, at 2.

74. *Id.*

75. *Id.*

76. Tim Loughran & Jay R. Ritter, *Why Don't Issuers Get Upset About Leaving Money on the Table in IPOs?*, 15 REV. FIN. STUD. 413, 413 (2002).

77. *Considering an IPO? First, Understand the Costs*, PWC, https://www.pwc.com/us/en/services/consulting/deals/library/cost-of-an-ipo.html [https://perma.cc/3DF9-LU73].

78. *Id.*

79. *See, e.g.*, David P. Baron, *A Model of the Demand for Investment Banking Advising and Distribution Services for New Issues*, 37 J. FIN. 955 (1982) (presenting a principal–agent model that theorizes that underpricing occurs due to information asymmetry between underwriters); Ivo Welch, *Seasoned Offerings, Imitation Costs, and the Underpricing of Initial Public Offerings*, 44 J. FIN. 421 (1989) (introducing a signaling model in which

the so-called "winner's curse," which stems from the adverse selection problem arising from information asymmetry among different investors in financial markets.[80] In this framing developed by Kevin Rock, informed investors have a firm-specific informational advantage over less-informed investors. To offset this disadvantage, which can result in the winning bidder's overestimation of the value of the stock, the issuer must set the offer price below its true market value. This underpricing would mitigate the disadvantages of less-informed investors and guarantee that uninformed investors participate in the offering.[81]

While Rock's theory has been influential in attempts to understand the underpricing phenomenon in the IPO market, it exhibits significant limitations when applied to contemporary capital markets. Most notably, a "winner's curse" is primarily pertinent to situations involving a strict pro-rata allocation but lacks relevance in the book-building method.[82] Today, in the United States and an increasing number of countries, underwriters[83] bringing issues to the market usually follow a book-building approach,[84] which involves gauging investor interest and demand through a series of marketing activities. Under this method, offer prices are conditioned on non-binding indications of interest: prospective investors place flexible bids detailing the number of shares they seek to own at different price levels, in principle, within a predetermined price range. These bids are recorded and then analyzed by the underwriter to arrive at the final offer price for the issued security.

Hence, the very raison d'être of the book-building mechanism is to alleviate the magnitude of information asymmetry on which Rock's theory is based. Through their marketing activities, underwriters gather information on investor demand for shares before

high-quality firms underprice their shares in order to obtain higher prices in seasoned offerings); Kevin Rock, *Why New Issues Are Underpriced*, 15 J. FIN. ECON. 187 (1986) (applying the "winner's curse" theory to describe the information asymmetry between informed and uninformed investors); Lawrence M. Benveniste & Paul A. Spindt, *How Investment Bankers Determine the Offer Price and Allocation of New Issues*, 24 J. FIN. ECON. 343 (1989) (comparing the inducement of asymmetrically informed investors to reveal information to underwriters with the process of an auction); Lawrence M. Benveniste & William J. Wilhelm, *A Comparative Analysis of IPO Proceeds Under Alternative Regulatory Environments*, 28 J. FIN. ECON. 173 (1990) (explaining that a uniform price restriction only affects IPO proceeds if institutional investors are less informed than retail shareholders).

80. Rock, *supra* note 79. Rock's theory has been extended and empirically tested over the years. *See, e.g.*, Anna P. I. Vong & Duarte Trigueiros, *An Empirical Extension of Rock's IPO Underpricing Model to Three Distinct Groups of Investors*, 19 APPLIED FIN. ECON. 1257 (2009) (examining the correlation between patterns of returns and level of information); Francis Koh & Terry Walter, *A Direct Test of Rock's Model of the Pricing of Unseasoned Issues*, 23 J. FIN. ECON. 251 (1989) (examining the winner's curse in allocation patterns).

81. Rock, *supra* note 79, at 205–06.

82. Ljungqvist, *supra* note 11, at 389.

83. An underwriter is an investment bank that acts as a broker between a company issuing securities and the investing public in an IPO process. Caroline Banton, *What Is an Underwriter in Finance? Roles and Types Explained*, INVESTOPEDIA (Aug. 15, 2025), https://www.investopedia.com/terms/u/underwriter.asp (on file with the *Journal of Corporation Law*). Underwriters specialize in the issuance and allocation of securities in public offerings and perform multiple roles simultaneously, including setting the initial price range and the final offer price, marketing the offering, and engaging in aftermarket price stabilization activities. *Id.*

84. *See, e.g.*, Ravi Jagannathan, Andrei Jirnyi & Ann Guenther Sherman, *Share Auctions of Initial Public Offerings: Global Evidence*, 24 J. FIN. INTERMEDIATION 283, 289 (2015) (finding that book-building is the dominant method for IPOs in more than 40 out of 50 countries examined, including the United States); *see also* Ann E. Sherman, *Global Trends in IPO Methods: Book Building vs. Auctions with Endogenous Entry*, 78 J. FIN. ECON. 615 (2005) (discussing the rising popularity of the book-building approach); Katti & Phani, *supra* note 13, at 41 (describing the phases of the IPO process).

arriving at an issue price, thereby reducing the perceived information gap between issuers, underwriters, and investors, and mitigating the adverse selection effect.

Moreover, the prevailing view in the IPO literature is that the book-building method incentivizes investors to disclose any knowledge they possess more truthfully—even positive knowledge, the disclosure of which would be inconsistent with other pricing strategies.[85] This incentive arises because, using book-building, underwriters can allocate IPO shares in a discriminatory fashion by favoring investors that reveal positive information and bid aggressively while allocating fewer (or no) shares to those that bid conservatively.[86] Under these circumstances, the concern that informed investors would crowd-out uninformed investors in "good" offerings and withdraw from "bad" ones, as suggested by Rock, becomes irrelevant when the book-building approach is utilized. Nevertheless, the evidence shows that IPO underpricing has not only persisted over time but, in fact, surged significantly in both the United States[87] and other countries that adopted this approach.[88] This documented pattern, therefore, challenges the explanatory capacity of Rock's theory.

ii. Information Revelation

Another seminal theory rooted in information asymmetry is Lawrence Benveniste and Paul Spindt's mechanism design model, which underscores the role of underpricing in incentivizing investors to reveal truthful information about the offering.[89] According to this model, informed investors—primarily institutional investors with the financial resources and information advantage to provide an accurate valuation of the issue—are incentivized to disclose their valuation estimations because they will be compensated for such revelations through underpricing.[90]

One of the main limitations shared by Benveniste and Spindt's model and Rock's approach is the expectation that average equilibrium underpricing may decrease over time as underwriters observe bidders' past behavior and strategically bundle IPOs accordingly.[91] Thus, the fact that underpricing levels, far from decreasing, have notably increased over time suggests that IPO underpricing is not adequately captured by either model.

85. *See* Ljungqvist, *supra* note 11, at 390 (discussing the favorability of disclosure); Benveniste & Spindt, *supra* note 79, at 347–54 (developing a model to assess the impact of information disclosure); Benveniste & Wilhelm, *supra* note 79, at 193–95 (discussing the effects of constraining discretion).

86. Ljungqvist, *supra* note 11, at 390 (noting that "[i]f underwriters and institutional investors deal with each other repeatedly in the IPO market, the cost of information acquisition can be reduced. In a repeated game, investors must weigh the one-off gain from lying against the possibility of being excluded from not only the current but all future IPOs managed by this underwriter.").

87. *See supra* notes 56, 66 tbl.1 and accompanying text (discussing the change of IPO underpricing over time).

88. *See, e.g.*, Mamduh M. Hanafi, *Fixed Price and Book Building Methods in an Exogenous Environment: Evidence from Indonesia Stock Market*, RSCH. INT'L BUS. & FIN. 101430 (2021) (comparing the impact of fixed-price and book-building methods on IPOs in Indonesia and finding that, contrary to traditional IPO models, book-building results in higher underpricing and volatility compared to the fixed-price method); Timo Lehmann & Matthias Weber, *Auctions Versus Book-Building: The Effects of IPO Regulation in Japan*, 58 FIN. REV. 117 (2023) (finding that book-building leads to higher underpricing than hybrid price-discriminatory auctions in Japanese stock markets and lower price accuracy compared to auctions).

89. Benveniste & Spindt, *supra* note 79.

90. *Id.* at 344.

91. Rongbing Huang, Jay R. Ritter & Donghang Zhang, *IPOs and SPACs: Recent Developments*, 15 ANN. REV. FIN. ECON. 595, 605 (2023) ("In both Rock's (1986) adverse selection model and Benveniste & Spindt's

A second limitation is that, according to Benveniste and Spindt's model, effective communication between underwriters and informed institutional investors improves the price discovery process, such that heightened participation of these investors accompanied by greater communication with them is expected to reduce underpricing.[92] However, a recent empirical study that examined IPO underpricing levels following the passing of the JOBS Act provides evidence that appears to contradict Benveniste and Spindt's proposition.[93] That study finds that, following the enactment of the JOBS Act—legislation that significantly increased the extent and duration of the communication between issuers, underwriters, and institutional investors as well as the variety of communication channels[94]—institutional allocation has resulted in higher underpricing levels. These findings suggest that information revealed by institutional investors during the pricing process does not improve the accuracy of share pricing when it comes to IPOs, raising significant doubts about the extent of information production or revelation by these institutions.[95]

2. Principal-Agent Theories

Another stream of research studies IPO underpricing through the lens of an agency relationship between issuers and underwriters.[96] A widely accepted agency model in the IPO literature is predicated on the idea that underwriters abuse their discretionary powers in share allocation during IPOs by giving preferential treatment to certain bidders, particularly institutional investors with which they have ongoing business relationships as buy-side investors, in exchange for quid pro quo arrangements.[97] Some scholars even argue that

(1989) mechanism design model, the average level of equilibrium underpricing can be reduced if underwriters bundle IPOs by allocating future IPOs based on the past behavior of investors.").

92. *See* Benveniste & Spindt, *supra* note 79, at 343–44.

93. Yuxiang Bian et al., *The JOBS Act and IPO Underpricing*, N. AM. J. ECON. & FIN. 1, 4 (2024).

94. The JOBS Act allows issuers that meet the definition of an emerging growth company (EGC) to engage in TTW communications (written, electronic, or oral) with institutional investors even before filing a registration statement. *See* Jumpstart Our Business Startups Act, Pub. L. No. 112–106, 126 Stat. 306, § 101 (2012). Since 2019, all issuers in the United States are allowed to engage in TTW communications. *See* 17 C.F.R. § 230.163B (2019). It should be noted, however, that the JOBS Act eased the disclosure requirement of EGCs, thereby potentially increasing the level of information uncertainty. Higher underpricing levels observed following the Act may therefore be partially attributed to informed investors' demand for higher compensation in return for bearing higher uncertainty.

95. *See* Bian et al., *supra* note 93, at 2–4 ("We arrive at the conclusion . . . that increasing information uncertainty since JOBS Act passed partially explains the rising underpricing, but cannot explain why the institutional investors who have information advantage over retail investors on issuers also contributes to higher underpricing.").

96. *See, e.g.*, David P. Baron & Bengt Holmström, *The Investment Banking Contract for New Issues Under Asymmetric Information: Delegation and the Incentive Problem*, 35 J. FIN. 1115, 1115–16 (1980) (examining the relationship between an issuer and an underwriter, and analyzing how the informational asymmetry between the parties may lead to a conflict of interest, as the underwriter may have incentives to underprice the IPO shares to generate higher trading volume and fees, rather than maximizing proceeds for the issue); Baron, *supra* note 79, at 955–56 (arguing that, because underwriters are better informed about the market and issuers cannot observe the distribution efforts of underwriters, the latter may take advantage of their superior information by underpricing the issue to ensure quick sales of the offering and minimize their own risk).

97. *See, e.g.*, Loughran & Ritter, *supra* note 73, at 437–38 (describing the potential for agency problems between the underwriter and the issuer).

this behavior may indicate potential collusion between underwriters and informed investors as a means to maximize profits at the expense of issuing firms and existing investors.[98]

This agency problem-based diagnosis has been empirically confirmed in various studies.[99] For example, a study conducted by Mahendrarajah Nimalendran, Jay Ritter, and Donghang Zhang investigated the correlation between IPO allocations and mutual fund performance and found that mutual funds subjected to higher trading commissions on liquid stock prior to the offer date of an IPO tend to receive larger IPO allocations.[100] This finding suggests that buy-side institutional investors are willing to overpay underwriters on other transactions in return for receiving underpriced shares. Furthermore, underwriters may consider trading commissions as a determinant when deciding how to allocate shares in IPOs. The authors also show that mutual funds that receive larger IPO allocations tend to exhibit superior short-term performance, supporting the claim that IPO allocations could serve as a mechanism for mutual fund managers to enhance their performance.[101]

Another study by Tim Jenkinson, Howard Jones and Felix Suntheim uses a unique dataset of IPO allocations to identify the characteristics of investors that are more likely to receive shares in public offerings.[102] The study reveals that underwriters allocate more shares to investors known for their active involvement in the aftermarket, those maintaining robust relationships with the underwriter, and those from which they generate the highest revenues elsewhere in their business—notably, through brokerage commissions.[103] These findings indicate that the allocation of IPO shares is not random but instead influenced by the underwriter's objective to maximize their own profits.

3. Signaling Theories

The literature on IPO underpricing has also suggested that signaling theories can help explain the degree of underpricing. According to Roger Ibbotson, issuers aim to "leave a good taste" in investors' mouths by deliberately underpricing issues.[104] In this explanatory model, underpricing, although costly, serves as a signal to investors and enhances the likelihood of successful future equity offerings on especially favorable terms.[105]

98. *See, e.g.*, Bruno Biais, Peter Bossaerts & Jean-Charles Rochet, *An Optimal IPO Mechanism*, 69 REV. ECON. STUD. 117, 118 (2002) ("The marketing stance taken by Openipo.com is indeed consistent with potential collusion between investment bankers and large professional investors in IPOs."); Bian et al., *supra* note 93, at 4 ("We conclude collusion between underwriters and institutional investors may be another reason for higher underpricing.").

99. *See, e.g.*, Loughran & Ritter, *supra* note 76, at 416, 424 (finding that underwriters intentionally underprice issues and are biased toward allocating the underpriced shares to buy-side investors); Jonathan Reuter, *Are IPO Allocations for Sale? Evidence From Mutual Funds*, 61 J. FIN. 2289 (2006) (showing that business relationships with lead underwriters increase institutional investor access to underpriced IPOs); John M. Griffin, Jeffrey H. Harris & Selim Topaloglu, *Why Are IPO Investors Net Buyers Through Lead Underwriters?*, 85 J. FIN. ECON. 518, 522 (2007) (providing evidence suggesting that underwriters receive quid pro quo benefits from underpricing, mainly in the form of prearranged client demand in the aftermarket).

100. M. Nimalendran, Jay R. Ritter & Donghang Zhang, *Do Today's Trades Affect Tomorrow's IPO Allocations?*, 84 J. FIN. ECON. 87, 89–91 (2007).

101. *Id.* at 89–90.

102. Tim Jenkinson, Howard Jones & Felix Suntheim, *Quid Pro Quo? What Factors Influence IPO Allocations to Investors?*, 73 J. FIN. 2303, 2305–06 (2018).

103. *Id.* at 2306–08.

104. Ibbotson, *supra* note 55, at 264.

105. *Id.*

Signaling-based theories of IPO underpricing have been extended over the years to account for further variables while also accounting for hot issue periods,[106] projected cash flows,[107] and future seasoned equity offerings.[108] Yet, scholars argue that technological advancements and alternative signaling mechanisms have rendered many of the factual assumptions grounding these signaling theories obsolete.[109] Notably, issuers today have a wider array of tools at their disposal to signal their intrinsic value and avoid the need for underpricing.[110] In addition to choosing reputable underwriters or auditors, IPO companies can use sophisticated pre-IPO shareholders, such as venture capital (VC) funds, to perform a certification-of-quality role.[111] In that context, it is important to note the dramatic increase witnessed in recent years in the number of VC-backed companies that go public.[112] For example, between 2002 and 2022, 52% of all IPOs, and 70% of tech-firm IPOs, had VC backing.[113] Ironically, the level of underpricing among VC-backed companies is even higher than the average levels,[114] potentially casting doubt on the explanatory power of signaling theories in today's markets.

4. Ownership and Control Theories

According to the IPO literature, underpricing may serve as a tool to mold a company's shareholder base after an IPO. Two main hypotheses (which happen to be in direct opposition to one another) have been investigated: the "entrenchment of managerial control" hypothesis and the "limitation of private benefits" hypothesis.

The former, proposed by Michael Brennan and Julian Franks, suggests that managers use underpricing to evade large shareholders that are more likely to monitor management praxis and scrutinize rent-seeking behavior.[115] The "entrenchment of managerial control"

106. *See* Franklin Allen & Gerald R. Faulhaber, *Signalling by Underpricing in the IPO Market*, 23 J. FIN. ECON. 303, 316–19 (1989) (concluding that their model observes that underpricing occurs only in particular periods and industries).

107. *See* Mark Grinblatt & Chuan Yang Hwang, *Signaling and the Pricing of New Issues*, 44 J. FIN. 393, 394–95 (1989) (generalizing from the theory that the issuer's fractional holding of the firm's equity signals expected future cash flow).

108. *See* Welch, *supra* note 79, at 421 (finding that high-quality firms underprice at the initial public offering).

109. *See, e.g.*, Katti & Phani, *supra* note 13, at 40 ("[V]arious assumptions of the theoretical [signaling] model can be relaxed. The change in environment such as advancement in information technology helps in [making] information dissemination much faster and [more] inexpensive . . . .").

110. *See* Ljungqvist, *supra* note 11, at 400–01 (assessing the causes of underpricing initial public offerings).

111. *See, e.g.*, Peggy M. Lee & Sunil Wahal, *Grandstanding, Certification and the Underpricing of Venture Capital-Backed IPOs*, 73 J. FIN. ECON. 375, 379 (2004). In addition, an increasingly large number of IPO companies, especially VC-backed tech firms, also have large institutional shareholders pre-IPO. *See* Jennifer S. Fan, *Nontraditional Investors*, 48 BYU L. REV. 463, 499–502 (2022) (comparing traditional and non-traditional institutional investors). These sophisticated institutional investors may also fulfill a quality-verification function.

112. JAY R. RITTER, INITIAL PUBLIC OFFERINGS: VC-BACKED IPO STATISTICS THROUGH 2024 3–4 (2025), https://site.warrington.ufl.edu/ritter/files/IPOs-VC-backed.pdf [https://perma.cc/AWR9-2ASS] (updated annually).

113. *Id.* at 3.

114. JAY R. RITTER, INITIAL PUBLIC OFFERINGS: TECHNOLOGY STOCK IPOS11 (2025), https://site.warrington.ufl.edu/ritter/files/IPOs-Tech.pdf [https://perma.cc/LZ8U-DTJA] (updated annually).

115. *See* M.J. Brennan & J. Franks, *Underpricing, Ownership and Control in Initial Public Offerings of Equity Securities in the U.K.*, 45 J. FIN. ECON. 391, 391–92 (1997). The hypothesis is based on the work of Shleifer and Vishny, who suggest that greater ownership dispersion allows managers to maximize control of their

theory's core premise is that, because underpricing leads to excess demand, owner-managers can allocate the allotment of shares to investors and reduce the block size of shares held by outside investors.[116] This, in turn, results in greater ownership dispersion, allowing managers to entrench control over the company's management.[117]

Brennan and Franks' hypothesis sheds light on the intricacies of IPO pricing and allocation mechanisms as well as the strategic decisions companies and underwriters make during the IPO process, but it faces several challenges in explaining underpricing in current capital markets. First, this model holds only to the extent that outside investors do not assemble large blocks following the IPO.[118] However, in recent years, many institutional shareholders have built increasingly large stakes in many public companies.[119] Moreover, some commentators argue that these investors have recently emerged as close monitors and dedicated stewards of their portfolio companies.[120] Notably, they have outstanding voting participation rates, and they tend to vote at almost every shareholder meeting.[121] The fact that underpricing occurs at particularly high levels, despite the significant participation of institutional investors in public offerings thus suggests that factors beyond managerial control may be at play.[122]

Second, using multi-class stock structures is a clear substitute for ration allocation if owner-managers are seeking to evade scrutiny from outside owners.[123] This share capital structure renders the Brennan and Franks model less relevant since it protects owner-managers from public shareholders that have limited power to change the leadership of the company or influence corporate decisions. Over the last decade, there has been an

companies). *See generally* Andrei Shleifer & Robert W. Vishny, *Management Entrenchment: The Case of Manager-Specific Investments*, 25 J. FIN. ECON. 123 (1989).

116. Brennan & Franks, *supra* note 115, at 406–11.

117. *Id.* at 394–95; *see also* James R. Booth & Lena Chua, *Ownership Dispersion, Costly Information, and IPO Underpricing*, 41 J. FIN. 291, 307 (1996).

118. Ljungqvist, *supra* note 11, at 410.

119. *See, e.g.*, Eric A. Posner, Fiona M. Scott Morton & E. Glen Weyl, *A Proposal to Limit the AntiCompetitive Power of Institutional Investors*, 81 ANTITRUST L.J. 669, 674 (2017) ("The growth of institutional investors has been extraordinary: their current 70–80% share compares to 7% in 1950."); Lucian Bebchuk & Scott Hirst, *The Specter of the Giant Three*, 99 B.U. L. REV. 721, 732–40 (2019) (showing that an increasingly large proportion of the equity of U.S. public companies is now held by institutional investors that manage index funds, and arguing that this proportion is likely to increase in the future); Lucian Bebchuk & Scott Hirst, *Index Funds and the Future of Corporate Governance: Theory, Evidence, and Policy*, 119 COLUM. L. REV. 2029, 2065 (2019) (presenting evidence that, as of June 30, 2019, BlackRock, Vanguard, and State Street held stakes of 5% in 2,330, in 2,004, and in 183 U.S. public companies, respectively). *See also supra* notes 19–20 and accompanying text.

120. *See, e.g.*, Edward B. Rock & Marcel Kahan, *Index Funds and Corporate Governance: Let Shareholders Be Shareholders*, 100 B.U. L. REV. 1771, 1775 (arguing that large institutional investors wield unprecedented governance power over corporate America); Matthew J. Mallow & Jasmin Sethi, *Engagement: The Missing Middle Approach in the Bebchuk–Strine Debate*, 12 N.Y.U. J.L. & BUS. 385, 389–400 (2016) (highlighting the increasing tendency of large asset managers to engage with management on a variety of corporate issues).

121. Elad L. Roisman, Comm'r, SEC, Keynote Remarks: ICI Mutual Funds and Investment Management Conference (Mar. 18, 2019), https://www.sec.gov/news/speech/speech-roisman-031819#_ftnref10 [https://perma.cc/36ZW-5LHZ] ("[I]t appears to be the default position of many advisers that they vote every proxy, for every company, in every fund's portfolio.").

122. On average, institutional investors receive 90% of the shares in IPOs. *Understanding the IPO Share Allocation Process*, FIDELITY https://www.fidelity.com/learning-center/trading-investing/trading/ipo-share-allocation-process [https://perma.cc/6PCD-R78X].

123. *See, e.g.*, Laura Casares Field & Jonathan M. Karpoff, *Takeover Defenses of IPO Firms*, 57 J. FIN. 1857, 1860 (2002).

unprecedented increase in the use of this structure among newly listed companies.[124] Nine out of the ten most-underpriced IPOs have been multi-class issues.[125] It is worth noting that while, in the past, the evidence indicated that U.S. issuers of non-voting stock suffered less underpricing,[126] recent studies indicate that this is no longer the case.[127] In fact, one study has found that the level of IPO underpricing for multi-class stock is almost twice that of single-class companies' stock.[128]

Finally, Brennan and Franks' model applies to IPO mechanisms involving fixed prices and pro-rata allocation.[129] In a book-building regime, where issuers can discriminate against conservative investors and omit them from allocations without having to underprice the offering, the managerial control hypothesis becomes less relevant. The fact that regimes employing the book-building technique, such as the United States, typically feature heavy IPO underpricing, points to the possibility that the phenomenon is motivated by something else.

The other key ownership and control model—which stands in contradiction to that of Brennan and Franks—is the "limitation of private benefits" hypothesis. This model posits that owner-managers may opt to limit their ability to obtain private benefits if agency costs cause IPO proceeds and share prices to decline.[130] According to the model suggested by Neal Stoughton and Frank Zechner, if the owner-manager's stakes are large enough to render the decline in IPO proceeds attributed to the risk of agency costs greater than that owner-manager's private benefits, it will be in their interest to allocate shares to large outside investors that will adequately monitor managerial actions.[131] These monitoring shareholders, however, are likely to require compensation for their monitoring efforts, often in the form of underpricing or favorable allocation treatment.[132]

Although Stoughton and Zechner's theory is more compatible with the current capital market structure—characterized by large institutional investors holding significant equity stakes—it overlooks the evolving corporate governance landscape. Institutional investors are increasingly obligated and incentivized to monitor their portfolio companies, making it less likely that they would demand compensation for monitoring efforts. As noted, these investors now hold significant equity stakes in many public companies, a trend that is only

124. *See, e.g.*, Dhruv Aggarwal et al., *The Rise of Dual-Class Stock IPOs*, 144 J. FIN. ECON. 122, 123 (2022).

125. *See* RITTER, *supra* note 7, at 2 (all companies listed in the top-ten list, except for Corvis, have a dual-class structure).

126. *See, e.g.*, Scott B. Smart & Chad J. Zutter, *Control as a Motivation for Underpricing: A Comparison of Dual and Single-Class IPOs*, 69 J. FIN. ECON. 85, 98 (2003).

127. *See, e.g.*, JAY R. RITTER, INITIAL PUBLIC OFFERINGS: DUAL CLASS STRUCTURE OF IPOS THROUGH 2024 3 (2025), https://site.warrington.ufl.edu/ritter/files/IPOs-Dual-Class.pdf [https://perma.cc/B2WC-23EJ] (finding that, between 1980 and 2020, the first-day returns of dual-class stock was higher than that of single-class companies, among both tech and non-tech firms) (updated annually).

128. *See* Roberto Tallarita, *High Tech, Low Voice: Dual-Class IPOs in the Technology Industry* 37–38 (Harv. L. Sch. Discussion Paper, Paper No. 77, 2018), https://laweconcenter.law.harvard.edu/wp-content/uploads/2024/11/2018-2.pdf (finding that the first-day "price bump"—the difference between the offer price and the closing price of stock on the first day of trading—is almost twice as large as for that of single-class companies' stock).

129. *See* Ljungqvist, *supra* note 11, at 411–12.

130. Neal M. Stoughton & Josef Zechner, *IPO-Mechanisms, Monitoring and Ownership Structure*, 49 J. FIN. ECON. 45, 46–48 (1998).

131. *Id.* at 48–51.

132. *Id.* at 50.

likely to continue.[133] The fact that institutional investors are acquiring ever larger stakes in public companies further increases their incentive to closely monitor their firms because the benefits they receive from any improvement in the value of their portfolio company attributed to their monitoring activity also increase.

Institutional investors are also regulatorily obliged to monitor their portfolio companies. Specifically, in early 2003, the SEC adopted new rules governing proxy voting by registered investment advisers and registered investment companies.[134] These rules stipulated that an investment adviser be mandated to monitor corporate matters and vote the proxies in the best interests of their clients.[135]

Finally, various changes in the institutional investor community have eased the free-rider problem. Most notably, large institutional investors are now collaborating on a range of corporate issues through investor coalitions and membership of various institutional investor consortia,[136] potentially reducing monitoring costs. As a result, there may be less need for underpricing as "payment" for monitoring, diminishing the relevance of this explanation for IPO underpricing in today's capital markets.[137]

5. Behavioral Theories

While most of the explanations for IPO underpricing are located within the rational-actor framework, some scholars have explored this phenomenon from the perspective of *irrational* behavior. One prominent explanation within this domain is the "informational cascade" model, which holds that investors make investment decisions sequentially: some investors make their bids only after observing the bids of earlier investors, disregarding their own information about the investment.[138] As subsequent investors witness numerous successful initial sales by preceding investors; they infer that the earlier investors likely possess favorable information. Consequently, the later investors tend to ignore their own

133. *See supra* note 119 and accompanying text.

134. Proxy Voting by Investment Advisers, 68 Fed. Reg. 6585, 6586 (Feb. 7, 2003) (to be codified at 17 C.F.R. 275).

135. *Id.* ("The duty of care requires an adviser with proxy voting authority to monitor corporate events and to vote the proxies. To satisfy its duty of loyalty, the adviser must cast the proxy votes in a manner consistent with the best interest of its client and must not subrogate client interests to its own.").

136. *See, e.g.*, Tim C. Opler & Jonathan Sokobin, *Does Coordinated Institutional Activism Work? An Analysis of the Activities of the Council of Institutional Investors*, (Dice Ctr. for Rsch. in Fin. Econ., Working Papers Series, Paper No. 95-5, 1995), https://ssrn.com/abstract=46880 (describing the work of the Council of Institutional Investors (CII), the first and most influential institutional investor consortium, and explaining that it has provided a forum for asset managers to coordinate and communicate with each other on a variety of matters including activism programs); Chaim, *supra* note 43 (discussing the rise of shareholder coalitions); *The BlackRock Backlash*, WALL ST. J. (Feb. 27, 2020), https://www.wsj.com/articles/the-blackrock-backlash-11582849130 (on file with the *Journal of Corporation Law*) ("One ASA concern is what it calls 'groupthink' among asset managers, proxy firms and pension funds. Many now vote in lockstep on environmental, social and governance (ESG) issues.").

137. It is also noteworthy that a subsequent study that empirically tested Brennan and Franks' hypothesis found little to no evidence of a relationship between IPO underpricing and the creation of post-IPO shareholding. *See* Laura Casares Field & Dennis P. Sheehan, *IPO Underpricing and Outside Blockholdings*, 10 J. CORP. FIN. 263, 264 (2004).

138. *See generally* Ivo Welch, *Sequential Sales, Learning, and Cascades*, 47 J. FIN. 695 (1992) (discussing informational cascade model).

information and follow the investment choices of the earlier investors.[139] This sequential decision-making leads to an informational cascade, wherein early investors gain market power and can demand underpricing as a "reward" for being the first to commit to the IPO and initiating a positive cascade.

In contemporary capital markets, dominant, market-leading institutional investors exert an increasingly significant influence on the behavior of other asset managers.[140] As a result, the capacity of these preeminent entities to demand substantial underpricing in exchange for their participation in IPOs has attained unprecedented significance. This pivotal market dynamic, heretofore insufficiently addressed in extant literature, constitutes a crucial component of our market power-based theory of IPO underpricing developed in the subsequent Part.

While the cascade theory is considered less relevant in book-building regimes, where underwriters can maintain secrecy regarding demand development in the book,[141] there are doubts about whether such secrecy is consistently maintained. Recent studies suggest that underwriters frequently share price and demand information with institutional investors and that such investors seek to know which other investors are in the book.[142]

Regarding communication between institutional investors, cascades are less likely to form when investors are permitted to communicate freely with each other to learn about the entire distribution of signals.[143] In the United States, the regulatory freedom and practical ease with which investors can communicate with each other during price discovery,[144]

139. *Id.* at 696; *see also* Narasimhan Jegadeesh, Mark Weinstein & Ivo Welch, *An Empirical Investigation of IPO Returns and Subsequent Equity Offerings*, 34 J. FIN. ECON. 153 (1993) (discussing investor habits).

140. *See, e.g.*, *Unlocking IPO Success*, *supra* note 22 (explaining that "[i]nstitutional investors often have a significant influence on the market due to their reputation and expertise. Their participation in an IPO can create a 'halo effect' that positively impacts investor sentiment. For example, if a renowned mutual fund invests in an IPO, it sends a signal to the market that the offering is worth considering. This can lead to increased demand and potentially higher valuations for the company going public."); *see also* FIN. CONDUCT AUTH., *supra* note 28, at 40 (explaining that asset managers may be interested in the identity of other investors in the book). The effect of prominent asset managers on other institutional investors is not limited to investment, but also pertains, for example, to voting patterns and even business strategies. *See, e.g.*, Patrick J. McHugh & Bruce H. Goldfarb, *Rewriting the Proxy Playbook: Trian Partners vs. Disney Case Study*, HARV. L. SCH. F. ON CORP. GOVERNANCE (Sept. 16, 2024), https://corpgov.law.harvard.edu/2024/09/16/rewriting-the-proxy-playbook-trian-partners-vs-disney-case-study/ [https://perma.cc/LG89-A5B4] (underscoring the substantial sway that industry giants like BlackRock, Vanguard, and State Street hold over other investors' voting behavior). Focusing on the Trian-Disney face-off, the article provides an unusual glimpse into BlackRock's voting behavior which essentially created a signaling effect, demonstrating how the early voting of BlackRock, proceeded by that of Vanguard and State Street, shaped broader voting outcomes in corporate governance matter. *Id.*; Steve Johnson, *Janus Hunderson to Follow BlackRock and Fidelity into Tokenization*, FIN. TIMES. (Sept. 13, 2024), https://www.ft.com/content/648f2249-5783-4e98-8412-4056f56ad1b0 (on file with the *Journal of Corporation Law*) (showing that asset managers followed BlackRock and Fidelity in pursuing securities tokenization); Ben Strack, *More Asset Managers May Follow BlackRock Toward Blockchain ETFs,* BLOCKWORKS (Jan. 24, 2022), https://blockworks.co/news/blockchain-etfs-gaining-steam [https://perma.cc/S3HU-7YSD] (describing how several asset managers are contemplating following BlackRock's move to offer blockchain ETFs).

141. *See* Ljungqvist, *supra* note 11, at 413.

142. FIN. CONDUCT AUTH., *supra* note 28, at 31–32, 40. Our discussions with industry professionals corroborate this practice of information flow from underwriters to institutional investors.

143. *Id.* at 33 (discussing communications about institutional investors); *see also* Welch, *supra* note 138, at 700–02 (discussing communications between institutional investors).

144. *See, e.g.*, Chaim, *supra* note 43, at 1020 (discussing investor communications during price discovery).

as well as the accumulating evidence of their tendency to share investment-related data,[145] suggests that institutional investors may indeed exchange information during IPOs. In fact, there are reasons to think that the likelihood of communication between institutional bidders during price discovery is now greater than ever. Many institutional investors are repeat players in IPOs that interact with each other in numerous offerings.[146] This repeated interaction increases the chances for information exchange.[147] Moreover, several prominent institutional investors have recently taken similar positions on a variety of corporate issues, including with respect to companies undergoing an IPO, and are co-members in several consortia and trade associations, which provide a springboard for coordinated action.[148]

II. A NOVEL HYPOTHESIS: THE BIG THREE AS DRIVERS OF IPO UNDERPRICING

In the previous Part, we demonstrated that significant market developments—notably, the increasing equity stakes and market power of a core group of large institutional investors, their growing participation in the primary market, and their enhanced potential for mutual communication—are largely absent from the existing theoretical and empirical literature on underpricing. We also showed that the majority of the prevailing theories fail to explain the persistent surge in IPO underpricing, especially given the prevalence of book-building as the primary method for selling IPOs.

In this Part, we introduce a novel proposition that positions the market power of large institutional investors as playing a significant role in driving IPO underpricing. Our theory, which aligns more closely with the book-building method used for most IPOs in the United States, considers market shifts associated with the rise and concentration in the asset management industry and links them to the increasing levels of IPO underpricing.

Part II.A lays out the theoretical foundations underpinning our research. Legal scholars and economists have already acknowledged the potential market distortions that arise from the influence of giant institutional investors that oversee assets worth trillions of dollars and are the largest shareholders in most public companies. However, while the literature has mainly focused on the distortions that may ensue in markets where these companies compete (namely, product and labor markets), our theory identifies anticompetitive risks in one of the markets where these institutional investors themselves compete: the primary market.

Part II.B.1–2 presents our main hypothesis. We contend that a core group of financial giants possesses both direct and indirect market power in primary markets and explain how

145. *See, e.g.*, Chemmanur et al., *supra* note 34, at 1 (finding that, consistent with an information-sharing hypothesis, increased geographical dispersion of institutions investing in IPO firms is associated with higher IPO price revisions, larger initial returns, and lower information asymmetry); Harrison Hong, Jeffrey D. Kubik & Jeremy C. Stein, *Thy Neighbor's Portfolio: Word-of-Mouth Effects in the Holdings and Trades of Money Managers*, 60 J. FIN. 2801, 2801–04 (2005) (discussing data sharing); Veronika K. Pool, Noah Stoffman & Scott E. Yonker, *The People in Your Neighborhood: Social Interactions and Mutual Fund Portfolios*, 70 J. FIN. 2679 (2015) (finding that socially connected fund managers have more similar holdings and trades).

146. David C. Brown & Sergei Kovbasyuk, Key Investors in IPOs (Feb. 4, 2016) (unpublished manuscript), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2657394 (paper to be presented at American Finance Association Annual Meeting in 2027) (identifying a group of 47 institutional investors that are frequent players in IPOs and whose participation in an offering is positively correlated with underpricing).

147. FIN. CONDUCT AUTH., *supra* note 28, at 32.

148. *See infra* notes 225–29 and accompanying text.

these investors use such power to negotiate deeper discounts in the IPOs in which they invest, resulting in higher levels of underpricing. In our analysis, we also take into account the unique characteristics of the book-building process and explain why it is vulnerable to strategic behavior by powerful institutional investors. While we do not claim this to be the exclusive cause of IPO underpricing, this explanation emerges as an important determinant of the phenomenon. Notably, unlike some of the existing theories, our hypothesis also illuminates the recent surge in IPO underpricing. Part II.B.3 examines the mechanisms by which the Big Three leverage their collective market power to pressure issuers into offering lower prices and analyzes the potential antitrust implications of each proposed mechanism they employ.

A. Theoretical Context: The Adverse Market Effects of Asset Manager Capitalism

Over the last four decades, there has been a profound shift in the control and ownership dynamics of U.S. stock markets.[149] The once-dominant individual retail investors have ceded primacy to powerful institutional investors, which have acquired substantial equity stakes in virtually all publicly traded corporations.[150] This shift is evidenced by the dramatic increase in institutional investors' ownership of publicly traded U.S. companies, from a mere 7% in 1950 to approximately 75% in 2017.[151] More significantly, within this cohort of institutional investors, a core group of mutual fund managers has amassed unprecedented power, which is attributed to both the growth of index funds and a process of consolidation in the asset management industry.[152] The 25 largest fund families account for over 80% of investors' assets in U.S. funds.[153] As of 2024, the world's three largest asset managers—BlackRock, Vanguard, and Fidelity—boast AUM of over $10 trillion, $8.6 trillion, and $5.3 trillion, respectively.[154] Between 2009 and 2018, BlackRock, State Street, and Vanguard—dominant players in passive index investing through their popular index mutual funds and exchange-traded funds—saw gross inflow equivalent to 82.4% of the inflow to all funds in that decade.[155] The Big Four asset managers—Vanguard, State Street, Fidelity, and BlackRock—collectively control more than 20% of the voting power in S&P 500 companies, representing a concentration of corporate influence hitherto unheard-of in American economic history.[156]

The "de-retailization" of capital markets and the rise in institutional ownership have catalyzed a vigorous scholarly debate regarding the merits and drawbacks of these market

149. Posner, Morton & Weyl, *supra* note 119, at 673.

150. *See, e.g.*, Edward Rock, *Institutional Investors in Corporate Governance*, *in* THE OXFORD HANDBOOK OF CORPORATE LAW AND GOVERNANCE 363, 365–67 (Jeffrey N. Gordon & Wolf-Georg Ringe eds., 2018).

151. Posner, Morton & Weyl, *supra* note 119, at 674.

152. *Id.* at 673.

153. MORNINGSTAR, MORNINGSTAR FUND FAMILY 150 13 (2021), https://morningstardirect.morningstar.com/clientcomm/DueDiligenceReports/FundFamily150.pdf [https://perma.cc/4LFS-HYM8].

154. Marc Guberti, *7 Top Financial Advisor Firms by AUM*, U.S. NEWS (May 14, 2024), https://money.usnews.com/financial-advisors/articles/7-top-financial-advisor-firms-by-aum [https://perma.cc/YU9N-K959].

155. Bebchuk & Hirst, *supra* note 119, at 732 tbl. 2.

156. *See generally* JOHN COATES, THE PROBLEM OF TWELVE: WHEN A FEW FINANCIAL INSTITUTIONS CONTROL EVERYTHING (2023) (exploring how the concentration of wealth and power among Vanguard, State Street, Fidelity and BlackRock is unprecedented in American history).

shifts.[157] Notably, several legal scholars and economists have identified the potential market distortions attributed to the concentration of ownership and control rights in the hands of just a few large asset managers. To date, these studies have primarily focused on two spheres where the impact of this concentration is particularly felt: the product market and the labor market.

The scholarship examining the product-market effects associated with the rise of institutional ownership analyzes how "common ownership"—by a group of broadly diversified institutional investors in multiple public companies—attenuates their incentives to compete, thereby leading to price increases.[158] A seminal work by Azar and his co-authors modeled how investors' portfolio diversification across intra-industry firms can chill inter-firm competition.[159] According to their anticompetitive common ownership theory, when investors hold stakes in multiple competing firms, their incentives may shift toward maximizing aggregate portfolio returns rather than fostering vigorous inter-firm competition that could potentially erode profits.

To quantify this phenomenon, the authors developed a modified Herfindahl-Hirschman Index (MHHI) that incorporates common-ownership metrics.[160] Applying this novel measure to the U.S. airline industry, they empirically demonstrated a positive correlation between elevated levels of "common ownership concentration" and increased consumer prices in the sector.[161]

Azar et al.'s study was followed by other empirical works that similarly found a correlation between common ownership levels and price increases in the product markets where commonly owned firms competed.[162] Several leading scholars have argued that compelling evidence of the anticompetitive effects of common ownership warrants immediate policy action, such as limiting the holdings of giant institutional investors in any given industry to no more than 1% of the total industry size or restricting institutions from holding more than a single "effective firm" per industry.[163] Some antitrust scholars have even called for public-enforcement policy under the Clayton Act and the Sherman Act to address the anticompetitive effect of common ownership.[164]

157. *See, e.g.*, Bebchuk & Hirst, *supra* note 119, at 725-726; Ronald J. Gilson & Jeffrey N. Gordon, *The Agency Costs of Agency Capitalism: Activist Investors and the Revaluation of Governance Rights*, 113 COLUM. L. REV. 863, 909–10, 915 (2013).

158. *See* Azar, Schmalz & Tecu, *supra* note 46, at 1514; Einer Elhauge, *Horizontal Shareholding*, 129 HARV. L. REV. 1267, 1295 (2016); Edward B. Rock & Daniel L. Rubinfeld, *Common Ownership and Coordinated Effects*, 83 ANTITRUST L.J. 201, 243–44 (2020).

159. *See generally* Azar, Schmalz & Tecu, *supra* note 46 (explaining the hidden social cost of reduced product market competition that comes with the benefits of diversification).

160. *Id.* at 1525–28.

161. *Id.* at 1545. Controlling for other factors, increases in this "common ownership concentration" on a given route were associated with 3%–7% higher airline ticket prices on that route. *Id.* at 1559.

162. *See, e.g.*, Mohammad Torshizi & Jennifer Clapp, *Price Effects of Common Ownership in the Seed Sector*, 66 ANTITRUST BULL. 39, 61 (2021); José Azar, Sahil Raina & Martin Schmalz, *Ultimate Ownership and Bank Competition*, 51 FIN. MGMT. 227, 230 (2022).

163. *See* Posner, Morton & Weyl, *supra* note 119, at 678.

164. *See, e.g.*, Einer Elhauge, *How Horizontal Shareholding Harms Our Economy—and Why Antitrust Law Can Fix It*, 10 HARV. BUS. L. REV. 207, 255–73 (2020). Concurrently, anticompetitive common-ownership theories have faced criticism. A key argument against the potential anticompetitive effects of common ownership stems from the highly diversified nature of these institutional investors' portfolios. *See, e.g.*, Thomas A. Lambert & Michael E. Sykuta, *The Case for Doing Nothing About Institutional Investors' Common Ownership of Small*

The second market that the literature has addressed in the context of common ownership is the labor market. In a recent paper, Zohar Goshen and Doron Levit examine how common ownership among institutional investors such as mutual funds exacerbates economic inequality in the United States.[165] The authors argue that the dynamic of common ownership among several asset managers is a contributing factor to the decline of the American worker's economic position over recent decades. According to their theory, as diversified institutional investors promote strong corporate governance across the great majority of public companies, they reduce welfare by limiting investment and hiring.[166] In that setting, they claim, common owners essentially function as a wage cartel, pushing labor markets below their competitive levels and causing wage stagnation.[167] Goshen and Levit's theoretical work builds on empirical research by José Azar, Yue Qiu, and Aaron Sojourner that explored the potential impact of common ownership on labor market dynamics and revealed a notable correlation: an increase in common ownership concentration within a specific labor market was associated with decreases in both average wages per employee and the employment-to-population ratio in that market.[168]

B. A Novel Perspective: The Capital Market Distortions of Concentrated Institutional Ownership

While the extant literature on common ownership and the rise of institutional investors predominantly focuses on potential anticompetitive effects in markets where their portfolio companies compete, it largely neglects to consider how these market shifts affect the competitive dynamics among institutional investors themselves, particularly within the realm of capital markets.[169] Our analysis in this Part introduces a new theoretical framework that examines the primary market effects of the rise and growing dominance of several financial giants. We posit that the dominance of the Big Three in capital markets confers upon them substantial power as bidders in IPOs. When bargaining with issuers and underwriters, this power allows them to negotiate-down the pricing of securities sold in public offerings below competitive levels, offering a compelling explanation for the unprecedented levels of IPO underpricing over the past two decades.

Stakes in Competing Firms, 13 VA. L. & BUS. REV. 213, 232–33 (2019). Critics contend that, if a commonly owned firm were to engage in anticompetitive practices, such as price coordination, it could adversely impact the performance of other companies within the same supply chain or complementary industries that are also held in the common owners' respective portfolios. *Id.* at 234–35. Another critique revolves around the mechanisms by which common owners can cause their portfolio companies to increase prices. *See* C. Scott Hemphill & Marcel Kahan, *The Strategies of Anticompetitive Common Ownership*, 129 YALE L.J. 1392, 1429–40 (2020) (evaluating various proposed mechanisms and arguing that most of the proposed mechanisms either lack significant empirical support or are implausible, considering the incentives and constraints facing institutional investors).

165. *See* Goshen & Levit, *supra* note 46, at 4.

166. *Id.* at 29–39.

167. *Id.* at 39–51.

168. *See* Azar, Schmalz & Tecu, *supra* note 46, at 1545.

169. One exception is a recent paper by one of the authors of this Article, which acknowledges the potential anticompetitive effects associated with the coalition against dual-class structures and expresses concerns that a coordinated push by a large group of powerful institutional investors against this share structure could distort the prices of dual-class stock in IPOs or lead to sub-optimal governance arrangements. *See* Chaim, *supra* note 43.

1. The Market Power of The Big Three in the Primary Market

In the context of public offerings, the market power wielded by large institutional investors manifests in two distinct forms: direct and indirect.

i. Direct Market Power

The direct form of market power of the Big Three stems from the sheer magnitude of these institutions' investments relative to the size of the investment pool. As at 2024, the Big Three collectively oversee over $24 trillion in AUM.[170] These institutions also tend to maintain sizeable equity stakes in their portfolio companies. As of 2023, each one held equity positions in approximately 5,000 public companies,[171] collectively controlling nearly a quarter of the average S&P 500 company.[172]

The Big Three are not only the three largest asset managers in the world but are also overseeing the largest pool of actively managed funds.[173] Their active equity funds boast staggering AUM figures: BlackRock with $10 trillion, Vanguard with $9 trillion, and Fidelity with $5 trillion.[174]

The significance of this immense active-fund management in the context of IPOs cannot be overstated. Active funds, especially the largest ones, play a significant role in IPOs. They have the capital and expertise to participate in the great majority of public offerings and are repeat players in IPOs and play a pivotal role as a significant source of financing in IPOs. Unlike their index counterparts, which are constrained to investments in companies already comprising the index and thus rarely participate in IPOs, active funds possess the flexibility to invest in newly public companies.[175]

Because data on IPO allocation are confidential, precise figures regarding the percentage allocation to different institutional investors and their participation remain elusive. Nevertheless, both empirical studies and anecdotal evidence strongly suggest high levels of participation by the largest active-fund managers, particularly in recent years. For example, a recent study by David Brown and Sergei Kovbasyuk examining IPOs of U.S. firms' common stocks from 1985 to 2014 revealed that Fidelity participated in the largest

170. *See supra* note 17 and accompanying text.

171. *See* Gormley & Jha, *supra* note 19.

172. *See supra* note 20 and accompanying text.

173. *See* Lund & Robertson, *supra* note 16, at 4.

174. *Id.* at 14 tbl.1.

175. This distinction arises from the fact that companies are not instantaneously incorporated into an index immediately following their initial offering. *See, e.g.*, *Active Managers Taking Market Share from Passive Funds with IPOs*, NASDAQ (Sept. 16, 2021), https://www.nasdaq.com/articles/active-managers-taking-market-share-from-passive-funds-with-ipos-2021-09-16 [https://perma.cc/DW5R-YKZS]. Typically, there is a delay before an IPO company becomes eligible for inclusion in major indexes like the S&P 500 since index providers seek to ensure that newly public companies have sufficient liquidity and a reasonable track record as a public company before their inclusion. For example, the S&P 500 requires a company to have a market cap of at least $13.1 billion and have been publicly traded for at least 6–12 months before being eligible for addition to the index. *See S&P Requires Indexes Raise Minimum Market Cap Requirements*, REUTERS (June 3, 2021), https://www.reuters.com/business/sp-indexes-raise-minimum-market-cap-requirements-2021-06-03/ [https://perma.cc/CMA4-JMPN]; S&P DOW JONES INDICES, S7P U.S. INDICES *METHODOLOGY* 76 (2025), https://www.spglobal.com/spdji/en/documents/methodologies/methodology-sp-us-indices.pdf [https://perma.cc/PCW7-E7T7]. Indeed, our empirical analysis detailed in Part III, as well as information we obtained from practitioners and advisors in IPOs, indicates that index funds rarely participate in IPOs.

number of offerings: 2,028.[176] BlackRock, despite its comparatively smaller size during portions of the sample period in both absolute terms and active AUM, still participated in over 1,090 IPOs.[177]

These already substantial figures have only increased in recent years. Our research, detailed in the following Part, reveals the overwhelming dominance of the Big Three in the IPO market from 2002 to 2022. Each of these financial behemoths participated in over 40% of all IPOs during this period, demonstrating their extraordinary influence. Fidelity was involved in 1,126 IPOs, representing a staggering 41.6% of the sample. BlackRock's presence was even more pronounced, participating in 1,177 IPOs, accounting for 43.5% of the sample. Vanguard matched BlackRock's involvement, also participating in 1,178 IPOs and making up 43.5% of the sample. Perhaps most tellingly, all three institutions jointly participated in 614 IPOs, representing almost a quarter of the sample. These figures underscore the immense power and reach of these financial giants in shaping the landscape of newly public companies.

Moreover, the substantial asset base of these institutional investors not only facilitates their participation in a multitude of offerings but also enables them to acquire significant stakes in IPOs. This dual capability—extensive participation and substantial investment—further amplifies their market power in primary markets, potentially influencing pricing dynamics and allocation decisions.

Research has shown that institutional investors' market influence in IPOs correlate strongly with their size, participation frequency, and bid volumes.[178] This observation informs our focus on the Big Three and their potential capability to use their market power to exert downward pressure during negotiations with issuers and underwriters.[179]

ii. Indirect Market Power

The indirect form of market power wielded by the Big Three can be attributed to several factors: the positive signaling effect of their participation in IPOs, their long-term investment horizons, and the preferential relationship they maintain with underwriters.[180]

Signaling Capability. When prominent asset managers such as the Big Three allocate funds to an IPO, their involvement often serves as a de facto "seal of approval" for the issuing company, conveying a positive signal about its prospects and potentially influencing the success of the offering.[181] Smaller institutional investors and retail investors alike

176. Brown & Kovbasyuk, *supra* note 146, at 35 tbl.3.

177. *Id.*

178. *See, e.g.*, FIN. CONDUCT AUTH., *supra* note 28, at 35 ("[L]arger (price-sensitive) bids and more frequent bidders in the sample of IPOs, have a stronger effect on the final issue price.").

179. *See id.* at 44 (tying the market power of a group of institutional investors that exchanged information regarding their bidding intentions and their actions' capacity to produce anti-competitive effects by forcing lower offer prices).

180. The Big Three also exert a major effect on underpricing, which further enhances their ability to impact offer prices. *See infra* Part II.B.2.

181. *See Unlocking IPO Success*, *supra* note 22 ("In conclusion, the involvement of institutional investors can significantly influence investor sentiment and contribute to the success of an IPO. Their reputation, expertise, and financial resources can create a halo effect, increase liquidity, and provide a vote of confidence to retail investors."). Our research involved numerous conversations with individual members of IPO advisory groups, such as legal consultants and IPO advisors, as well as underwriters. These industry insiders emphasized that the

tend to view the involvement of these financial behemoths as a strong indicator of the offering's credibility, frequently catalyzing broader investor interest and enhancing overall market confidence in the issue.[182] These factors explain the striking eagerness among issuers to secure the participation of the most prominent institutional investors.[183]

Long-Term Investment Horizon. An additional factor is that investors of the caliber of the Big Three are typically long-term investors. Issuers generally prefer long-term shareholders because they provide stability to the shareholder base, align with the company's long-term value-creation goals, and reduce pressure on management to focus on short-term performance.[184] Moreover, these institutional investors are more attractive from the perspective of underwriters and issuers as they are less likely to sell their shares immediately following the IPO, a practice known as "flipping."[185] These characteristics of institutional investors contribute to a more stable and supportive ownership structure, which can benefit the company's long-term strategic planning and execution.

Thus, while the aggregate capital availability in the market may be sufficient to execute a successful IPO without the participation of players on the scale of the Big Three, issuers still exhibit a marked preference for including these entities in their shareholder base. Indeed, so strong is this inclination that issuers (and underwriters) may be willing to accept a lower offer price in the IPO if they view it as a necessary concession to secure the involvement of these influential investors.

Business Relationship with Underwriters. The indirect market power wielded by institutional titans extends beyond the issuers' perspective. It also significantly influences the strategic considerations of investment banks functioning as underwriters. Investment banks ascribe substantial importance to their multifaceted business relationships with giant financial institutions like the Big Three, a prioritization largely attributable to the vast fee-generation associated with these entities across various business domains.[186] In addition to the significant revenues investment banks generate from the stock purchases made by these financial giants in the primary market, they also offer an array of sophisticated services to institutional investors, such as securities lending and the financing and sale of complex

participation of prominent institutional investors has a significant positive impact on the ability to attract other investors and the prospects of an IPO's success.

182. *Id.*; *see also supra* note 140 and accompanying text.

183. *See* Tom Mohr, *Funding & Exits—Chapter 16: The IPO Exit*, MEDIUM (Apr. 2, 2019), https://medium.com/ceoquest/funding-exits-chapter-16-the-ipo-exit-e79679f49406 [https://perma.cc/MC79-YSQ8] (explaining that it is in the interest of CEOs to "secure institutional investors who are buying long"). It should be noted that the desire to attract large institutional investors extends beyond the IPO stage, persisting well into the company's publicly traded life.

184. *See, e.g.*, Tim Jenkinson & Howard Jones, *IPO Pricing and Allocation: A Survey of the Views of Institutional Investors*, 22 REV. FIN. STUD. 1477 (2009) (finding that underwriters tend to allocate more shares to institutional investors with long-term investment horizons).

185. *See, e.g.*, Tim Jenkinson & Howard Jones, *Bids and Allocations in European IPO Bookbuilding*, 59 J. FIN. 2309, 2310 (2004) ("The second view, which [underwriters] tend to emphasize, is that allocations are directed toward investors who will be long-term holders of the stock."); FIN. CONDUCT AUTH., *supra* note 28, at 28 ("Issuers and book-builders typically consider a range of factors when determining allocations, including, for example, whether prospective investors are likely to be stable and supportive long-term holders of the issuer's shares.").

186. *See, e.g.*, Jenkinson, Jones & Suntheim, *supra* note 102 (showing empirically that broking revenues are a significant determinant of investors' IPO allocations and profits); *see also* FIN. CONDUCT AUTH., *supra* note 28, at 28–29 ("[B]ook-builders made favourable allocations of shares at IPOs to those who . . . generate greatest revenues from elsewhere in the book-builders' business.").

financial instruments, all of which constitute further lucrative revenue streams. Moreover, the high-volume trading activity characteristic of such institutional investors substantially benefits investment banks' brokerage operations, contributing to commission revenues and market liquidity.

This economic reality engenders a compelling incentive structure wherein investment banks, when acting in their capacity as underwriters, may be predisposed to favor these prime clients through strategic underpricing and preferential allocation in IPOs.[187] Indeed, a corpus of empirical and theoretical literature lends credence to the hypothesis that underwriters exhibit a proclivity to favor institutional investors in the IPO process.[188] This favoritism typically manifests in the form of greater allocation of underpriced stock, serving as a mechanism to maintain and cultivate these critical business relationships.[189]

Our perspective on the market power of institutional investors like the Big Three and its impact on IPO pricing and allocation decisions aligns with the findings of a recent study by Tim Jenkinson and Howard Jones.[190] Their comprehensive survey of 57 institutional investors sought to ascertain their views on the factors that influence IPO allocations, through their collective assessment of approximately 2,000 IPOs.[191]

The survey revealed that, contrary to prevailing academic arguments, information revelation does not significantly influence the allocation of shares by underwriters in IPOs. Surprisingly, a majority of those investors surveyed do not even develop their own evaluation models, and nearly 20% of them have never built *any* evaluation model.[192] Moreover, the authors identified a negative correlation between institutional investors that formulate evaluations and those which share their assessments with the sell-side, indicating that pricing feedback from institutional investors holds limited informative value.[193]

The study also pinpoints specific characteristics that enhance the likelihood of institutional investors receiving allocations of underpriced shares. It indicates that the most influential factors are several attributes of the institutional investors themselves, including the size of the fund (with a preference for larger funds), the existence of a broking business relationship with the book-runner, the investment horizon of the fund (favoring long-term investments), and the frequency of subscription to IPOs.[194]

These findings are also consistent with prior research conducted by the Financial Conduct Authority (FCA), the primary financial regulatory body in the United Kingdom, which illuminated the multifaceted criteria employed by book-builders in determining favorable

187. *See supra* notes 97, 102 and accompanying text.

188. *See supra* notes 97–103 and accompanying text.

189. *See, e.g.*, Loughran & Ritter, *supra* note 1, at 7 (arguing that investment banks give preferential treatment to institutional investors with whom they have ongoing business relationships as buy-side investors, in exchange for quid pro quo); Jenkinson & Jones, *supra* note 185, at 2310 (finding support for the argument that IPO allocations are part of implicit quid pro quo deals with investment banks).

190. Jenkinson & Jones, *supra* note 184, at 1477.

191. *Id.* at 1500.

192. *Id.* at 1486 tbl.2.

193. *Id.* at 1488–90.

194. *Id.* at 1495. Over half of the respondents rated all these factors as "significant," and over 10% rated each of these factors as "critical." Jenkinson & Jones, *supra* note 184, at 1496–98.

share allocations during IPOs.[195] The study identified several key factors influencing these allocation decisions. Foremost among these is an investor's contribution to the price discovery process, with particular emphasis placed on those who submit price-sensitive bids and engage directly with the issuer through attendance at meetings. Additionally, book-builders demonstrated a proclivity for rewarding investors who generate substantial revenues from other aspects of their business operations. The magnitude of bids submitted during the book-building process also emerged as a significant determinant, with larger bids correlating positively with preferential allocations. Furthermore, the research highlighted a distinct preference for long-term investors—those expected to retain shares for extended periods post-IPO—over more transient stakeholders such as hedge funds. [196]

The attributes identified in both Jenkinson and Jones' study and in the FCA research, which are also indicators of the direct and indirect form of market power, are epitomized by the Big Three. The following Subsection demonstrates that, owing to the discriminatory nature of the prevalent IPO method in the United States, giants like the Big Three can obtain favorable treatment in IPOs even when exerting downward price pressure.

2. The Vulnerability of the IPO Process to the Big Three's Market Power

We saw in the previous Subsection that a core group of large institutional investors wields a significant degree of power in the primary market: direct and indirect. This Subsection elucidates how the Big Three can leverage their power during the IPO process, potentially compelling issuers to reduce the offer price below that which would emerge in a truly competitive market.

Our analysis focuses primarily on the book-building method, the predominant approach to conducting IPOs in the United States. Two key attributes of the U.S. IPO process facilitate the significant effect of powerful institutional investors on offer prices. The first is the influential role played by institutional investors in the pricing process, whereby their indications of interest and bids help underwriters determine both the file-price range and the final offer price. The second is the discriminatory nature of the process, which makes it plausible for shares to be allocated even to investors that bid conservatively. We now turn to elaborate on each of these attributes.

The book-building process is a competitive process in which underwriters solicit bids from institutional investors.[197] This market-driven price discovery mechanism relies on ongoing, iterative communication between the underwriter and the institutional bidders, providing the underwriter the flexibility to adjust prices and allocations based on investor demand.

Giants such as the Big Three are likely to play a significant pricing role in this process. As repeat, sophisticated market actors, they are viewed as informed investors that are potential long-term investors, experienced at valuing companies. They typically conduct their own research and analysis of an issuer and assist in the price discovery process. The pivotal

195. Jenkinson, Jones & Suntheim, *supra* note 102, at 2304 ("All banks with operations in the United Kingdom, which include all of the leading U.S. and European investment banks, are subject to regulation by the FCA".).

196. *Id.* at 2305.

197. Akhilesh Ganti, *Understanding Book Building in IPO Pricing*, INVESTOPEDIA (Oct. 8, 2025), https://www.investopedia.com/terms/b/bookbuilding.asp [https://perma.cc/5USW-HRG8].

role of large institutional investors in helping to determine the price of an issue, combined with the continuous feedback loop among issuers, underwriters, and these powerful investors during the book-building process, renders such investors highly influential in shaping the offer price.

However, in concentrated capital markets, this feedback loop and the frequent interactions between the parties may inadvertently lead to lower offer prices and increased underpricing levels. Institutional investors, leveraging their market power and potential order sizes, can engage in strategic behavior to exert downward pressure on the offer price. Such behavior can include deliberately understating the issuer's true value during price discovery or expressing unwarranted skepticism about the issuer's prospects (for example, concerning its potential growth or business model).[198] Each of these powerful market actors may also threaten to opt-out of the offering or significantly limit its share purchases unless sellers acquiesce to lower prices.

The potential exercise of market power by institutional investors through their pricing power was augmented by the enactment of the JOBS Act.[199] This legislation significantly expanded the extent, duration, and channels of communication between issuers, underwriters, and institutional investors. Notably, under this Act, an EGC is permitted to "test-the-water" by corresponding with "qualified institutional buyers" to gauge their interest in acquiring the issuer's shares at a much earlier stage than previously allowed—either prior to or immediately following the filing of the registration statement.[200]

This TTW communications amplify the impact of feedback from large institutions at relatively early stages of the IPO process, even before the file-price range is established. In fact, during TTW communications, institutional investors are not constrained by any share price range, potentially allowing them to exert greater influence over the decision on the initial price.

In that context, note that, while price revisions are common, the price range and the final offer price tend to be sticky.[201] Consequently, a lower initial price range would, on

198. *Cf.* Chaim, *supra* note 43, at 972 (arguing that the coalition against dual-class stock serves these purposes because coalition members are artificially inflating the "penalty" imposed on issuers choosing to issue shares with unequal voting rights, effectively depressing the prices of dual-class stock).

199. Jumpstart Our Business Startups Act, Pub. L. No. 112–106, 126 Stat. 306 (2012). Since 2019, all issuers in the United States have been allowed to engage in TTW communications. It should be noted, however, that the JOBS Act eased the disclosure requirement of EGCs, thereby potentially increasing the level of information uncertainty. *See id.* § 102. Higher underpricing levels observed following the JOBS Act may, therefore, be partially attributed to informed investors' demand for higher compensation in return for bearing higher uncertainty.

200. *Id.* § 105(d). Before the JOBS Act, TTW was impermissible under Section 5 of the Securities Act, which prohibited "gun jumping"—engaging in securities-offering activities before registration with the SEC Securities Act of 1933 § 5(C), 15 U.S.C. § 77e(c) (2018) (explaining that "[i]t shall be unlawful for any person, directly or indirectly, to make use of any means or instruments of transportation or communication in interstate commerce or of the mails to offer to sell or offer to buy through the use or medium of any prospectus or otherwise any security, unless a registration statement has been filed as to such security.").

201. Patrick M. Corrigan, *The Initial Maximum Pricing Range Estimate Decision in IPOs: Is Low-balling or High-balling the Optimal Strategy?* (Notre Dame L. Sch. Working Paper, 2020), https://www.law.nyu.edu/sites/default/files/Lowballing%20Highballing%20IPO%20Initial%20Pricing%20Range%20-%20Patrick%20Corrigan.pdf [https://perma.cc/BGQ3-K3XS]; Kwan, *supra* note 38, at 59–60 (explaining that in book-built IPOs in Japan, "any price range set earlier was often rigidly adhered to despite greater investor demand warranting an uplift").

average, lead to a lower final offer price.[202] This dynamic underscores the potential for institutional investors to shape IPO pricing outcomes more significantly under the current regulatory framework.

Our contention that powerful institutional investors exploit their market power to depress IPO prices, a practice that has become more feasible and potentially easier following the 2012 JOBS Act, aligns with the recent empirical findings of Yuxiang Bian et al.[203] Their study demonstrates a correlation between higher institutional investor participation in IPOs and steeper underpricing, particularly in IPOs of EGCs post-JOBS Act.[204] Notably, the authors also found that underpricing levels in post-JOBS IPOs where all shares were allocated to institutional investors were approximately 15% higher than in IPOs during the same period where all shares were sold to either individual investors or issuers' employees.[205]

According to Bian and his co-authors, greater underpricing of IPOs in cases where institutional investors enjoy favorable allocations cannot be explained by the larger information asymmetry gap.[206] On the contrary, a higher proportion of knowledgeable investors should theoretically mitigate information uncertainty surrounding these IPOs. Furthermore, the absence of extraordinary returns on the issuer's shares in various post-IPO timeframes contradicts the notion that this correlation reflects institutional investors' superior ability to identify promising issuers.[207] In other words, the lack of abnormal returns, even in short periods after the first trading day, suggests that the allocation of underpriced shares to institutional investors was not driven by their capacity to better assess the value of the issuers.[208] Alternative factors appear to be at play.

202. Interestingly, numerous empirical studies have shown that the level of underpricing varies depending on where the offer price is, relative to the initial price range, and that an upward deviation from the price range typically results in higher underpricing. *See, e.g.*, Michelle Lowry, Roni Michaely & Ekaterina Volkova, *Initial Public Offerings: A Synthesis of the Literature and Directions for Future Research*, *in* FOUNDATIONS AND TRENDS IN FINANCE 182–84 (Sheridan Titman ed., 2017) (noting that "[c]ompanies that are priced below the initial range have average underpricing of 3.9% and this level is relatively stable over all sample years. In comparison, companies that are priced within the initial price range have average underpricing of 12.2%, while companies priced above the range have an average underpricing of 50.2%. Initial returns for these two latter groups [are] even higher during the Internet Bubble period."). These findings may suggest that a low file range, which could be the result of negative price signals from sophisticated institutional investors, pushes down final offer prices below their market value.

203. Bian et al., *supra* note 93.

204. *Id.* A 2017 study examined the effects of the reduction in disclosure requirements introduced by the JOBS Act. Susan Chaplinsky, Kathleen Weiss Hanley & S. Katie Moon, *The JOBS Act and the Costs of Going Public*, 55 J. ACCT. RSCH. 795, 795 (2017). The research, comparing 312 IPOs by EGCs from April 2012 to April 2015 against pre-JOBS-Act IPOs, revealed that, despite the lessened information-reporting obligations, direct costs such as underwriting, accounting, and legal fees did not decrease. *Id.* Interestingly, indirect costs, specifically the underpricing of EGC IPOs, actually increased during this period. *Id.*

205. Bian et al., *supra* note 93, at 18.

206. *Id.* at 21.

207. *Id.* at 18. The authors examined time windows of one week, one month, two months, three months, six months, and one year. *Id.* at 20 tbl.12.

208. Note that research generally indicates that institutional shareholders have a superior ability to assess performance. This is reflected in the outperformance of those companies with higher levels of institutional ownership compared to those with lower levels. *See, e.g.*, Laura. Casares Field & Michelle Lowry, *Institutional Versus Individual Investment in IPOs: The Importance of Firm Fundamentals*, 44 J. FIN. & QUANTITATIVE ANALYSIS

The other attribute of the IPO process that renders it vulnerable to the strategic exercise of market power possessed by giants like the Big Three is the *discriminatory nature of the process*, which refers to the ability of underwriters to discriminate between bidders. Under the book-building method, underwriters have the flexibility to adjust allocations based on investor demand and relationships.[209] This contrasts with other IPO methods, such as auctions, where shares are allocated based on the highest bids without such discretion, resulting in a more transparent, but potentially less flexible, process. The indirect market power of giants allows them to benefit from preferential treatment in terms of both underpricing and share allocations, even when bidding conservatively.[210]

While the confidential nature of both investor bids and IPO allocations makes the detection of preferential treatment all but impossible,[211] there are certain indicators that can provide pointers. One illustrative example of such treatment is the allocation of high volumes of underpriced shares to powerful *conservative* bidders—those that, at the high end of an issue's price range, tend to make low orders. If the underwriter can potentially sell the entire issue at a higher price to *non-conservative* bidders, the major allocation of shares to large conservative bidders at a relatively low offer price may indicate that the latter have used their market power and relationships with underwriters to force that discount. Rather than leaving them with no or low allocations, as the restrained bid would typically warrant, underwriters allocate shares to those powerful bidders even at the cost of lower offer prices.

3. How the Big Three Utilize Their Collective Market Power

The market power of giant asset managers is not solely determined by their size or trading volume. As we have demonstrated, each of the Big Three is a dominant player in the primary market and may strategically leverage its position to negotiate lower offer prices. However, when these competitors engage in various forms of convergent, parallel, or coordinated behavior, their collective market power can be wielded more effectively. This, in turn, can potentially lead to an even deeper underpricing.

In this Part, we identify several mechanisms through which the Big Three might leverage their collective market power over issuers. We also provide empirical and anecdotal evidence supporting the existence of some of these mechanisms.[212]

The first mechanism is through patterned behavior, which does not require direct communication or formal agreement between them.[213] Large institutional investors can

489, 500 (2009) (reasoning data shows the "IPOs with highest institutional investment significantly outperform those with the lowest [data]").

209. Suman Neupane, Krishna Paudyal & Chandra Thapa, Do Investors Flip Less in Bookbuilding Than in Auction IPOs? 26 (Feb. 8, 2016) (unpublished manuscript), https://dx.doi.org/10.2139/ssrn.2730401.

210. *See supra* notes 97–103 and accompanying text.

211. Jenkinson & Jones, *supra* note 185, at 2309 (noting that institutional investor bids are "proprietary information that investment banks are loathe to reveal").

212. Some of the mechanisms discussed here may, depending on context and circumstances, raise potential antitrust concerns. Nonetheless, a comprehensive antitrust evaluation is beyond this Article's scope; we instead flag these issues and invite future research to assess the competitive effects of the practices described.

213. *Cf.* Ioannis Kokkoris, *The Development of the Concept of Collective Dominance in the ECMR: From Its Inception to Its Current Status*, 30 WORLD COMPETITION: L. & ECON. REV. 419, 421 (2007) ("In an oligopolistic market there are a small number of operators who are able to behave in a parallel manner and derive benefits from

anticipate and align their bidding strategies with those of their counterparts through observation and market experience. This dynamic is particularly pronounced in markets with a small number of dominant players, where the actions of each participant are more predictable in relation to the others.[214] As repeat players in the IPO market, the Big Three can iteratively refine their bidding strategies by analyzing outcomes across successive IPOs and observing other major participants' bidding patterns. This process of adaptive learning enables them to adjust their approaches incrementally, optimizing their tactics over time.[215]

Institutional investors can also leverage their collective market power to influence IPO prices through direct communication. Unlike in secondary markets, U.S. law places no explicit restrictions on communication between potential IPO bidders. This policy reflects the view that investor interaction during price discovery enhances market efficiency; the sharing of information and analysis concerning various aspects of an IPO leads to information aggregation and more accurate pricing.[216] By taking advantage of the freedom to exchange information, powerful institutional investors such as the Big Three can strategically depress offer prices. Specifically, they can share fundamental analyses about portfolio companies or details regarding the bids they have submitted.[217] Additionally, institutional investors can acquire information from the book-builder, who may disclose existing low bids as a strategy to encourage higher bidding activity.[218]

Recent empirical evidence suggests that institutional investors do, indeed, engage in word-of-mouth communication and information sharing during the IPO process.[219] Such communication can occur in formal settings such as roadshows and meetings with issuers and underwriters, where multiple institutional investors may be present. Informal discussions and exchanges of information can also happen in more casual settings, such as professional conferences or even social events.[220]

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their collective market power, without necessarily entering into an agreement or concerted practice. This phenomenon is called tacit collusion.").

214. *See, e.g.*, Niklas Horstmann, Jan Krämer & Daniel Schnurr, *Number Effects and Tacit Collusion in Experimental Oligopolies*, 66 J. INDUS. ECON. 650 (2018); R. Selten, Bielefeld, *A Simple Model of Imperfect Competition, Where 4 Are Few and 6 Are Many*, 2 INT'L J. GAME THEORY 141, 141 (1973) ("[Five] is the dividing line between few and many.").

215. From an antitrust perspective, such coordinated behavior, while resembling what courts term "conscious parallelism" among competitors, does not in itself violate the Sherman Act. *See* Rock & Rubinfeld, *supra* note 158, at 206.

216. *Cf.* Benveniste & Spindt, *supra* note 79, 344 (explaining that effective communication between underwriters and informed institutional investors improves the price discovery process).

217. *See, e.g.*, FIN. CONDUCT AUTH., *supra* note 28.

218. *Cf. id.* at 32 ("As part of the book-building process, investors may obtain a certain amount of information on the book from the book-builder.").

219. *See, e.g.*, Chemmanur et al., *supra* note 34, at 1 (finding that "an increase in the geographical dispersion of the institutions investing in IPO firms is associated with higher IPO price revisions" and "lower information asymmetry in the post-IPO period," supporting the information sharing hypothesis).

220. Moreover, information sharing extends beyond the primary market and is also evident in secondary markets. In an early survey (from the late 1980s), a majority of institutional investors attributed their trades to discussions with peers. *See, e.g.*, Robert J. Shiller & John Pound, *Survey Evidence on Diffusion of Interest and Information Among Investors*, 12 J. ECON. BEHAV. & ORG. 47, 62 (1989); Hong, Kubik & Stein, *supra* note 145, at 2801 (empirically demonstrating that mutual fund managers are more likely to hold, buy, or sell a stock if other managers in the same city are also holding, buying, or selling that stock, even after controlling for factors like investment style, and arguing that such results point to an "epidemic model" where investors spread information about stocks to each other through word-of-mouth communication); Pool, Stoffman & Yonker, *supra* note 145.

All such interactions allow investors to share insights and strategies, which can influence their bidding behavior and pricing feedback. Ultimately, they may lead to relatively similar pricing feedback in the TTW stage or during roadshows, or to comparable bidding when placing offers.

Alternatively, if the Big Three do wish to collaborate more actively, they can coordinate their positions vis-à-vis specific issues or concerns associated with an offering. A particularly relevant example arises in the context of corporate governance arrangements that institutional investors typically view as suboptimal, such as dual-class share structures, staggered boards, or limitations on the ability to nominate or remove directors. Evidence shows that not only do institutional investors like the Big Three tend to hold similarly negative views on a variety of governance arrangements,[221] but also that these terms are typically factored into IPO pricing, potentially leading to reduced offer prices.[222]

A notable illustration of such a scenario is the coalition against dual-class shares, a structure that features two classes of stock with unequal voting rights. In recent years, a coalition of major institutional investors has emerged, with the shared aim of limiting the use of dual-class structures in IPOs.[223] This coalition has actively and openly campaigned to ban dual-class stock listings and exclude dual-class stock from leading market indices. Moreover, organizations representing coalition members have sent open letters to companies contemplating dual-class offerings, urging them to conduct single-class offerings instead.[224] Some large institutions have even made public statements against dual-class structures, in some instances specifying the discount rate they believe should apply to dual-class stock compared to single-class stock.[225]

Elsewhere, one of the authors of this Article recently examined the potential market implications of institutional investor coalitions. That research specifically focused on how coordinated actions against companies issuing dual-class shares might affect market dynamics. The findings suggest that such collective efforts could lead to concerted behaviors among competing investors, potentially influencing the pricing mechanisms in dual-class share offerings.[226] This alignment raises important questions about market efficiency and the broader economic impacts of institutional investor coordination.

In that context, it is also important to note that institutional investors' coordination extends beyond the IPO context. Recent data identify signs of coordination among major institutional investors, which often vote in lockstep and synchronize their positions on environmental, social, and governance (ESG) matters related to their portfolio companies.[227] This behavior has attracted scrutiny from regulators and several state attorneys-general, who argue that coordination to push major companies to reduce greenhouse gas emissions

221. Jackie Cook, *How Can Fund Providers Protect the Future for Worker-Investors?*, MORNINGSTAR (Jan. 9, 2020), https://www.morningstar.com/sustainable-investing/how-can-fund-providers-protect-future-worker-investors [https://perma.cc/43U8-ESW4]; *see also The BlackRock Backlash*, *supra* note 136.

222. *See, e.g.*, Choi, *supra* note 41, at 72–73.

223. For a review of the efforts of the coalition, see Bernard S. Sharfman, *A Private Ordering Defense of a Company's Right to Use Dual Class Share Structures in IPOs*, 63 VILL. L. REV. 1 (2018).

224. *Id.* at 6.

225. Chaim, *supra* note 43, at 1004.

226. *Id.* at 1004–05.

227. *See* Cook, *supra* note 220.

facilitates a de facto "ESG cartel."[228] Institutional investors are also increasingly collaborating through investor consortia and trade associations that aggregate their power.[229] Examples include the Council of Institutional Investors and the Investor Stewardship Group, which aim to establish frameworks for investment stewardship and corporate governance standards and urge uniformity among their institutional members.[230]

III. EMPIRICAL FINDINGS

A. Research Design and Methodology

In this Part, we empirically test our novel theory that giant asset managers, particularly the Big Three, are a significant driver of IPO underpricing. Our focus on BlackRock, Vanguard, and Fidelity is not merely due to their status as the three largest asset managers globally, but also because they manage the most substantial portfolios of actively managed funds.[231] This distinction is crucial in the context of IPO participation, as passive funds play a limited role in this arena. Typically, newly issued companies are not immediately incorporated into market indices, precluding automatic IPO participation from index-tracking funds. Consequently, an institution like State Street, despite being the third-largest manager of passive funds and surpassing Fidelity in terms of the overall size of passive AUM, is likely to have less influence in the IPO market compared to Fidelity, which oversees a more considerable volume of active funds.[232]

The first stage of our study examines the relationship between the joint participation of the Big Three in U.S. IPOs and the degree of underpricing. A positive correlation between their collective presence in IPOs and increased underpricing levels would lend support to the hypothesis that these investors exert downward pressure on offer prices, potentially below what the market would be willing to pay for these stocks. However, recognizing that correlation alone does not imply causation or definitively demonstrate collective market power, we rigorously explore alternative explanations. Our analysis incorporates controls for key variables such as underwriter identity, industry sector, and market capitalization. This comprehensive approach ensures a nuanced consideration of the less obvious factors that may influence the observed correlation, allowing us to more accurately assess whether the Big Three do, indeed, exercise collective market power in the U.S. IPO context.

Our dataset encompassed all U.S. IPOs from 2002 to 2022, sourced from the Securities Data Company (SDC) Platinum and cross-referenced with the Audit Analytics Initial Public Offerings database, available through Wharton Research Data Services (WRDS) for

228. *See, e.g.*, Camille Paulhac, Jade Fearns & Emma Hutchison, *Antitrust Enforcers Differ on When ESG Collaboration Is Collusion*, BLOOMBERG L. (Jan. 8, 2024), https://news.bloomberglaw.com/us-law-week/antitrust-enforcers-differ-on-when-esg-collaboration-is-collusion (on file with the *Journal of Corporation Law*); *see also* Austin B. Ownbey, *Antitrust Concerns About ESG Investing Are Not Going Away*, AKERMAN (May, 21, 2025), https://www.akerman.com/en/perspectives/antitrust-concerns-about-esg-investing-are-not-going-away.html [https://perma.cc/BT82-B4HG].

229. *See, e.g.*, Chaim, *supra* note 43, at 970.

230. *See e.g.*, Opler & Sokobin, *supra* note 136, at 2; Chaim, *supra* note 43, at 970.

231. *See supra* notes 170–75 and accompanying text.

232. *See* Lund & Robertson, *supra* note 16, 14 tbl.1 (stating that as of 2021, State Street managed $955 million in equity whereas Fidelity managed over $2.5 trillion).

first-day closing prices. We obtained institutional investors' stock holdings from 13F filings via Thomson Reuters.[233] Additionally, we collected various firm-specific characteristics and accounting data from Compustat. Our final dataset comprised 2,692 IPOs with complete information.

We commenced our sample scope in 2002 due to the significant increase in institutional ownership of public equity over the past two decades, particularly in the most recent decade.[234] During these years, we have also witnessed the emergence of institutional investor coalitions and other signs of coordinated behavior between institutional investors in various contexts.[235] Furthermore, the Audit Analytics database only covers U.S.-registered IPOs on major exchanges since 2000. We deliberately excluded the dot-com bubble period (2000–2001), characterized by exceptionally high first-day returns, to ensure the robustness and relevance of our analysis. This decision enabled us to focus on a period less susceptible to extraordinary market conditions.

Our primary regression specification can be formally represented as follows:

Equation 1

$$\mathrm{IPO\_Under}_{i,t} = \alpha + \beta_1 \mathrm{BigThree}_{i,t} + \beta_2 \mathrm{SIZE}_{i,t} + \mathbf{BR}_{i,t} + \lambda_t + \varphi_{\mathrm{ind}} + \varepsilon_{i,t}$$

In this model, the dependent variable IPO_Under represents IPO underpricing, defined as (price - ipo_price) / ipo_price) * 100, where "price" denotes the stock price at the close of the first public trading day on the stock exchange. To mitigate the effect of potential outliers, we employ winsorization on the raw IPO_Under data at the 1% and 99% levels. The key independent variable, BigThree, is a binary indicator that is attributed the value of 1 if all three major institutional investors (BlackRock, Vanguard, and Fidelity) participate in the IPO deal, as evidenced by their holdings in the company at the end of the quarter following the IPO; otherwise, it is attributed the value of 0. We also consider the cumulative percentage holdings of the Big Three as an alternative explanatory variable. The regression models incorporate SIZE as a control variable, representing the natural logarithm of the firm's IPO market valuation in millions of U.S. dollars, calculated as the product of the IPO price and outstanding shares. BR denotes the bookrunner fixed effects. All specifications include calendar-year and industry fixed effects, utilizing the Fama–

233. We rely on institutional investors' 13F filings from the quarter following each IPO to determine their holdings, as direct data on IPO allocations and immediate post-IPO holdings are not publicly available. As noted above, this information remains confidential with the book-runner. *See* Jenkinson & Jones, *supra* note 184. While institutional investors may "flip" and sell portions of their equity stakes before filing their 13F forms—creating potential discrepancies between initial IPO allocations and reported quarterly holdings—13F filings are widely accepted in empirical research as a reliable proxy for institutional investment in IPOs. *See, e.g.*, Brown & Kovbasyuk, *supra* note 146.

234. *See* Maria Bas et al., *Institutional Shareholding, Common Ownership and Productivity: A Cross-Country Analysis* 7 (OECD Econ. Dep't., Working Paper, Paper No. 1769, 2023), https://one.oecd.org/document/ECO/WKP%282023%2923/en/pdf [https://perma.cc/ED8N-C8FB] (noting that the increase in the share of market capitalization held by institutional investors is a global phenomenon—the percentage of shares of the top 50 institutional investors has grown by 70% in the period between 2007–2019).

235. *See supr*a note 136 and accompanying text.

French 12-industry classification. The error term, ε, is robustly clustered at the industry level to account for potential correlations within industries.

Our main objective is to investigate the influence of the collective presence of the Big Three on IPO underpricing, specifically examining the extent to which their participation in the IPO process affects the degree of underpricing observed.

B. Empirical Results

Our analysis reveals a significant trend in IPO underpricing when the Big Three asset managers are involved. Their collective participation correlates with an increase in average underpricing to 28.3 percentage points, indicating a notable influence on IPO pricing dynamics. In contrast, the underpricing rate is substantially lower, with a difference of 16.7 percentage points, when these investors are not jointly involved.

This disparity in underpricing rates is both substantial and statistically significant. The 16.7 percentage point gap in underpricing, conditional on the presence of all the Big Three, is supported by a robust t-statistic of 10.82, underscoring the significant impact these investors have on IPO market dynamics.

The extent of this phenomenon is noteworthy. In our dataset, the 614 IPOs with participation from all three major investors represent 22.8% of the 2,692 IPOs examined, indicating that this effect is widespread and has broad market implications.

To examine the relationship further, our analysis employs Ordinary Least Squares (OLS) regression (Equation 1). The results are presented in Table 2. Columns 4 and 5 show findings from subsamples covering the periods 2002–2011 and 2012–2022, respectively. Columns 3 and 7 extend the analysis by incorporating bookrunner fixed effects into the regression model.

Table 2: IPO Underpricing and the Impact of the Big Three

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
BigThree Indicator	13.59***	12.58***	9.65***	8.95***	15.21***		
	(1.25)	(0.71)	(1.87)	(0.64)	(1.04)		
SIZE		0.75*	-0.08	0.26	0.90	1.78**	0.42
		(0.40)	(0.49)	(0.33)	(0.63)	(0.67)	(0.48)
BigThree Holdings						0.88***	0.95**
						(0.24)	(0.31)
Industry and year FE	YES	YES	YES	YES	YES	YES	YES
Bookrunner FE	NO	NO	YES	NO	NO	NO	YES
Observations	2,706	2,706	1,207	1,428	1,278	2,706	1,207
Adjusted R^2 %	8.5%	8.5%	23.7%	7.0%	4.8%	7.6%	22.4%

Significance levels are denoted by asterisks, with *, **, and *** indicating statistical significance at the 10%, 5%, and 1% levels, respectively.

C. Analysis

Our empirical analysis provides credible support for the hypothesis that the Big Three wield significant market power that enhances IPO underpricing. This effect persists even after controlling for year-fixed effects, industry-fixed effects, and underwriter identity, underscoring the robustness and significance of our findings.

Our results are consistent across all specifications, indicating that underpricing is 10-15 percentage points higher when the Big Three are present. Notably, the influence is more pronounced during the period from 2012 to 2022, exceeding 15 percentage points. This finding aligns with the increasing power of institutional investors, particularly the Big Three, during this same period.

Addressing potential identification concerns, we argue that reverse causality—that is, the Big Three detecting and investing in underpriced IPOs rather than causing the underpricing—is unlikely due to the nature of the book-building process in IPOs. In this process, sophisticated institutional shareholders act as price-makers rather than price-takers, directly influencing IPO pricing through their bidding during price discovery. Furthermore, the absence of unusual returns on the issuer's shares in various post-IPO timeframes suggests that the correlation between Big Three participation and first-day price increases is not due to superior stock-picking abilities. If such abilities were the cause, we would expect to observe above-normal returns over longer time frames, not just on the first day of trading.

While there are some reasons to interpret the correlation as evidence of the big three's market power to influence IPO pricing, we address the identification concern in the following empirical study.

D. Addressing the Identification Challenge: The JOBS Act and TTW Communications

Background. The 2012 JOBS Act provides a "regulatory experiment" to examine the causal relationship between the market power of institutional investors and IPO underpricing. Under the Act, EGCs—companies with annual revenue under $1 billion—were permitted to engage in TTW communications before formally registering their IPO. Such TTW communications allow EGCs to assess market interest and obtain valuable feedback from institutional investors before committing to a public offering.[236] Unlike the book-building phase, TTW provides institutional investors greater latitude in influencing IPO pricing since they are not limited to the price range, which is only determined later on, largely based on feedback received during TTW. [237]

In 2019, the scope of TTW was expanded to include all companies, not just EGCs. For this study, we analyzed IPOs from 2012 to 2019 to assess whether TTW impacts underpricing levels. While companies do not explicitly disclose their participation in TTW, they highlight their EGC status in prospectuses, which is likely to signal their engagement in TTW.[238] Our hypothesis posits that underpricing should differ between TTW and non-

236. *See supra* note 199 and accompanying text.

237. *Id.*

238. *See supra* note 47 and accompanying text.

TTW IPOs: if institutional investors possess market power as price-makers, the absence of price constraints during TTW should result in steeper underpricing.

Design. Our empirical design leverages the regulatory experiment introduced by the JOBS Act. TTW provides a setting where underpricing is more likely driven by the demand-side influence of institutional investors rather than supply-side factors from companies. To formalize this, we first estimated the following linear equation:

Equation 2.

$$\text{IPO\_Under}_{i,t} = \alpha + \beta_1 \text{TTW}_{i,t} + \beta_2 \text{SIZE}_{i,t} + \lambda_t + \varphi_{\text{ind}} + \varepsilon_{i,t}$$

In this model, the dependent variable IPO_ underrepresents IPO underpricing, calculated as ((price - ipo_price) / ipo_price) * 100, where "price" denotes the stock price at the close of the first public trading day on the stock exchange. To reduce the influence of potential outliers, the raw IPO_ Under data is winsorized at the 1st and 99th percentiles. The primary independent variable, TTW, is a binary indicator assigned a value of 1 if the company participated in the TTW process and 0 otherwise. The regression models include SIZE as a control variable, defined as the natural logarithm of the firm's IPO market valuation (in millions of U.S. dollars), calculated as the product of the IPO price and the number of outstanding shares. All model specifications account for calendar-year and industry fixed effects, using the Fama–French 12-industry classification. The error term, ε, is robustly clustered at the industry level to account for potential correlations within industries.

Our primary focus here is on the TTW variable. Companies that engage in the TTW process exhibit greater underpricing compared to those that do not.

The next step is to investigate whether the observed TTW-related underpricing is driven by the Big Three. We hypothesize that IPOs with TTW communications in which the Big Three take part exhibit higher levels of underpricing compared to other IPOs with TTW communications. Ideally, we would examine whether direct consultation with the Big Three during the TTW process leads to higher underpricing. However, data on the specific institutional investors consulted during TTW is not available. As a proxy, we examine the post-IPO ownership stakes of the Big Three asset managers based on their 13F filing. This approach relies on the underlying assumption that if the dominant Big Three institutional investors acquired shares in the IPO, they likely participated in the TTW process.

To explore this, we extend Equation 2 by introducing an indicator variable for Big Three presence and an interaction term between TTW participation and the Big Three presence indicator. Formally, we estimate the following equation:

Equation 3.

$$\text{IPO\_Under}_{i,t} = \alpha + \beta_1 \text{BigThree}_{i,t} + \beta_2 \text{TTW}_{i,t} + \beta_3 \text{BT} * \text{TTW}_{i,t} + \beta_4 \text{SIZE}_{i,t} + \lambda_t + \varphi_{\text{ind}} + \varepsilon_{i,t}$$

Our focus here is on β_3, which captures the additional influence of the Big Three during the TTW process.

Results. Table 3 presents the estimation results for Equations 2 and 3. Column 1 reports the results of Equation 2, revealing that participation in the TTW process increases underpricing by 8.4 percentage points compared to companies that did not utilize TTW.

Column 2 provides the results of Equation 3, showing that the presence of the Big

Three in TTW IPOs contributes an additional 8.3 percentage point increase in underpricing. It is important to note, however, that this estimate could not be precisely measured within this sample, given the limited number of observations of IPOs with TTW in which the Big Three participate.

Table 3: IPO Underpricing and the Impact of the TTW

	(1)	(2)
BigThree Indicator		3.24
		(4.80)
TTW	8.37***	7.42***
	(1.79)	(1.85)
BT* TTW		8.32
		(5.72)
SIZE	3.14***	2.58***
	(0.59)	(0.59)
Industry and year FE	YES	YES
Observations	1,452	1,452
Adjusted R^2 %	6.4%	7.2%

Significance levels are denoted by asterisks, with *, **, and *** indicating statistical significance at the 10%, 5%, and 1% levels, respectively.

Analysis. Our findings confirm that TTW significantly increases IPO underpricing, consistent with prior studies that identified a similar effect during shorter periods.[239] Specifically, the 8.4 percentage point increase in underpricing for TTW participants suggests that institutional investors, acting as price-makers, leverage their latitude in influencing pricing during TTW before price constraints are set. These findings align with our hypothesis that market power, rather than superior information or ability to identify underpricing opportunities, drives this effect.

However, our focus on the Big Three reveals limitations. Ideally, we would directly observe which institutional investors were consulted during TTW. In the absence of such data, we used Big Three ownership as a proxy, assuming that their ownership following the IPO likely indicates prior engagement in TTW communications. Our analysis shows that firms in which the Big Three have invested exhibit an additional 8.3 percentage point increase in underpricing during TTW. While this finding supports the hypothesis, it is not statistically significant due to the small sample of non-EGCs.

IV. POLICY PROPOSALS

The trillions of dollars unnecessarily left on the table due to IPO underpricing represent a significant social welfare loss. This phenomenon thus has far-reaching implications for capital markets and economic growth. Underpricing constitutes a wealth transfer from the company and pre-IPO shareholders to investors in the IPO. The prevalence of this phenomenon and its escalating scale may discourage many businesses from pursuing public

239. *See* Bian et al., *supra* note 93, at 3–4.

offerings, as they anticipate receiving a lower valuation than their true worth. This reluctance can lead to suboptimal capital allocation and reduce the overall capital available for investment in public companies, potentially hindering future economic growth.

As we have shown, the presence of giant institutional investors exacerbates IPO underpricing. To address this challenge, we propose three policy recommendations.

A. Restricting Communication

Communication between participants in the book-building process serves a vital function: the flow of information among players contributes to information revelation, which is the main purpose of the process.[240] However, our analysis reveals that this communication, especially among major institutional investors, may generate a significant negative side effect: it may facilitate collusion, leading to steeper underpricing in IPOs and hampering the ability of issuing companies to raise capital.[241]

We maintain that a better balance between information-sharing and collusion-prevention is necessary. A blanket prohibition on bidders from communicating regarding their valuation analysis, pricing feedback, or bidding strategy may backfire. Such prohibition may be seen as overly restrictive, as communication on such issues is essential for well-informed bidding and optimal price revelation.[242]

An alternative approach would be to selectively restrict communication, prohibiting only major institutional investors from discussing appropriate bidding prices. This restriction could be based on an AUM threshold (for instance, $0.5 trillion). This would prevent the actors that are most prone to possessing market power from potentially colluding. Nonetheless, since large institutional investors, with their extensive market involvement and substantial analytical resources, might be crucial for achieving optimal price discovery, it could be argued that limiting their communication might impede the dissemination of the most valuable information.

While we believe this selective restriction strikes a balance between preventing potential collusion among dominant market players and enabling optimal price revelation, we also acknowledge the need for a potentially lighter proposition for communication restriction. According to this lighter-touch alternative, communication among large institutional investors would be limited in the TTW phase. The influence of institutional investors during this phase is particularly significant, as it involves a smaller number of investors than during roadshows, each wielding a larger impact on the outcome. Moreover, due to the less formal nature of this phase, there is heightened concern about the potential for

240. *See supra* Part I.B. It should be noted that communication among bidders is not explicitly permitted. Yet it is not also explicitly prohibited, which opens the door for bidders to exchange information. Regulation M (17 CFR 242.100–105) that governs the book-building process prohibits "inducements of any transaction other than those necessary to conduct the offering." *See* Commission Guidance Regarding Prohibited Conduct in Connection with IPO Allocations, 70 Fed. Reg. 19672, 19672 n.1 (Apr. 13, 2005). This prohibition is interpreted as applying to communication of bidders with aftermarket customers, but not necessarily with other bidders. *See* Press Release, SEC, SEC Issues Guidance Regarding Prohibited Conduct in Connection with IPO Allocations, (Apr. 7, 2005), https://www.sec.gov/news/press/2005-49.htm [https://perma.cc/43H3-JQWR].

241. *See supra* Part III (analyzing findings from empirical evaluations of the hypothesis "that giant asset managers, particularly the Big Three, are a significant driver of IPO underpricing").

242. As noted earlier, existing regulation does not limit communication between bidding qualified institutional investors, but mainly between bidding qualified institutional investors and their customers in the secondary markets. *See supra* note 247.

undesirable communication among participating institutions, which could artificially push the file-offer range to be too low.

Implementing targeted restrictions during the TTW phase could mitigate the risk of undesirable communication among large institutional investors while preserving the essential elements of information flow and price discovery in the IPO process. By focusing on this critical pre-IPO phase, we aim to reduce artificial underpricing and improve the overall efficiency and fairness of the IPO market, without unduly compromising the price discovery process.

B. Increasing Transparency

Our research has uncovered evidence suggesting that the collective market power of giant institutional investors exerts a substantial impact on IPO underpricing. This is a crucial finding that significantly advances our understanding of IPO dynamics in the current capital market landscape.

While the scope of this study focused on evidencing the existence and scale of this relationship, future research could further explore the degree and mechanisms of coordination between giant institutional investors. Such investigations might examine the nuances of interactions in the book-building process, including communication patterns, parallel conduct, or coordination among major institutional investors during the IPO process that directly impacts underpricing. However, the ability to conduct future research on the specific mechanisms that exacerbate underpricing is limited due to the opaque nature of the book-building process and the unavailability of data on actual bids and allocations, as well as on interactions among bidders during the process. In fact, even the SEC does not have access to such information. While the positive correlation we found between the IPO participation of the Big Three and underpricing levels (combined with several factors pointing to communication, information sharing, and similar stances on a variety of issues with a potential pricing effect) may be sufficient to establish a distortive market effect, we believe more data in this regard would be helpful. Unfortunately, however, the current regulatory framework governing the IPO process creates an environment that is conducive to potential anticompetitive behavior.

To address this issue, we propose increasing transparency in the book-building process. This proposal would serve as a deterrent to potential anticompetitive behavior among institutional investors by making their bidding strategies more observable. However, we caution against complete real-time transparency, as this could undermine the process by discouraging bidders from revealing their true valuations due to the risk of mimicry by other market participants.[243]

Instead, we suggest a post-facto disclosure approach. Bid information could be released after the price has been set or on the first day of trading. This timing would maintain the integrity of the book-building process while still providing a mechanism for detecting potential collusion. Alternatively, to address concerns about exposing bidding strategies, bid disclosures could be limited to the SEC. This would allow for regulatory oversight

243. It should be noted that full transparency of the book-building process is not unheard of: In India, for instance, the bids are fully transparent. *See* Arif Khurshed et al., *Transparent Bookbuilding, Certification and Initial Public Offerings*, 19 J. FIN. MKTS. 154, 155 (2014) ("[S]ince 2006, the Indian IPO bookbuilding process has been extraordinarily transparent."). As anticipated from such transparency, the bids of retail investors are influenced by those of institutional investors and, thus, reveal no new information. *See id.*

without risking the exploitation of bidding strategies by other market participants.

C. Breaking-up the Big Three

The negative influence of institutional investors' enormous market power has been highlighted in various areas, including product markets,[244] labor markets,[245] and corporate governance.[246] Our Article adds to this body of evidence by exposing their detrimental impact on capital markets through IPO underpricing. The first solution we propose—straightforward, yet potentially transformative solution—is to dismantle massive institutional investors by capping their AUM.

This approach was first suggested by Zohar Goshen and Doron Levit, who advocated limiting institutional shareholders' AUM to $0.5 trillion.[247] Implementing this cap would effectively split the Big Three, currently managing over $24 trillion between them,[248] into 46 distinct institutional investors. While this might seem to sacrifice economies of scale, as Goshen and Levit note, the top 500 asset managers globally have a median AUM of less than $50 billion.[249] This demonstrates that successful asset management does not require trillion-dollar portfolios, suggesting that the overall benefit of such a structural shift may well outweigh the loss associated with reduced economies of scale.

While straightforward conceptually, the implementation of this proposal would not be easy. Not least, it would face significant pushback, primarily due to the political influence of giant institutional investors that have effectively "captured" Congress through increased campaign contributions[250] and lobbying expenditures.[251] However, as evidence of the detrimental effects of their market power accumulates across various sectors, the likelihood grows for a wide-ranging political alliance aimed at reining in corporate dominance and safeguarding public interests. This coalition could potentially include labor unions, publicly traded companies, consumer protection organizations, and even underwriters in the capital markets sector. In this context, it is noteworthy that past regulatory measures, which were predicted to improve the functioning of capital markets, have provided strong motivation for legislators to act.[252] Our research, combined with previous studies, suggests that restricting institutional investors' market power could substantially enhance overall market function, potentially garnering political support despite the formidable lobbies of large institutional investors.

An AUM ceiling for institutional investors would have two primary effects on capital markets. First, it would eliminate the outsized power and influence of current giants like the Big Three, whose AUM currently exceeds several trillion dollars each. Second, it would

244. *See supra* notes 159–65 and accompanying text.

245. *See supra* notes 166–68 and accompanying text.

246. *See, e.g.*, COATES, *supra* note 156; Bebchuk & Hirst, *supra* note 119; Gilson & Gordon, *supra* note 157.

247. Goshen & Levit, *supra* note 46, at 59–62.

248. *See supra* note 17 and accompanying text.

249. Goshen & Levit, *supra* note 46, at 61.

250. Institutional investors' campaign contributions increased from $50 million in the 2006 election cycle to $154 million in the 2020 cycle. *Id.* at 58 n.285.

251. Institutional shareholders' spending on lobbying has increased from $65 million in the 2006 election cycle, to $105 million in the 2020 election cycle. *Id.* at 58 n.286.

252. Cornelia Woll, *Lobbying Under Pressure: The Effect of Salience on European Union Hedge Fund Regulation*, 51 J. COMMON MKTS. STUD. 555, 555–56 (2013) (arguing that the public saliency and significance of hedge fund reform withstood the power lobbying of hedge funds).

significantly reduce the likelihood of institutional investors forming powerful coalitions or otherwise banding together to exercise their collective market power. Research indicates that tacit collusion becomes much harder to initiate and stabilize as the number of actors required to form a powerful coalition increases.[253] Thus, breaking up the Big Three and other giant institutions would inevitably make any coordination much harder.

In the IPO context, this proposed measure would limit institutional investors' ability to force underpricing and likely decrease overall underpricing levels, thereby improving market efficiency and equity issuance dynamics.

CONCLUSION

This Article has traced the contours of a detrimental market distortion associated with the rise of (overly) powerful giant asset managers: increased underpricing in IPOs. We empirically demonstrate a strong positive correlation between the joint participation of the Big Three asset managers in IPOs and steeper underpricing. Furthermore, we explain the mechanisms through which these dominant market players leverage their position to force lower offer prices and highlight both their direct and indirect market power in public offerings.

Our comprehensive empirical analysis, encompassing over 2,000 IPOs across the past two decades, provides compelling evidence for the need to reassess current regulatory frameworks governing IPOs and institutional investor conduct in the primary market. To address the concerns identified in this Article, we advance several policy proposals aimed at mitigating the adverse effects of concentrated institutional ownership on the primary market while preserving the efficiency-enhancing aspects of their participation in IPOs.

By exposing the impact of giant asset managers on the phenomenon of underpricing, this Article not only contributes to the mounting evidence of their far-reaching influence on market dynamics but also establishes a solid foundation for future scholarly inquiry and policy discourse in an era characterized by asset manager capitalism. As the influence of giant institutional investors continues to expand across various facets of the economy, it is imperative that legal scholars, economists, and policymakers collaborate to design regulatory frameworks that harness the benefits of institutional investment while safeguarding market integrity and economic welfare. The present research serves as a crucial step toward better understanding and addressing these complex challenges in modern financial markets, potentially reshaping the landscape of primary market regulation and institutional investor oversight.

253. *See supra* note 214 and accompanying text.