
THE DUTCH AUCTION MYTH

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INTRODUCTION

The number of initial public offerings (“IPOs”) in the United States has increased each and every decade since the 1970s.¹ Over the past thirty-one years domestic IPOs have raised approximately \$547 billion,² while underpricing³ has averaged 17.5%,⁴ and issuers have left approximately \$112 billion on the table.⁵ These figures,

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1. Jay R. Ritter, *Some Factoids About the 2006 IPO Market* 2 tbl.1, 10 tbl.8 (Aug. 5, 2007) (unpublished manuscript, online at <http://bear.cba.ufl.edu/ritter/IPOs2006%20Factoids.pdf>). The U.S. share of the global IPO market, however, has been declining. *See, e.g.*, COMM. ON CAPITAL MKTS. REGULATION, INTERIM REPORT OF THE COMMITTEE ON CAPITAL MARKETS REGULATION 2 (2006) (“In the late 1990s, the U.S. exchange listed capital markets were attracting 48 percent of all global IPOs. Since then, the United States has seen its market share of all global IPOs drop to 6 percent . . .”).

2. Ritter, *supra* note 1, at 10 tbl.8.

3. Underpricing refers to the spread between a stock’s initial offering price and closing price after the first day of trading. *See, e.g.*, Catherine M. Daily et al., *IPO Underpricing: A Meta-Analysis and Research Synthesis*, 27 ENTREPRENEURSHIP THEORY & PRAC. 271, 272 (2003); *see also infra* note 58.

4. *See infra* Table 1 accompanying notes 59–62 (U.S. IPO Returns, 1980–2005). This Article uses data over a twenty-six-year span beginning in 1980, an admittedly arbitrary starting point. While the more logical bookend is September 1978, when an amended Regulation A increased the registration requirement for IPOs from \$500,000 to \$1.5 million, most analyses and data sets are limited to post-1980 IPOs.

5. Ritter, *supra* note 1, at 2 tbl.1. Money left on the table refers to “the difference between the closing price on the first day and the offer price,

however, pale in comparison to the 1999 to 2000 Internet bubble period, during which mean underpricing skyrocketed to 63.3%,⁶ and issuers left \$62.4 billion on the table.⁷

When the bubble burst, the hindsight prognosis began. Some cited “widespread and systematic pathologies” within the investment sector as fomenting an IPO frenzy.⁸ Others pointed to underwriters as orchestrating a “Ponzi Scheme” in which they exchanged services for IPO shares that were then dumped on the investing public.⁹ Causal explanations aside, the “hyperbolic” increase in IPO underpricing prompted declarations that, “[w]hatever the traditional rationale for underpricing, that rationale no longer applies to current practices.”¹⁰

In the bubble’s aftermath the Securities and Exchange Commission (“SEC”) appointed a blue-ribbon committee to examine the IPO process.¹¹ That committee, composed of prominent representatives from academic, financial, legal, and securities exchange sectors, noted that “public confidence in the integrity of the IPO process has eroded significantly.”¹² A contributing factor to this erosion, according to the committee, was “the widespread perception that IPOs are parceled out disproportionately to a few, favored investors, be they large institutions, powerful individuals or

multiplied by the number of shares sold.” Jay Ritter, *Money Left on the Table in IPOs by Firm 1* (Jan. 26, 2006) (unpublished manuscript, online at http://bear.cba.ufl.edu/ritter/work_papers/monew.pdf).

6. See *infra* Table 2 accompanying notes 129–30 (Internet Bubble IPO Returns, 1998–2001).

7. *Id.*

8. Douglas Cumming & Jeffrey MacIntosh, *Boom, Bust, and Litigation in Venture Capital Finance*, 40 WILLAMETTE L. REV. 867, 867–68 (2004) (“[T]he changing availability of IPOs and greatly enhanced IPO valuations combined to produce widespread and systematic pathologies in IPO exits . . . that led investment bankers and [venture capitalists] to change their behavior in value-destructive ways.”).

9. Eliot Spitzer, *Keynote Address*, 76 ST. JOHN’S L. REV. 801, 811–12 (2002) (“When the analysts and investment bankers went to the CEOs [of issuers,] they said . . . ‘you bring your underwriting to us, but we will give you, not the company, but individually IPO allocations to the tune of a few million bucks.’ . . . They used to have a name for that, a Ponzi Scheme, right?”).

10. John C. Coffee, Jr., *IPO Underpricing and Dutch Auctions*, N.Y. L.J., Sept. 16, 1999, at 5.

11. See NYSE/NASD IPO ADVISORY COMM., REPORT AND RECOMMENDATIONS OF A COMMITTEE CONVENED BY THE NEW YORK STOCK EXCHANGE, INC. AND NASD AT THE REQUEST OF THE U.S. SECURITIES AND EXCHANGE COMMISSION app. at A-1 (2003), http://www.finra.org/web/groups/rules_regs/documents/rules_regs/p010373.pdf [hereinafter IPO COMM. REPORT].

12. *Id.* at 1.

'friends and family' of the issuer,"¹³ a practice commonly termed "spinning."¹⁴

Among the committee's recommendations was the development of alternatives to the orthodox bookbuilding method. One alternative is conventionally referred to as the Dutch auction IPO ("Dutch IPO"). In lieu of meetings and road shows by underwriters to gauge demand from prospective investors,¹⁵ a Dutch IPO conducts price discovery via an auction. Prospective investors bid on their preferred number and price of shares. Successful bids are determined by starting with the highest price and then moving downward until investor demand equals the total amount of securities offered, or clearing price.¹⁶ All shares are awarded at the same final offering price, and excess demand results in a pro rata distribution of shares.¹⁷ The Dutch IPO thus represents an alternate mechanism by which "pricing and allocation are removed from the realm of issuer and underwriter discretion IPOs conducted through a true auction model should not experience the enormous aftermarket price spikes that fueled the abuses of the bubble period."¹⁸ While abstaining from endorsing the Dutch IPO as a replacement for the bookbuilding method, the committee concluded that auctions might be an intriguing way to promote more accurate and transparent IPO pricing.¹⁹

13. *Id.* at 2.

14. *See, e.g.,* Sean J. Griffith, *Spinning and Underpricing: A Legal and Economic Analysis of the Preferential Allocation of Shares in Initial Public Offerings*, 69 BROOK. L. REV. 583, 586 (2004) ("'[S]pinning' refers to the preferential allocation of the right to buy in an IPO."). While Griffith conceives spinning as restricted to only preferential "allocation decisions made by the managing underwriters and other members of the underwriting syndicate," *id.* at 586 n.7, spinning also can include preferential allocations to institutional investors, which is the broader conception used here. *See infra* Part I.B.

15. *See infra* notes 56–57 and accompanying text.

16. *See, e.g.,* Lucas C. Townsend, Comment, *Can Wall Street's "Global Resolution" Prevent Spinning? A Critical Evaluation of Current Alternatives*, 34 SETON HALL L. REV. 1121, 1163 (2004) ("[T]he bid that depletes the shares in the offering . . . determines the 'clearing price,' which is the price that the accepted bidders will pay for their shares.").

17. In theory, in a pure Dutch IPO, the final offering price equals the clearing price. In practice, Dutch IPO issuers reserve and exercise the discretion to set a final offering price that deviates from the clearing price. *See infra* notes 155–59 and accompanying text.

18. IPO COMM. REPORT, *supra* note 11, at 9; *see also* Coffee, *supra* note 10, at 5 (opining that the Dutch IPO is a "logical counter-reaction" to underpricing and spinning).

19. IPO COMM. REPORT, *supra* note 11, at 3; *see also* News Release, Nat'l Ass'n Secs. Dealers, NASD Approves Rules to Reform IPO Process (Nov. 24, 2003),

This intrigue grabbed Sergey Brin and Larry Page, the iconoclastic co-founders of Google Inc. (“Google”). In August 2004, Wall Street was surprised to learn that the company’s widely anticipated IPO would be a Dutch auction.²⁰ Brin and Page justified this decision by portraying themselves as sort of corporate Robin Hoods:

It is important to us to have a fair process for our IPO that is inclusive of both small and large investors. It is also crucial that we achieve a good outcome for Google and its current shareholders. This has led us to pursue an auction-based IPO for our entire offering. Our goal is to have a share price that reflects an efficient market valuation of Google that moves rationally based on changes in our business and the stock market.²¹

Indeed, the co-owners pointed out that “buyers hoping to capture profits shortly after our Class A common stock begins trading may be disappointed.”²² A Dutch IPO thus promised to make Google’s

http://www.finra.org/web/idcplg?IdcService=SS_GET_PAGE&siteId=5&siteRelativeUrl=%2FPressRoom%2FNewsReleases%2F2003NewsReleases%2FP002817&ssUrlPrefix=/&PrinterFriendly=1 (“Encouraging the use of an auction system, such as a Dutch auction system or similar system to, collect indications of interest to help establish the final IPO price.”). The committee, however, did not regard the Dutch IPO as a way to eliminate abusive allocation practices.

20. Google, however, was not the first firm to conduct a Dutch IPO. See *infra* note 171 and accompanying text.

21. Google Inc., Amendment No. 9 to Form S-1 Registration Statement, at 31 (Aug. 18, 2004), available at <http://www.sec.gov/Archives/edgar/data/1288776/000119312504142742/ds1a.htm> [hereinafter Google, Amended Form S-1] (Letter from the Founders: “An Owners Manual” for Google’s Shareholders) (emphasis omitted); see also *Google’s Dutch Treat*, WALL ST. J., May 3, 2004, at A20 (“In a sense, this auction is the perfect IPO expression of Google’s own business model.”); George Mannes, *Partner Pay Intrudes on Google Fantasy*, THESTREET.COM, Apr. 30, 2004, http://www.thestreet.com/tech/georgemannes/10157744.html?puc=_tscs (“[T]he picture [Brin and Page] paint of how Google is run, and how it should be run, more closely resembles the candy manufacturer run by Willy Wonka in Roald Dahl’s classic children’s book *Charlie and the Chocolate Factory* The parallels between Wonka and Google’s founders are striking.”).

22. Google Inc., Form S-1 Registration Statement, at 18 (Apr. 29, 2004), available at <http://www.sec.gov/Archives/edgar/data/1288776/000119312504073639/ds1.htm> [hereinafter Google, Form S-1]. A subsequent amendment to the S-1, however, deleted the reference to being “disappointed” and inserted the following language: “The price to the public and allocation of shares will be determined by an auction process As a result, buyers should not expect to be able to sell their shares for a profit shortly after our Class A common stock begins trading.” Google, Amended Form S-1, *supra* note 21, at 31 (emphasis added).

IPO more efficient and fair than bookbuilding ever could.

That promise never materialized. Just days before going public, the company intentionally lowered its offering price to generate market enthusiasm for an otherwise sloppily executed IPO.²³ While Google's shares did appreciate by 18.1% on the first day of trading, that exceeded the mean underpricing for all IPOs that year.²⁴ Moreover, Google left approximately \$300 million on the table and many bidders frustrated with mysteriously low allocations.²⁵ Accordingly, Google's experience may be, at best, a cautionary tale of how *not* to conduct a Dutch IPO, and, at worst, an incomplete catalog of problems that can plague this alternative method.

None of this, however, has deterred support for Dutch IPOs. Scholars instead have stylized Google as a negative case study:

Had the Google IPO been viewed as an unambiguous success, there is no doubt that it would have been followed by a flood of additional Dutch auction IPOs I expect to see noteworthy Dutch auction IPOs executed in the future, though at a slower rate of adoption than if the outcome had been an indisputable triumph. In my opinion, the future use of the Dutch auction for IPOs was never predicated on the success of this particular deal.²⁶

Similarly, while conceding that Google "did not unleash the power of a true Dutch auction to create market pricing for the original IPO shares,"²⁷ others have maintained that, "[w]ithout having Google go

23. See *infra* note 161 and accompanying text.

24. See *infra* Table 1 accompanying notes 59–62 (U.S. IPO Returns, 1980–2005); *infra* note 155 and accompanying text.

25. See *infra* notes 56–57 and accompanying text.

26. Laurie Simon Hodrick, *Google's IPO: A Dutch Auction Works, If You Let It*, HERMES, Fall 2004, at 10, 11. A few months earlier, however, Hodrick evidently saw Google's IPO quite differently: "Potentially this IPO is incredibly important If it is deemed a success, it really opens a new avenue for issuing equity." *European Investors Shut Out of Google IPO*, DEUTSCHE WELLE, Mar. 8, 2004, <http://www.dw-world.de/dw/article/0,,1284420,00.html>.

27. Christine Hurt, *Moral Hazard and the Initial Public Offering*, 26 CARDOZO L. REV. 711, 768 (2005) [hereinafter Hurt, *Moral Hazard*]. Hurt likens Google's auction to "Harry Potter's mirror at Hogwarts because it shows the observer what the observer wants to see." Christine Hurt, *What Google Can't Tell Us About Internet Auctions (and What It Can)*, 37 U. TOL. L. REV. 403, 438 (2006) [hereinafter Hurt, *What Google Can't Tell Us*]. Like Hodrick, Hurt believes a silver lining exists within Google's dark IPO cloud, suggesting that it "will assist other issuers in negotiating with underwriters for alternative offering mechanisms." *Id.* at 404. The problem is that issuers here and abroad have not rushed to embrace the Dutch IPO, which continues to be offered by only providers in the United States. See *infra* Tables 3A and 3B and accompanying notes 181–82 (OpenIPO Data, 1999–2006); see also *infra* Part II.

public in a bookbuilding process in an alternative universe, critics cannot say decisively that the auction mechanism failed because it underpriced the shares.”²⁸ The hope, according to these Dutch IPO proponents, is that “powerful issuers such as Google can help force the market for underwriting IPOs [to] adapt to a more issuer-friendly system,” a “new paradigm” of online IPO auctions to replace traditional bookbuilding.²⁹

The idea, however, is hardly new. Auctions have been used around the world to resolve asymmetrical information problems for thousands of years.³⁰ In 1929, the U.S. Treasury began to experiment with auctioning its own securities.³¹ Thirty-five years later, auction-based IPOs made their debut in France, and since have been entertained by numerous countries on different continents.³² Twenty years ago, a student note specifically proposed the idea of U.S. companies conducting Dutch IPOs to eliminate underpricing.³³ And that idea struck a favorable note with an SEC

28. Hurt, *What Google Can't Tell Us*, *supra* note 27, at 430. Commentators are divided about whether bookbuilding would have yielded a different result for Google. Compare, e.g., Victor Fleischer, *Brand New Deal: The Branding Effect of Corporate Deal Structures*, 104 MICH. L. REV. 1581, 1599 (2006) (citing Jim Cramer's belief that “the offering price would have been higher if Google had done a traditional IPO”), with Hodrick, *supra* note 26, at 10 (“It is important to note that many of the hurdles faced in the Google IPO would still have been problematic had Google instead chosen to use a standard firm commitment underwriting These challenges, and not the Dutch auction, were sources of downward pressure on the offer's demand.”).

29. Hurt, *Moral Hazard*, *supra* note 27, at 789; see also *id.* at 765 n.300 (citing Carolyn Said, *Quattrone's Trial: A Catalyst for Change*, S.F. CHRON., Oct. 26, 2003, at 11) (describing “Google's possible Dutch auction IPO as reflective of the shift in Silicon Valley to ‘a new world order’ and not the ‘favoritism and cronyism’ of 1999”).

30. Classically defined, an auction is “a market institution with an explicit set of rules determining resource allocation and prices on the basis of bids from the market participants.” R. Preston McAfee & John McMillan, *Auctions and Bidding*, 25 J. ECON. LITERATURE 699, 701 (1987). Documented instances of auctions date back to 500 B.C. in Babylonia. See Susan L. Turley, *Wielding the Virtual Gavel—DOD Moves Forward with Reverse Auctions*, 173 MIL. L. REV. 1, 1 (2002).

31. See T.D. 4276, 31 Treas. Dec. Int. Rev. 35 (1929). During the late 1990s the FCC auctioned off portions of the telecommunications spectrum. See, e.g., Peter Cramton, *The Efficiency of the FCC Spectrum Auctions*, 41 J.L. & ECON. 727, 727 (1998). The U.S. military currently uses reverse auctions for contractors. See Turley, *supra* note 30, at 2.

32. See *infra* note 224; see also *infra* Part II.B.

33. See Katina J. Dorton, Note, *Auctioning New Issues of Corporate Securities*, 71 VA. L. REV. 1381, 1385 (1985). Moreover, public corporations have been conducting stock repurchases via a Dutch auction format for quite some time. See, e.g., Anita I. Anand, *Regulating Issuer Bids: The Case of the Dutch*

Commissioner at the beginning of the Internet bubble.³⁴

The formal case for this alternate IPO method rests on three tenets. First, a Dutch IPO represents a more democratic process by providing all investors, individual and institutional, with an opportunity to purchase shares before they debut on the market.³⁵ Second, a Dutch IPO supplies a more equitable method by eliminating preferential allocations and awarding one offering price to all successful bidders.³⁶ Finally, a Dutch IPO produces a more accurate price by utilizing bids to obtain actual investor valuations efficiently.³⁷ These rationales animate a belief that an auction-based IPO is the “logical offering procedure for issuers who are pursuing the twin goals of minimizing their cost of capital and obtaining a dispersed shareholder base.”³⁸ In sum, Dutch IPOs are believed to provide “a more transparent IPO process” and “a more efficient market for IPOs” that will “transform the IPO process” and

Auction, 45 MCGILL L.J. 133, 137 (2000) (“The Dutch Auction is a popular method of share buy-back in the United States. This popularity originated in 1981 when the first Dutch auction was completed in the U.S. by Todd Shipyards.”).

34. See Laura S. Unger, Comm’r, U.S. Sec. & Exch. Comm’n, Speech by SEC Commissioner: Raising Capital in Bits and Bytes (June 11, 1999), available at <http://ftp.sec.gov/news/speech/speecharchive/1999/spch283.htm> (“If the IPO frenzy continues, perhaps the Dutch auction concept will get more IPO shares in the hands of retail investors.”).

35. See, e.g., Coffee, *supra* note 10, at 6 (“Individual investors should prefer Dutch Auctions, and a significant ‘democratization’ of the IPO process can be envisioned.”); WILLIAM HAMBRECHT, WR HAMBRECHT + CO, FIXING THE IPO PROCESS 2 (2002), http://www.wrhambrecht.com/ind/strategy/bill_pov/200209/report.pdf (advocating greater access to all investors through IPOs that “would provide a broader universe of potential buyers” and “create a level playing field to match supply and demand”).

36. See, e.g., WR Hambrecht + Co, OpenIPO: How It Works, <http://www.wrhambrecht.com/ind/auctions/openipo/index.html#> (last visited Sept. 22, 2007) (“Shares are allocated in an impartial way by the auction process. There is no preferential allocation All individual and institutional investors pay the same price per share.”).

37. See, e.g., Shane Kite, *Google Goes Dutch, Rocking IPO Sector*, BANK TECH. NEWS, Aug. 2004, at 27 (“Dutch auctions, say supporters, offer a truer price based on more accurate demand of a wider market, because the issuance is open to any potential shareowner with an Internet connection, instead of select institutional accounts favored by individual underwriters.”).

38. Coffee, *supra* note 10, at 5; see also Letter from William R. Hambrecht, Chairman and CEO, WR Hambrecht + Co, to Nat’l Assoc. of Sec. Dealers 6 (Jan. 7, 2004), http://www.wrhambrecht.com/ind/strategy/bill_pov/200401/wrhco20040107.pdf. (touting the Dutch IPO as a method that “replac[es] arbitrary pricing and preferential allocation with a system that objectively establishes the full demand curve for an IPO and allocates to those investors willing to pay the highest price”).

ultimately lead to “elimination of the bookbuilding method.”³⁹

This Article cautions against such belief. Part I scrutinizes criticisms of bookbuilding that revolve around the dual phenomena of underpricing and spinning. Critics regard underpricing as inefficiency generated by an agency problem.⁴⁰ This account, however, sidesteps the more dominant account of underpricing as compensation in exchange for asymmetrical information. Critics also have asserted a link between underpricing and spinning, in which the former phenomenon feeds into the latter.⁴¹ This link, however, relies on limited data and largely dissolves in the face of new and proposed regulations. Additionally, both sets of criticisms fashion policy prescriptions from anecdotal and statistical evidence based on the anomalous and brief Internet bubble period.

Part II evaluates the empirical case for auction-based IPOs. Three data sets are examined to determine whether this alternative method is a superior way to mitigate, much less eliminate, underpricing. The first data set is from Google’s IPO, which featured peculiarities that delimit its utility as a case study. Nevertheless, Google’s first-day returns far exceed that of all other IPOs over the same time period. The second data set is from WR Hambrecht + Co’s (“Hambrecht”) OpenIPO, the only U.S. online auction platform. The first-day returns not only fail the 10% standard offered by owner Bill Hambrecht himself, but OpenIPOs also appear to suffer from their inclusion of unsophisticated bidders and lose value dramatically over the long run.⁴² The third data set is from international experiments with auction-based IPOs. Of twenty-three foreign countries that have permitted the method, eighteen effectively have abandoned it, and the existing Israeli and French variants have yielded mediocre returns.⁴³

Part III presents challenges that auction-based IPOs pose to any regulatory body. Prospective investors have resorted to a variety of manipulative strategies that circumvent the Dutch IPO’s primary antifraud devices.⁴⁴ Moreover, all auctions are uniquely

39. Hurt, *Moral Hazard*, *supra* note 27, at 788 (“If the bookbuilding approach is eliminated, all of the abuses of that system will be eliminated as well. The underwriter would have no ability to underprice and no ability to handpick beneficiaries of built-in profit.”). To be sure, commentators have been attacking bookbuilding and underpricing for some time. Since the Internet bubble burst, however, dissatisfaction with the existing system has intensified and gained a larger audience.

40. *See infra* Part I.A.

41. *See infra* Part I.B.

42. *See infra* Part II.A.

43. *See infra* Part II.B.

44. *See infra* Part III.A.

susceptible to fraud in the form of bidding rings, whose simplicity is matched only by their resilience.⁴⁵ These strategies and rings are easy to execute, yet difficult to detect, much less deter. Collectively, empirical and theoretical analyses reveal that the claims for auction-based IPOs are more mythical than manifest.

I. INITIAL PUBLIC OFFERINGS

Issuers go public for a variety of reasons. While IPOs predominantly serve to raise working capital, they also can generate prestige and publicity and stimulate future financing opportunities.⁴⁶ Whatever the objective, issuers overwhelmingly enlist the assistance of underwriters, who conduct meetings and road shows to gauge demand, conduct price discovery, and “build a book” of investors.⁴⁷ The dominant metric for IPO performance is pricing. Over the past twenty-six years, U.S. IPOs have been underpriced by an average of 17.5%.⁴⁸ During the 1999–2000 Internet bubble period, mean underpricing was a staggering 63.3%.⁴⁹

Since that bubble burst, commentators have advanced complex criticisms of bookbuilding. One strand charges underwriters as agents who underprice shares as part of a larger “pump-and-dump” scheme to benefit themselves and managers. Another strand charges underpricing as part of a self-perpetuating cycle that involves spinning shares to certain investors. This Part assesses these criticisms in light of empirical data, finance theory, and legal regulations.

A. Underpricing Underwriters

Going public serves two primary constituencies. First, an IPO facilitates the ability of an issuer’s shareholders to diversify their holdings and exit.⁵⁰ Second, an IPO facilitates the ability of an

45. See *infra* Part III.B; cf. Matt Damon a.k.a. Mike McDermott, *ROUNDERS* (Miramax Films 1998) (“Listen, here’s the thing. If you can’t spot the sucker in the first half hour at the table, then you *are* the sucker.”).

46. But see Jay R. Ritter & Ivo Welch, *A Review of IPO Activity, Pricing, and Allocations*, 57 J. FIN. 1795, 1796 (2002) (“Nonfinancial reasons, such as increased publicity, play only a minor role for most firms” in their decision to go public).

47. See *infra* notes 56–57 and accompanying text.

48. See *infra* Table 1 and accompanying notes 59–62 (U.S. IPO Returns, 1980–2005).

49. See *infra* Table 2 and accompanying notes 129–30 (Internet Bubble IPO Returns, 1998–2001).

50. See, e.g., DAVID P. SUTTON & M. WILLIAM BENEDETTO, *INITIAL PUBLIC OFFERINGS: A STRATEGIC PLANNER FOR RAISING EQUITY CAPITAL* 15 (1988) (“Added financial stability from the raising of needed capital, [is] by far the

issuer's managers to raise funds for new projects.⁵¹ While these rationales are not mutually exclusive,⁵² managerial pursuit of new projects dominates diversification of shareholder portfolios.⁵³

By a clear margin, managers prefer the bookbuilding method for IPOs. The vast majority of IPOs utilize underwritten financing,⁵⁴ and overwhelmingly on a firm-commitment basis whereby underwriters fully assume the risk of distribution.⁵⁵ Through meetings and road shows, underwriters offer investors valuable information about the issuer in exchange for their superior information about private valuations and the market in general, as otherwise "investors have no incentive to reveal positive information before the stock is sold."⁵⁶ With this information, underwriters construct a demand curve to formulate an offering price.⁵⁷

Correspondingly, the most robust index of IPO performance is accurate pricing of shares. Specifically, IPOs are evaluated by the spread between a share's opening and closing prices on the first day

most important reason for going public.").

51. See, e.g., THOMAS LEE HAZEN, *THE LAW OF SECURITIES REGULATION* § 3.12[2], at 104–05 (5th ed. 2005).

52. Indeed, long-term shareholders may prefer reinvestment of an IPO's proceeds over dividends, while managers conversely may prefer going public to divest themselves of some ownership in the firm. See, e.g., Kevin Rock, *Why New Issues Are Underpriced*, 15 J. FIN. ECON. 187, 195 (1986).

53. JAMES B. ARKEBAUER WITH RON SCHULTZ, *CASHING OUT: THE ENTREPRENEUR'S GUIDE TO GOING PUBLIC* 4–5 (1991) (citing a 1985 study by John E. Young of 562 IPOs, in which "the majority of CEOs cited [these] two fundamental reasons for going public").

54. See, e.g., Hurt, *Moral Hazard*, *supra* note 27, at 733 ("In the United States, the dominant method of distributing IPO shares is the bookbuilding method.").

55. See, e.g., Janet Cooper Alexander, *The Lawsuit Avoidance Theory of Why Initial Public Offerings Are Underpriced*, 41 UCLA L. REV. 17, 68 n.190 (1993) (observing that firm-commitment underwritings "make up over 95% of IPOs").

56. Lawrence M. Benveniste & Paul A. Spindt, *How Investment Bankers Determine the Offer Price and Allocation of New Issues*, 24 J. FIN. ECON. 343, 344 (1989); see also IPO COMM. REPORT, *supra* note 11, at 14 ("Roadshows have traditionally been considered a key opportunity for large, primarily institutional, investors to gather additional information about IPO issuers, enjoy face-to-face exposure to senior management and learn management's view of the most important aspects of the company and the offering Many large investors will not participate in IPOs unless they are provided an opportunity to meet and evaluate management during the roadshow.").

57. See, e.g., Daily et al., *supra* note 3, at 274 ("The road show is designed to gauge the anticipated demand for the firm's stock and serves as a key input in the investment banker's final determination of the price at which the firm's stock will initially trade.").

of trading.⁵⁸ Table 1 summarizes IPO activity over the past twenty-six years:

TABLE 1
U.S. IPO RETURNS, 1980–2005

YEAR	OFFERINGS PER YEAR ⁵⁹	MEAN FIRST- DAY RETURN	MEAN 3-YR. RETURN ⁶⁰
1980–1984	219.2	7.6%	23.8%
1985–1989	256.8	6.0%	18.1%
1990–1994	342.2	11.1%	45.1%
1995–1999	487.0	28.1%	19.2%
2000–2004	158.0	33.1%	(36.0%) ⁶¹
2005	169.0	9.8%	—
MEAN	287.9	17.5%	22.2%
MEDIAN ⁶²	309.5	33.6%	43.2%

The annual total reached its apex in 1996, when there were 687 IPOs, and reached its nadir in 2003, when there were only sixty-eight IPOs.⁶³

While simple to document, underpricing remains an enigma. Empirical studies yield mixed results about what ex ante indicia correlate reliably with underpricing.⁶⁴ And commentators are divided over whether underpricing evinces that issuers have an

58. Underpricing precisely refers to a positive difference between the closing and offering prices, while overpricing refers to the inverse. Imprecise usage of underpricing is tolerated, presumably because, “[w]hile instances of overpricing are common, studies of new issue pricing conclude that, on average, underwriters underprice new issues.” Lynn A. Stout, *The Unimportance of Being Efficient: An Economic Analysis of Stock Market Pricing and Securities Regulation*, 87 MICH. L. REV. 613, 659 (1988) (emphasis omitted).

59. See Ritter, *supra* note 1, at 10 (excluding American Depository Receipt, best efforts, closed-end fund, partnership, Real Estate Investment Trust, Regulation A, and unit offerings as well as those with an offer price less than \$5.00).

60. See *id.* at 19 (excluding American Depository Receipt, bank and S&L, closed-end fund, real estate investment trust, and unit offerings as well as those with an offer price less than \$5.00).

61. This is the mean three-year return for 2000 to 2002.

62. The median was calculated with absolute values.

63. *Id.* at 10. Mean underpricing reached its apex in 1999 at 69.6% and its nadir in 1984 at 2.5%. *Id.*; see also *infra* Table 2 and accompanying notes 129–30 (Internet Bubble IPO Returns, 1998–2001).

64. See, e.g., Daily et al., *supra* note 3, at 272 (“[T]he extant literature reveals little consistency in reported findings when focusing on the correlates of underpricing; i.e., those ex ante factors associated with underpricing.”).

informational advantage over prospective investors,⁶⁵ or vice versa.⁶⁶

Signaling theory provides a dominant positive account of IPO underpricing.⁶⁷ According to this account, underpricing manifests poor or deficient information about an offered stock's value.⁶⁸ To be sure, issuers and investors engage in some decision making with imperfect information.⁶⁹ Issuers, however, can combat such imperfections through observable and unique signals that convey a more accurate valuation of an issuer.⁷⁰ Within the context of IPOs, these signals primarily come in the form of the issuer's prospectus,⁷¹ which provides investors insights into a firm, and thus reduces risk and speculation about the IPO.

Signaling theory also suggests a normative account of underpricing, where the most controversy exists. Within the financial literature, "there is little consensus regarding whether underpricing is a preferred or unwelcome outcome of the IPO process."⁷² One interpretation of underpricing is that it manifests informational inefficiencies.⁷³

65. See Franklin Allen & Gerald R. Faulhaber, *Signaling by Underpricing in the IPO Market*, 23 J. FIN. ECON. 303, 319 (1989).

66. See, e.g., Jon A. Garfinkel, *IPO Underpricing, Insider Selling and Subsequent Equity Offerings: Is Underpricing a Signal of Quality?*, 22 FIN. MGMT. 74, 74, 82 (1993).

67. Daily et al., *supra* note 3, at 275–76 (describing signaling theory as the "dominant theoretical perspective" among various competing positive accounts of IPO underpricing). Even proponents of competing accounts acknowledge that the "best established of these [theories of underpricing] are the asymmetric information based models." Alexander Ljungqvist, *IPO Underpricing*, in HANDBOOK OF CORPORATE FINANCE: EMPIRICAL CORPORATE FINANCE 375, 378 (B. Espen Eckbo ed., 2005).

68. See generally Stephen A. Ross, *The Determination of Financial Structure: The Incentive-Signaling Approach*, 8 BELL J. ECON. 23 (1977).

69. See, e.g., Sudipto Bhattacharya, *Imperfect Information, Dividend Policy, and the "Bird In The Hand" Fallacy*, 10 BELL J. ECON. 259, 259 (1979).

70. See generally A. MICHAEL SPENCE, *MARKET SIGNALING: INFORMATIONAL TRANSFER IN HIRING AND RELATED SCREENING PROCESSES* (1974).

71. See Craig S. Galbraith et al., *Offering Prospectuses, Competitive Strategies, and the Pricing of Initial Public Offerings*, 6 J. PRIVATE EQUITY 31, 31–32 (2003). This version of signaling theory is premised on issuers having an information advantage over prospective investors.

72. Daily et al., *supra* note 3, at 274.

73. See, e.g., James C. Spindler, *Conflict or Credibility: Analyst Conflicts of Interest and the Market for Underwriting Business* 17 (Law Sch. Univ. Chi., Working Paper No. 215, 2004), available at <http://ssrn.com/abstract=564381> ("If issuers and underwriters may have positive information about themselves that they cannot disclose in the prospectus due to overbearing liability, they face an adverse-selection, or 'lemon,' problem in marketing the issuer's securities to investors . . ."). See generally George A. Akerlof, *The Market for "Lemons": Quality Uncertainty and the Market Mechanism*, 84 Q.J. ECON. 488 (1970).

But most of the criticism has been directed at underwriters. Some commentators cite the problem that issuers “are at an informational or bargaining disadvantage relative to the underwriters who are privy to the market demand for the IPO shares,”⁷⁴ which “often leads to the underpricing of initial public offerings.”⁷⁵ Others contend that underpricing is symptomatic of a massive “pump-and-dump”⁷⁶ scheme: “This IPO price curve is the expected result of a concerted effort of the investment banks and other industry insiders to extract wealth from the investing public by acquiring stock, hyping that stock, and then selling that stock.”⁷⁷

According to this account, underwriters and managers unduly engage in underpricing to increase the probability that pre-IPO allocations will be profitable. That profit comes in the form of personal holdings as well as reciprocal future business from prominent investors,⁷⁸ and arguably at the expense of the issuer.⁷⁹

74. Stephen J. Choi & A.C. Pritchard, *Should Issuers Be on the Hook for Laddering? An Empirical Analysis of the IPO Market Manipulative Litigation*, 73 U. CIN. L. REV. 179, 182 (2004).

75. Anita Indira Anand, *The Efficiency of Direct Public Offerings*, 7 J. SMALL & EMERGING BUS. L. 433, 458 (2003).

76. See, e.g., Ian Ayres & Stephen Choi, *Internalizing Outsider Trading*, 101 MICH. L. REV. 313, 334 n.65 (2002) (referencing “pump and dump” schemes under which an investor first purchases a large quantity of a company’s securities, portrays the company as favorable, and then sells the securities as the price increases”).

77. Hurt, *Moral Hazard*, *supra* note 27, at 717; see also Coffee, *supra* note 10, at 6 (“Such an extravagant discount cannot be justified . . . particularly when the vast majority of shares in IPOs go to a concentrated group of mutual funds and money managers.”).

78. See, e.g., Francesca Cornelli & David Goldreich, *Bookbuilding and Strategic Allocation*, 56 J. FIN. 2337, 2338–39 (2001) (finding that “bidders who participate in a large number of issues receive favorable treatment,” but failing to find evidence that such investors “earn profits beyond those earned by other investors”).

79. See, e.g., Hurt, *Moral Hazard*, *supra* note 27, at 717 (contending that underpricing represents distorted decision making by managers and underwriters about when to go public, on the basis that “in boom periods, more underwriters bring more issuers to market,” while “[i]n cold periods, underwriters bring fewer issuers to the market”). But see, e.g., Jean Helwege & Nellie Liang, *Initial Public Offerings in Hot and Cold Markets*, 39 J. FIN. & QUANTITATIVE ANALYSIS 541, 544 (2004) (“Hot and cold market IPOs do not differ in the use of discretionary accruals or by analysts’ earnings growth forecasts, nor do hot market IPOs have lower institutional ownership after the IPO.”); Daniel L. McConaughy et al., *Agency Costs, Market Discipline and Market Timing: Evidence from Post-IPO Operating Performance*, 20 ENTREPRENEURSHIP THEORY & PRAC. 43, 43 (1995) (“[E]ntrepreneurs who bring their firms into the public securities markets maintain the pre-IPO performance of their firms. This suggests that agency costs do not increase

Underpricing, however, is better regarded as a form of compensation, and not inefficiency. The consequences of a “sticky,” or unsuccessful, issue can be devastating for underwriters.⁸⁰ To be sure, they do receive a commission in exchange for assuming the actual and reputational risks of reselling shares to the public.⁸¹ But, underpricing functions as insurance against such risks.⁸² A conservative offering price can increase the probability that stock will “pop” on the first day, which may entice investors to purchase all available shares.⁸³ Further, a pop rewards recipients of preferentially allocated shares, who are often repeat investors with considerable incidental business.⁸⁴ A pop also arguably suggests a limited basis, if any, for damages,⁸⁵ thus dissuading prospective plaintiffs from bringing claims under the Securities Act.⁸⁶

significantly and that the poor post-IPO stock market performance is due more to over-optimistic investors extrapolating current growth into the future.”) (emphasis added). An additional problem with this “pump-and-dump” account is that the Internet bubble period did not experience any appreciable increase in the rate at which issuers went public. See *infra* Table 2 and accompanying notes 128–29 (Internet Bubble IPO Returns, 1998–2001).

80. See, e.g., LOUIS LOSS & JOEL SELIGMAN, SECURITIES REGULATION 337 (3d ed. 1998) (“The purpose of the dealer’s participation in the underwriting is to ensure a rapid sale of the offering. If a rapid sale were not to occur, the issue might become ‘sticky,’ depressing the sales price and reducing (or eliminating) the underwriters’ profit.”).

81. Underwriter fees typically range from five to ten percent of an IPO’s aggregate value. See, e.g., Richard A. Mann et al., *Starting From Scratch: A Lawyer’s Guide to Representing a Start-Up Company*, 56 ARK. L. REV. 773, 842 (2004); see also Hsuan-Chi Chen & Jay R. Ritter, *The Seven-Percent Solution*, 55 J. FIN. 1105, 1105 (2000) (finding underwriters invariably charge a seven percent commission for IPOs between \$20 and \$80 million).

82. Further, firm-commitment IPOs typically are priced four business days before an issue’s debut, during which there is a risk of decline. See, e.g., Deanna L. Kirkpatrick, *The Underwriting Agreement*, in HOW TO PREPARE AN INITIAL PUBLIC OFFERING 277, 288 (2004).

83. See, e.g., Griffith, *supra* note 14, at 605–06 n.71 (citing a 2002 poll in which “over 70% of respondents agreed or strongly agreed with the statement that ‘high first day returns are necessary to gain interest in the IPO’”) (quoting Patricia A. Ryan & Irv DeGraw, *A Brief Comparison of the Oct 2000–June 2002 IPO CFO Results to the 1996–1998 IPO* tbl.7 (working paper, on file with author)).

84. See, e.g., Francesca Cornelli et al., *Pre-IPO Markets* 1, 1 (Mar., 2003) (unpublished manuscript, online at <http://www1.fee.uva.nl/fm/PAPERS/papercornelli.pdf>) (“In the literature, the exclusion of retail investors from bookbuilding has typically been justified by arguing that retail investors are uninformed and it is optimal to restrict the participation in bookbuilding to the (informed) institutional investors . . .”).

85. See, e.g., Seha M. Tiniç, *Anatomy of Initial Public Offerings of Common Stock*, 43 J. FIN. 789, 797–800 (1988).

86. See generally Alexander, *supra* note 55.

Moreover, underpricing is governed by powerful market norms. The persistence of underpricing over time has created an entrenched expectation by investors to witness substantial first-day pops from quality IPOs:

If, on average, an investment banker does not underprice its offerings enough, the average initial return will be too low, and uninformed investors will cease doing business with this underwriter. On the other hand, if, on average, an investment banker underprices its offering too much, so that the average initial return is too high, potential issuers will cease using this underwriter.⁸⁷

An underwriter's objective is thus to set an offering price optimally beneath, and not equal to, its projected closing price.⁸⁸

This objective is difficult to accomplish because of an underwriter's competing constituencies. On the one hand, issuers prefer underwriters with an established track record of leaving only a limited amount of money on the table.⁸⁹ On the other hand, aftermarket investors tend to view underpricing as a proxy of an underwriter's quality,⁹⁰ even though they tend to receive limited personal benefits from first-day pops.⁹¹ Underwriters thus must

87. Randolph P. Beatty & Jay R. Ritter, *Investment Banking, Reputation, and the Underpricing of Initial Public Offerings*, 15 J. FIN. ECON. 213, 215 (1986).

88. Investors also respond to the actual offering price. See, e.g., Daily et al., *supra* note 3, at 280 (“[A] very modest offer price will signal little demand, little value, or both.”). *But cf. infra* notes 103, 196 and accompanying text.

89. See, e.g., Richard B. Carter et al., *Underwriter Reputation, Initial Returns, and the Long-Run Performance of IPO Stocks*, 53 J. FIN. 285, 285 (1998) (finding a strong inverse correlation between an underwriter's reputation and underpricing); Dennis E. Logue, *Premium on Unseasoned Equity Issues, 1965-69*, 25 J. ECON. & BUS. 133, 135 (1973) (examining eighty-three issues and finding that the average of those “underwritten by prestigious investment bankers was 20.8 percent, whereas the average performance of issues underwritten by non-prestigious investment bankers was 52.1 percent”). Logue also finds that “prestigious investment bankers handle significantly larger offerings than do non-prestigious investment bankers.” *Id.*

90. See, e.g., Jay R. Ritter, *The “Hot Issue” Market of 1980*, 57 J. BUS. 215, 220 (1984) (“[I]ndividuals face an adverse selection problem when submitting a purchase order. If the issue is overpriced . . . , only uninformed investors will submit purchase orders.”); see also Daily et al., *supra* note 3, at 277 (“The vast majority of IPO shares are not initially sold on the open market; rather, they are sold to key clients of the underwriters . . . [who] want to reduce underpricing . . .”).

91. See, e.g., Daily et al., *supra* note 3, at 275 (“Uninformed investors realize that, on average, they will earn below-average returns.”). This can be explained partially by the fact that underwriters justifiably favor “bidders who reveal information through limit prices” and those “who participate in a large

negotiate a delicate balancing act.⁹² To be sure, there is anecdotal evidence of underwriters and managers engaging in “pump-and-dump” schemes.⁹³ But this hardly proves a systemic defect in bookbuilding, and certainly fails to appreciate its broader and more established justifications.

B. *Spinning Bubbles*

Another strand of attack against bookbuilding concerns spinning. This practice of preferentially allocating premarket IPO shares to investors is routine. Underwriters spin an estimated 79% of IPO shares to executives, institutional investors, and politicians, as well as their families and friends.⁹⁴ The bulk of spun shares end up in the hands of institutional investors, which receive anywhere from 70% to 85% of an offering’s total allocation.⁹⁵

Spun shares are not merely a mark of privilege, but also a potential source of profit.⁹⁶ Recipients may retain spun shares for aftermarket gain or sell them at a premium to third parties, otherwise known as flipping.⁹⁷ Spinning also is one among many widely sanctioned explanations for underpricing.⁹⁸ Specifically,

number of issues,” which “is consistent with the argument that such investors are being compensated for the insurance they provide.” Cornelli & Goldreich, *supra* note 78, at 2338–39.

92. See, e.g., Daily et al., *supra* note 3, at 277 (“Underwriters are dual agents with two key constituents in the IPO process The first constituent is the firm whose securities the underwriters represent. The second is the client base to whom the underwriters market the IPO securities.”).

93. See *supra* notes 76, 79 and accompanying text.

94. See, e.g., Hurt, *What Google Can’t Tell Us*, *supra* note 27, at 404 (“In almost all IPOs conducted in the United States, the vast majority, almost 80%, of original IPO shares are pre-allocated by the underwriters of the offering.”).

95. See, e.g., Hillary A. Sale, *Disappearing Without a Trace: Sections 11 and 12(a)(2) of the 1933 Securities Act*, 75 WASH. L. REV. 429, 441 (2000) (“[O]n average, small investors receive less than one quarter of the total shares in an IPO.” In the typical IPO, the percentage of offered shares allocated to institutional investors generally ranges from 70% to 85% of the total shares.); Letter from Jane C. Sherburne, Deputy Gen. Counsel of Citigroup, Inc., to Michael G. Oxley, Chairman of the House Comm. on Fin. Servs., and John J. LaFalce, Ranking Member of the House Comm. on Fin. Servs. (Aug. 26, 2002).

96. See, e.g., Griffith, *supra* note 14, at 587 (“[S]pinning allocations rarely, if ever, result in trading losses.”). Griffith contends that “underwriters only spin shares of hot offerings—that is, those for which there is significant aftermarket demand.” *Id.* at 587 n.12.

97. See, e.g., Royce de R. Barondes, *Adequacy of Disclosure of Restrictions on Flipping IPO Securities*, 74 TUL. L. REV. 883, 884 (2000) (“Some investors who purchase stock in an IPO quickly resell the stock, known as ‘flipping,’ to realize the short-term gains.”); see also *id.* at 885–86 (noting various types of anti-flipping mechanisms).

98. See *supra* Part II.A.

underwriters offer shares at a lower price to influential and prominent investors as compensation for their assumption of early IPO risk.⁹⁹ In exchange, underwriters receive a greater probability that the issue will be subscribed fully and diversity of ownership that guards against concentrated holdings by a few institutional investors.¹⁰⁰

Spinning, however, is believed to be linked to underpricing. According to one theory, “[u]nderpricing enables spinning by providing underwriters with a ready supply of hot IPO shares. But underpricing is also an end of spinning when hot allocations are used to induce issuer-managers to underprice their own offerings.”¹⁰¹ Underwriters are said to discount the price of shares based on the corresponding commission foregone versus the short- or long-term returns.¹⁰² When these returns, which can come in many forms such as insurance against a sticky issue or protection from Securities Act liability,¹⁰³ are sufficient, underwriters will have an incentive to underprice shares. Akin to a casino’s “comp” system, these shares then can be flipped in exchange for goodwill.¹⁰⁴

In this way, underpricing is believed to be a necessary predicate for spinning. Unlike other pre-IPO allocation practices, spinning is conceived within this account as a practice by which underwriters direct “allocations to *particular* individuals, usually those in positions of power and influence, rather than leaving the syndicate’s brokers with the discretion to dole out individual allocations to just anyone.”¹⁰⁵ This practice is not about playing favorites, but

99. See, e.g., Griffith, *supra* note 14, at 594, 597 (“Spinning improves the underwriter’s welfare by generating goodwill on the part of the recipient of the spun shares Underwriters may also seek to use spinning allocations to win the favor of politicians and government officials.”).

100. See *supra* notes 83–86 and accompanying text.

101. Griffith, *supra* note 14, at 589–90; see also Cumming & MacIntosh, *supra* note 8, at 890 (“From a regulatory point of view, the message seems clear: extreme underpricing of new issues is likely to be associated with illicit activities such as laddering, false analyst coverage, spinning, and so on.”).

102. See Griffith, *supra* note 14, at 599 (“Underpricing will be worthwhile to underwriters on the margin provided that the value of the insurance and goodwill generated through underpricing exceeds the commission losses”); *supra* notes 83–86 and accompanying text.

103. See *supra* note 86 and accompanying text. Griffith contends that “underwriters probably only consider underpricing as insurance at [marginally] higher price levels where the increased risk of a sticky issue marginally outweighs the expected return from an incremental increase in offering price.” Griffith, *supra* note 14, at 593.

104. Griffith, *supra* note 14, at 594.

105. *Id.* at 587; see also Sale, *supra* note 95, at 441 (“Small investors ‘can rarely get in on . . . hot’ initial public offerings (IPOs) because IPOs are largely ‘private club[s] that the average investor [i]sn’t invited to join.’”) (quoting Aaron

generating profits. Underwriters spin IPO shares allegedly because they expect issuer-managers to agree to underprice shares.¹⁰⁶ Receiving these shares induces managers of the issuer going public to permit underpriced shares, which can increase the likelihood of a profitable flip.¹⁰⁷ Receiving these shares also induces the managers of other issuers going public to retain these same spinning underwriters and permit underpriced shares.¹⁰⁸ Both scenarios thus involve a “complex wealth transfer,”¹⁰⁹ in which managers employ underwriters to pocket money deliberately left on the issuer’s table.¹¹⁰ Simply formulated, spinning taps into the incentives for underpricing, which guarantees a supply of spinnable shares.¹¹¹

Recent and proposed regulations, however, sever part of this link. National Association of Securities Dealers (“NASD”) Rule 2790 prohibits certain “restricted persons” from receiving IPO allocations.¹¹² Among such persons are broker-dealers, their

Lucchetti & Terzah Ewing, *IPO-Fund Paradox: Sector Is Hot, Investors Are Cool*, WALL ST. J., Sept. 3, 1999, at C1); Terzah Ewing, *The Road Now Taken: Exclusive Shows Touting New Issues Arrive on the Web*, WALL ST. J., Sept. 22, 1999, at C1).

106. Griffith, *supra* note 14, at 623–24 (suggesting that, in receiving spun shares, managerial shareholders arguably have breached their fiduciary duties); see, e.g., William H. Donaldson, *Testimony Concerning Global Research Analyst Settlement, Statement Before the Senate Committee on Banking, Housing, and Urban Affairs* (May 7, 2003), <http://www.sec.gov/news/testimony/ts050703whd.htm> (“Spinning . . . raises serious questions about whether the corporate insiders who take hot IPO shares in exchange for their firms’ investment banking business are breaching their fiduciary duties to their shareholders.”); see also Anita Indira Anand, *Is the Dutch Auction IPO a Good Idea?*, 11 STAN. J.L. BUS. & FIN. 233, 255 (2006) (noting that “corporate law currently has rules in place to deal with certain types of unfairness, such as spinning,” including fiduciary duties and the corporate opportunity doctrine).

107. See *supra* note 97 and accompanying text.

108. Griffith, *supra* note 14, at 623–24 (“By spinning underpriced shares of other issuers to their counterparts across the negotiating table, underwriters may hope to induce them to accept underpricing in their own offering.”).

109. *Id.* at 624.

110. For issuers, however, the rationality of underpricing is less clear. As Griffith notes, “[i]ssuers lose \$0.93 per dollar of underpricing. Underpricing is thus much more expensive to issuers than it is to underwriters. So why do they do it?” *Id.* at 600 (calculating issuers’ losses based on underwriters receiving their standard seven percent commission rate); see also *supra* note 81.

111. Griffith, *supra* note 14, at 594 (“Underwriters assure themselves of a supply of shares for spinning by underpricing IPOs.”).

112. NAT’L ASS’N SECS. DEALERS, MANUAL (CCH), R. 2790(a) (Apr. 2005) (“Restrictions on the Purchase and Sale of Initial Equity Public Offerings”) [hereinafter NASD, R. 2790]. Rule 2790 expands the restrictions first established by the Free-Riding and Withholding Interpretation, which applied only to hot issues and thus earned the name of the Hot Issue Rule. See Order

affiliates and relatives, finders and fiduciaries, and portfolio managers.¹¹³ Proposed NASD Rule 2712 prohibits broker-dealers and their associates from allocating shares from an IPO on a quid pro quo basis for past or future investment banking business, and this bar also extends to directors or executives of a recent client of the underwriting syndicate.¹¹⁴ These rules eliminate most forms of spinning,¹¹⁵ and thus disrupt the possibility of any real “complex wealth transfer.”¹¹⁶ This is because spinning no longer represents a quasi-legal means for underwriters and managers to divert offering proceeds to themselves. To be sure, some diversion still may occur, but its illegality severely dampens the extent to which underwriters and managers will underprice to spin.

Moreover, the interconnection between spinning and underpricing has more conjectural appeal than empirical support. To redress an admitted “poverty of direct comparative data,” Griffith presents findings from three empirical studies.¹¹⁷ The first study, by Griffith himself, examines eleven firms from 1999 to 2000 with inside managers who allegedly spun shares, and finds that the mean underpricing for these IPOs exceeded that for their counterparts.¹¹⁸

Approving NASD Rule Change Relating to Restrictions on Purchases and Sales of IPO Securities, Exchange Act Release No. 34-48701, 68 Fed. Reg. 62126, 62126-46 (Oct. 31, 2003) (discussing changes from restrictions imposed by the Free-Riding and Withholding Interpretation in NASD Interpretive Material 2110-1 to those imposed in the superseding Rule 2790).

113. NASD, R. 2790(i)(10), *supra* note 112.

114. See Notice of Filing of Proposed Rules Changes by the NYSE and NASD Relating to the Prohibition of Certain Abuses in the Allocation and Distribution of Shares in IPOs, Exchange Act Release No. 34-50896, 69 Fed. Reg. 77804, 77805 (Dec. 20, 2004) [hereinafter NASD, R. 2712] (“IPO Allocations and Distributions”). *But see* Hurt, *What Google Can't Tell Us*, *supra* note 27, at 407 (“Unfortunately, proposed Rule 2712 has been open for comment for almost four years, indicating that the Rule is unlikely to be accepted.”).

115. Neither rule prohibits directed-share plans or allocations to institutional investors, and yet, interestingly, both practices are excluded from Griffith’s conception of spinning. See *supra* note 14 and accompanying text. Directed share plans are not part of the conception of spinning used here, as such plans are conducted by the issuer and constitute a small percentage of allocations. See *id.*

116. Griffith, *supra* note 14, at 624.

117. *Id.* at 627-28.

118. See *id.* at 626. Griffith notes certain methodological caveats to this data set. Specifically, the number of IPOs with insiders is likely underinclusive, and the underpricing levels for these IPOs are also included within the average for all IPOs. As a result, he cautions against using “these data to compare the underpricing margins of firms engaging in underpricing to those that do not.” *Id.* at 627. Nevertheless he maintains that “these weaknesses of the data set make the argument for a link between spinning and underpricing stronger, not weaker.” *Id.* at 627 n.147.

The second study, by Tim Loughran and Jay Ritter, observes: “As IPO underpricing increased in the 1990s . . . the ability to use hot IPOs to reward decision-makers resulted in the decision-makers seeking out underwriters with reputations for leaving money on the table, rather than avoiding these underwriters.”¹¹⁹ These findings comport with the final study, by William Ljungqvist and William Wilhelm, of IPOs from 1996 to 2000, which confirms that “underpricing is significantly lower when insider ownership stakes are larger and less fragmented and when insiders sell more shares at the offer price.”¹²⁰ From this, Griffith infers that “[d]eclined insider ownership suggests decreased manager incentives to monitor the pricing process.”¹²¹

A closer examination of these studies, however, reveals inferential gaps. If spinning and underpricing are linked, there should be a miniscule level of insider ownership within this data set. Ljungqvist and Wilhelm, in fact, conclude that “insider percentage holdings declined over the sample period [1996-2000].”¹²² However, Loughran and Ritter find that from 1999 to 2000 “CEO dollar ownership (the market value of the CEO’s holdings) was substantially higher, resulting in *increased* incentives to avoid underpricing.”¹²³

The difference between these two findings is subtle, but significant. Unlike Ljungqvist and Wilhelm, who measure insider ownership as a percentage of total shares offered, Loughran and Ritter focus on the total monetary amount of what insiders own.¹²⁴ The latter measure would seem to evince stronger incentives for insiders to underprice since they own a significant portion of the offering; but because they individually have small investments or expected spinning profits, insiders may not be as motivated to risk deliberate underpricing.¹²⁵ Ultimately, Loughran and Ritter find “little support” for the Ljungqvist and Wilhelm hypothesis.¹²⁶ At any rate, Griffith utilizes neither metric in his data set, which simply

119. *Id.* at 628 n.154 (citing Tim Loughran & Jay Ritter, *Why Has IPO Underpricing Changed Over Time?*, FIN. MGMT., Autumn 2004, at 5, 12).

120. Alexander P. Ljungqvist & William J. Wilhelm, Jr., *IPO Pricing in the Dot-Com Bubble*, 2 (NYU Stern Sch. of Bus. Fin. Dep’t, Working Paper No. FIN-01-061, 2002), available at <http://ssrn.com/abstract=295662>.

121. Griffith, *supra* note 14, at 629.

122. Ljungqvist & Wilhelm, *supra* note 120, at 27.

123. Loughran & Ritter, *supra* note 119, at 6.

124. *Id.* at 21.

125. *Id.* at 19 (“It is not obvious . . . that CEO percentage ownership is as important as the market value of these shares if we want to measure the managerial benefits of a higher offer price.”).

126. *Id.* at 6.

establishes the margin of underpricing within firms that allegedly spun shares to insiders.¹²⁷

Further, all of these empirical studies have limited extrapolative value. Griffith's arguments are predicated upon underpricing and spinning during the Internet bubble, a two-year period.¹²⁸ From 1999 to 2000, underpricing occurred on an unprecedented scale:

TABLE 2
INTERNET BUBBLE IPO RETURNS, 1998–2001¹²⁹

YEAR	OFFERINGS	MEAN FIRST-DAY RETURN	MEAN 3-YR. RETURN
1998	317	20.1%	27.1%
1999 ¹³⁰	487	69.6%	(45.2%)
2000	385	55.4%	(59.6%)
2001	81	13.7%	8.9%

The 63.3% mean first-day bubble return is over three times the mean for the next highest year (1995), over four times the mean for the previous eight years (1990–1998), and over five times the mean for the subsequent four years (2001–2005).¹³¹ By reference, the mean first-day return from 1990 to 1998 is 14.6%, and 11.3% from 2001 to the present.¹³² Similarly, Internet bubble issuers left \$62.4 billion (\$32.1 billion annual mean) on the table, whereas issuers left only \$28.1 billion from 1990 to 1998 (\$3.1 billion annual mean) and a mere \$11.6 billion from 2001 to 2005 (\$2.3 billion annual mean).¹³³

127. See Griffith, *supra* note 14, at 626–27.

128. See *supra* notes 118–21 and accompanying text.

129. Ritter, *supra* note 1, at 10 tbl.8, 19 tbl.17 (Offerings, Mean First-Day, and Three-Year Return Data).

130. But see, e.g., Hurt, *Moral Hazard*, *supra* note 27, at 715 (citing a study that found “the average stock [in 1999] was underpriced by 65 percent” and yet another study that found “the average first-day share price increase, or ‘pop’ in 1999 was . . . 77 percent”) (citations omitted).

131. See *supra* Table 1 and accompanying notes 59–62 (U.S. IPO Returns, 1980–2005).

132. Ritter, *supra* note 1, at 10 tbl.8; see also *supra* Table 1 and accompanying notes 59–62 (U.S. IPO Returns, 1980–2005).

133. Ritter, *supra* note 1, at 2 tbl.1. The market for IPOs precipitously dropped from 2001 to 2003. See *supra* Table 2 and accompanying notes 129–30 (Internet Bubble IPO Returns, 1998–2001). Perhaps a better measure is from 2004 to 2005, during which issuers left an aggregate \$3.27 billion on the table. Ritter, *supra* note 1, at 2 tbl.1. Regardless, no recent time has witnessed IPO activity and underpricing on a level seen during the Internet bubble period.

A myriad of explanations for the Internet bubble exist,¹³⁴ but the relevant point is that a significant number of IPOs conducted during this two-year period involved highly unusual dynamics. Almost half of the Internet bubble IPOs in the Loughran and Ritter study involved high-tech firms,¹³⁵ which went public faster than their 1980s and early 1990s predecessors, as well as current firms.¹³⁶ Also, prestigious underwriters exhibited an uncharacteristic willingness to support Internet bubble offerings with their dramatically lower median sales;¹³⁷ this comports with evidence that the quality of IPO entrants declined during the bubble period.¹³⁸ The combined effect is that “prestigious underwriters relaxed their underwriting standards and took public an increasing number of very young and unprofitable companies” on a level that we had never seen before.¹³⁹

The Internet bubble’s peculiar composition cautions against drawing broad conclusions and prescriptions about spinning and underpricing. Ample evidence exists that spinning depends upon underpricing. But the cycle falls apart when one attempts to examine spinning in isolation. As Loughran and Ritter ask: “If spinning is an important reason for underpricing in the bubble period, why wasn’t it important a decade earlier?”¹⁴⁰ According to them, “underpricing fed on itself [U]nderpricing creates incentives for even more underpricing. What constrains underpricing from increasing without limit is that raising money is still a goal for an issuer.”¹⁴¹ If this is correct, underpricing can be constrained by the combined effect of new regulatory prohibitions on spinning and incentives for managers to generate sufficient equity. At the very least, the presented data does not clearly establish the

134. See generally Jay Ritter & Ivo Welch, *The Initial Public Offerings (IPO) Bibliography*, <http://www.iporesources.org/iporefs/> (last visited Sept. 25, 2007).

135. See, e.g., Loughran & Ritter, *supra* note 119, at 17. Within the Ljungqvist and Wilhelm study, Internet firms accounted for 55% of the IPOs in 1999 and 36% of the IPOs in 2000. Ljungqvist & Wilhelm, *supra* note 120, at 5.

136. The median age of firms going public decreased from 7.5 years to 5 years during the Internet bubble and thereafter increased to 12 years. Loughran & Ritter, *supra* note 119, at 18–20.

137. *Id.* at 22–23.

138. See, e.g., Beverly B. Marshall et al., *Early Internet IPOs Versus Subsequent Entrants*, 28 J. ECON. & FIN. 104, 106, 114 (2004). Moreover, Internet bubble IPOs left more money on the table and had lower three-year returns than any other time during the past twenty-six years. See Ritter, *supra* note 1, at 2 tbl.1, 19 tbl.17.

139. Loughran & Ritter, *supra* note 119, at 22.

140. *Id.* at 12. Indeed, mean underpricing during the 1990s was the same as in the 1960s, or around 21%. See, e.g., Ljungqvist, *supra* note 67, at 1.

141. Loughran & Ritter, *supra* note 119, at 12.

relationship between underpricing and spinning. The multiplicity of variables within the bubble period delimits its ability to establish any link between spinning and underpricing.

II. AUCTION-BASED IPOs

This Part evaluates the affirmative case for auction-based IPOs. Proponents contend that going public via an auction is more efficient, equitable, and egalitarian than via bookbuilding. Examining three prominent data sets for auction-based IPOs demonstrates otherwise. The first set is from Google's IPO, the largest such auction in the U.S. to date;¹⁴² although, by most accounts, that Dutch IPO failed, its utility is limited by various peculiarities. The second set is from Hambrecht's OpenIPO, the sole domestic auction-based platform; while generating slightly superior first-day returns than all IPOs during the relevant time period, OpenIPOs lose their value appreciably over the long-run and appear to suffer from their inclusion of unsophisticated bids.¹⁴³ The final set is from foreign countries that have experimented with auction-based IPOs; not only have the vast majority of these countries effectively abandoned the method, but the remaining countries have experienced mediocre results.

A. Domestic Auction-Based IPOs

The most visible Dutch IPO to date has been Google. On April 29, 2004, Google announced that its \$2.72 billion IPO would be conducted as an online auction.¹⁴⁴ The announcement immediately captured the public's imagination. A financial columnist from *The New Yorker* described the auction as "analogous to the new-model I.P.O.: forget the experts; go with the crowd. You might say that Google could Google its own stock price,"¹⁴⁵ while a commentator suggested that this method "may push out the old model and become the industry standard."¹⁴⁶ The CEO of another company that had

142. Singapore Telecom has conducted the largest auction-based IPO to date. Ravi Jagannathan & Ann E. Sherman, *Why Do IPO Auctions Fail?* 9 (Nat'l Bureau of Econ. Research, Working Paper No. 12151, 2006), available at <http://www.nber.org/papers/w12151>.

143. See, e.g., Hurt, *What Google Can't Tell Us*, *supra* note 27, at 412 ("[O]f the firms that developed online auction systems during the 1999–2000 Boom, only WR Hambrecht + Co currently maintains an online IPO auction platform.").

144. See Google, Amended Form S-1, *supra* note 21 ("The price to the public and allocation of shares will be determined by an auction process.").

145. James Surowiecki, *Going Dutch*, NEW YORKER, Dec. 22 & 29, 2003, at 62.

146. Bruce Gottlieb, *What Is a Dutch Auction IPO?*, SLATE, May 6, 1999,

gone public via an auction speculated that Google's IPO "could be the thing that breaks a sleazy Wall Street system."¹⁴⁷ Reports predicted that "[t]his type of auction should cut down on the huge run-up in share price experienced during the first days of trading experienced by other tech IPOs during the 1990s."¹⁴⁸

In many ways, however, Google's IPO was anything but unorthodox. The company enlisted a syndicate of twenty-eight blue-chip underwriters,¹⁴⁹ led by two highly established investment banks, Morgan Stanley & Co. Inc. ("Morgan Stanley") and Credit Suisse First Boston LLC ("CSFB"), neither of which had any experience with online Dutch IPOs.¹⁵⁰ Google also quietly allocated to these underwriters approximately fifteen percent of the IPO shares outside of the auction process.¹⁵¹ Similarly well-positioned was a cadre of prominent individuals and institutions who had acquired ownership stakes in Google well before it even planned to go public;¹⁵² these shareholders stood to profit handsomely from the IPO, regardless of whether the firm used an auction or bookbuilding.

<http://slate.com/id/1002736>.

147. Bill Mann, *Going Dutch with Google*, MOTLEY FOOL, May 26, 2004, <http://www.fool.com/news/commentary/2004/commentary040526bm.htm> (quoting Patrick Byrne of Overstock.com); see also Olga Kharif, *Not All Dutch Auctions Are Equal*, BUS. WEEK ONLINE, Aug. 18, 2004, http://www.businessweek.com/technology/content/aug2004/tc20040818_5635_tc024.htm ("The Dutch auction is definitely threatening the status quo in institutional banking," says Alison May, CEO of RedEnvelope [which had used a Dutch IPO]. "They're fighting for survival.").

148. Les Christie, *The ABCs of a Unique IPO: The Hottest Tech IPO in Years Will Be Run as a "Dutch Auction"*, CNNMONEY, Apr. 29, 2004, <http://money.cnn.com/2004/04/29/technology/googleauction>.

149. See Google, Amended Form S-1, *supra* note 21, at 35.

150. See Hurt, *What Google Can't Tell Us*, *supra* note 27, at 416 (noting that Morgan Stanley and CSFB are "not known for IPO innovation and had never offered an online IPO auction before").

151. Eugene Choo, Note, *Going Dutch: The Google IPO*, 20 BERKELEY TECH. L.J. 405, 421 n.71 (2005). Google did manage to negotiate a significantly lower commission rate of 2.8% with the underwriters. See Gary Rivlin, *After Months of Hoopla, Google Debut Fills the Norm*, N.Y. TIMES, Aug. 20, 2004, at C1, C4.

152. See Gary Rivlin, *Google Goes Public? Search for 'Rich Get Richer'*, N.Y. TIMES, Apr. 25, 2004, at N1, N24 (identifying as owners, inter alia, Henry Kissinger, Shaquille O'Neal, Michael Ovitz, Frank Quattrone, Tiger Woods, and Arnold Schwarzenegger). Initially, none of these individuals or institutions was subject to a lock-up agreement. See Google Inc., Amendment No. 2 to Form S-1 Registration Statement 107 (June 21, 2004), available at <http://www.sec.gov/Archives/edgar/data/1288776/000119312504105564/ds1a.htm>. Google subsequently backed off in response to intense public criticism. See Google Inc., Amendment No. 4 to Form S-1 Registration Statement 110-11 (July 26, 2004), available at <http://www.sec.gov/Archives/edgar/data/1288776/000119312504124025/ds1a.htm>.

While Brin and Page did indicate that they were “encouraging current shareholders to consider selling some of their shares as part of the offering,”¹⁵³ their efforts evidently focused more on retail and small investors, prompting a charge that “some investors selling shares in the offering were more equal than others.”¹⁵⁴

Perhaps the greatest misperception about Google’s IPO is that it was a pure Dutch auction. Well before the IPO was announced, there was rampant speculation that bids would determine the final offering price.¹⁵⁵ Google’s S-1 suggested the same, sandwiching between various caveats that: “We intend to use the auction clearing price to determine the initial public offering price and, therefore, to set an initial public offering price that is equal to the clearing price.”¹⁵⁶ Google, however, also retained the option of setting the final offering price “in response to investor demand”;¹⁵⁷ bidders thus had no assurance that the clearing price would be the final offering price.¹⁵⁸

Indeed, despite all its auction-related fanfare,¹⁵⁹ Google ultimately did exercise its pricing discretion. Just before its market debut, the company lowered the clearing price range from \$108–135 to \$85–95, and then set the final offering price at \$85.¹⁶⁰ By most

153. Google, Amended Form S-1, *supra* note 21, at 31. This, however, was based on the bizarre rationale that those shares would “supplement the shares the company sells to provide more supply for investors and hopefully provide a more stable price.” *Id.* These individuals and institutions likely sold their shares simply to cash out; to increase the supply of shares, Google merely had to authorize a larger issue.

154. Kevin J. Delaney, *Google IPO Revisited: Insiders Got Choice Other Sellers Didn’t*, WALL ST. J., Sept. 16, 2005, at A1.

155. See, e.g., Pete Barlas, *Google Files for IPO via Dutch Auction*, INVESTOR’S BUS. DAILY, Apr. 30, 2004, at A1; Tom Petruno, *Some Investors Feel Shorted by Google*, L.A. TIMES, Aug. 24, 2004, at C1 (“As the dust clears from Google Inc.’s market debut, some successful bidders for the stock believe that they might have gotten substantially more shares in the deal—if the company had conducted a pure version of the auction system it championed.”).

156. See Google, Amended Form S-1, *supra* note 21, at 38. This is not to suggest that Google misled prospective investors, as the S-1 is sprinkled with well-placed statements about the company’s “discretion to set the initial public offering price below the auction clearing price.” *Id.*

157. *Id.* at 34.

158. See *id.* at 31 (“Our goal of achieving a relatively stable market price may result in Google determining with our underwriters to set the initial public offering price below the auction clearing price.”).

159. See *id.* at 34 (“The auction process being used for our initial public offering differs from methods that have been traditionally used in most other underwritten initial public offerings in the United States.”).

160. Google enforced this price range by reserving the right to refuse substantially higher bids that seemed part of a manipulative strategy. See *id.*

accounts, this was prompted by investor uncertainty stemming from a number of snafus, ranging from SEC concern about employee share distributions to an interview with Brin and Page that arguably breached the mandatory “quiet” period.¹⁶¹ That uncertainty persisted into the days leading up to the IPO, leaving the offering undersubscribed and reportedly prompting Google’s CEO, Eric Schmidt, to pronounce that “the auction had failed.”¹⁶² Accordingly, Google’s eleventh-hour price changes were designed to ensure sufficient demand and generate an aftermarket pop,¹⁶³ a charge ordinarily leveled against bookbuilding underwriters.¹⁶⁴

The move worked. During the first day of public trading, Google’s shares changed hands twenty-two million times and appreciated in value 18.1%, hardly frustrating those seeking to profit from an initial pop.¹⁶⁵ These returns—which exceeded the 11.1% mean for all IPOs that year and the 17.5% mean for the past twenty-six years¹⁶⁶—combined with the approximately \$300 million left on the table, hardly proved the auction was a paragon of efficiency. Rather, by most accounts, Google’s IPO largely failed to fulfill the promises that had made it the investing public’s darling.¹⁶⁷

at 34, 40.

161. See, e.g., Choo, *supra* note 151, at 422–23 (describing allegations of SEC disclosure violations); Delaney, *supra* note 154, at A11 (referencing “a string of events in the spring and summer of 2004, including Google missteps, [that] cooled some investors’ thirst for its shares,” including the Brin and Page interview).

162. Delaney, *supra* note 154, at A11.

163. See, e.g., Petruno, *supra* note 155, at C1 (quoting Jay Ritter’s opinion that, “by lowering its expected price range to US \$85–95, Google probably triggered a last-minute rush by institutional bidders to the US \$85 level”).

164. See *supra* Part I.A.

165. Google Inc. (GOOG), Stock Chart, Index Chart, MSN Money, <http://moneycentral.msn.com/investor/charts/chartdl.asp?Symbol=goog&DateRangeForm=1&PT=5&CP=1&C5=8&C6=2004&C7=7&C8=2005&C9=0&ComparisonsForm=1&CE=0&CompSyms=&DisplayForm=1&D4=1&D5=0&D7=&D6=&D3=0&ShowTablBt=Show+Table> (last visited Sept. 25, 2007).

166. See *supra* Table 1 and accompanying notes 59–62 (U.S. IPO Returns, 1980–2005). *But cf.* Hurt, *What Google Can’t Tell Us*, *supra* note 27, at 438 (“In addition, if the [Google] share price was underpriced, the underpricing was negligible compared to the expected underpricing in a traditional bookbuilding IPO.”).

167. See, e.g., Andrew Wahl, ‘To Google’ Has New Meaning, *CAN. BUS.*, Sept. 12, 2004, at 21 (“Rather than being a catalyst for other dot-com IPOs and the tech market in general, though, Google over-promised, underperformed, and taught everyone, including themselves, some good lessons.”). Not everyone, however, believes Google’s IPO was a failure. Bill Hambrecht, an established advocate of the Dutch IPO, opined: “I think it worked,’ he said. ‘Think about Google’s objectives. It wanted its 100 million user base to have access to its IPO, and it did that. It wanted to get rational price discovery, and it did that

Ironically, auction proponents have been the quickest to point out the impure nature of Google's Dutch IPO. For instance, one commentator noted that, "[a]lthough the Dutch auction gave Google the ability to set a market clearing price for its shares, the modified Dutch auction as described in the prospectus did not require Google to do so."¹⁶⁸ Similarly, another commentator offered the distinction that "[i]n a true Dutch auction, the clearing price is also the offering price. In the Google offering, the issuers . . . retained the right to set the offering price below the auction clearing price,"¹⁶⁹ and that "Google's IPO was unique in that the issuer combined the auction platform with the support of traditional investment banks."¹⁷⁰

This type of combined platform, however, is hardly unique. One of the investment advisors for Google's IPO was Hambrecht, which has offered a Dutch auction platform known as OpenIPO since 1999.¹⁷¹ Prospective investors submit bids one to two weeks prior to the offering's effective date, and Hambrecht proceeds to calculate a clearing price.¹⁷² As with Google, OpenIPO issuers reserve the discretion to set a final offering price different than the clearing price.¹⁷³ When the offering is over subscribed, Hambrecht allocates shares on a pro rata basis.¹⁷⁴

The OpenIPO touts four primary benefits for investors. First,

too." Joseph Nocera, *Two Cheers for the Google IPO*, FORTUNE, Sept. 6, 2004, at 42 (quoting William R. Hambrecht); cf. Fleischer, *supra* note 28, at 1600 ("Despite . . . apparent flaws in both design and execution, the Google IPO should be considered a success. The IPO . . . was a branding moment From a corporate-finance perspective, the deal was at best mediocre. From a marketing perspective, it was simply brilliant.").

168. Hodrick, *supra* note 26, at 10.

169. Hurt, *What Google Can't Tell Us*, *supra* note 27, at 423–24.

170. *Id.* at 433, 435 (noting that Google's IPO also was "one of the largest in U.S. history").

171. See Nocera, *supra* note 167, at 42; WR Hambrecht + Co, OpenIPO: Frequently Asked Questions, <http://www.wrhambrecht.com/ind/auctions/openipo/faq.html> (last visited Sept. 25, 2007) (describing the OpenIPO as being "[b]ased on an auction system designed by Nobel Prize-winning economist William Vickrey").

172. WR Hambrecht + Co, OpenIPO: Frequently Asked Questions, <http://www.wrhambrecht.com/ind/auctions/openipo/faq.html> (last visited Sept. 25, 2007). But see Denis T. Rice, *Offering Securities on the Internet—2001, Part II*, COMPUTER & INTERNET LAW., May 2005, at 19, 25 (2001) ("To date, the Hambrecht Dutch Auction is . . . conducted as a . . . hybrid species of firm underwriting.").

173. WR Hambrecht + Co, OpenIPO: Frequently Asked Questions, <http://www.wrhambrecht.com/ind/auctions/openipo/faq.html> (last visited Sept. 25, 2007).

174. WR Hambrecht + Co, OpenIPO: Pro-Rata Allocation, <http://www.wrhambrecht.com/ind/auctions/openipo/prorata.html> (last visited Sept. 25, 2007).

institutional and retail investors enjoy equal access to participating in an IPO.¹⁷⁵ Second, these investors are permitted to submit multiple, multitiered bids that indicate variable interest levels in different share prices.¹⁷⁶ Third, all investors receive the same price.¹⁷⁷ Finally, shares are allocated on an equal and impartial basis.¹⁷⁸ Since 1999, Hambrecht has completed seventeen OpenIPOs.¹⁷⁹ On average, Hambrecht has conducted approximately two OpenIPOs per year. As a reference point, from 1999 to 2005, OpenIPOs accounted for 1.07% of all IPOs conducted in the United States,¹⁸⁰ and 0.31% of the total gross proceeds raised by all domestic IPOs.¹⁸¹ Tables 3A and 3B summarize certain OpenIPO data:¹⁸²

175. WR Hambrecht + Co, OpenIPO: How It Works, <http://www.wr-hambrecht.com/ind/auctions/openipo/index.html#> (last visited Sept. 25, 2007).

176. *Id.*

177. WR Hambrecht + Co, OpenIPO: Potential Benefits, <http://www.wr-hambrecht.com/ind/auctions/openipo/benefits.html> (last visited Sept. 25, 2007).

178. *Id.*

179. The data presented here, *infra* notes 182–83, span 1999 to 2006; Hambrecht has conducted OpenIPOs in 2007, but they are omitted here to preserve a set of complete calendar years. Hambrecht also was retained for another OpenIPO by an online bookseller, Alibris, but that was aborted. See Alan J. Berkeley et al., *Some Background and Simple FAQs About Dutch Auctions and the Google IPO*, in AM. LAW INST. & AM. BAR ASS'N, SECURITIES LAW FOR NONSECURITIES LAWYERS 239, 243 (2004) (“There was apparently little response, and Alibris announced it was withdrawing the offering proposal. One has to wonder if the Alibris offering could have proceeded and succeeded if there was a traditional active marketing effort through well compensated investment bankers . . .”).

180. Ritter, *supra* note 1, at 11 tbl.9 (noting that there were a total of 1348 IPOs from 1999 to 2005).

181. *Id.* at 10; see also Loughran & Ritter, *supra* note 119, at 8 (noting that “[b]ookbuilding [was] the mechanism used to price and allocate IPOs for 99.9%” from 1999 to 2000).

182. WR Hambrecht + Co, OpenIPO: Completed Auctions, <http://www.wr-hambrecht.com/ind/auctions/completed.html> (last visited Sept. 25, 2007) (OpenIPO date, price, amount, and gross proceeds data); Patrik Louko, *Initial Public Offerings and Online IPO Auctions—Significant Advantages in Pricing?* 34 (2006), <http://www.pafis.shh.fi/graduates/patlou02.pdf#search=%22pro%20rata%20distribution%20traffic.com%22> (firm age data). Pro Rata data are courtesy of an E-mail from Matthew Regan, Director of Brokerage Services, WR Hambrecht + Co, to Peter B. Oh, Associate Professor of Law (Aug. 22, 2005) (on file with author). Three-Year Return data for Andover.net, Nogatech, and Ravenswood are for less than three years, as Andover.net, and Ravenswood were acquired by other corporations, respectively, in June 2000 and July 2001, and Nogatech merged with another corporation in October 2000. Absolute means and medians are based on overpricing and underpricing being equal reflections of inefficiency. The standard deviation for the real First-Day Return is 61.65%, and for the real Three-Year Return is 98.35%.

TABLE 3A OPENIPO DATA, 1999–2006

OPENIPO DATE	FIRM	FIRM AGE	OPENIPO PRICE	OPENIPO AMOUNT	GROSS PROCEEDS	PRO RATA
04/99	Ravenswood	23.0	\$10.50	\$11.6 M	\$10.50 M	89%
06/99	Salon.com	4.0	\$10.50	\$27.3 M	\$26.30 M	84%
12/99	Andover.net	4.0	\$18.00	\$82.8 M	\$72.00 M	97%
05/00	Nogatech	7.0	\$12.00	\$42.0 M	\$42.00 M	---
01/01	Peet's Coffee & Tea	30.0	\$8.00	\$26.4 M	\$26.40 M	72%
05/01	Briazz	6.0	\$8.00	\$16.0 M	\$16.00 M	70%
05/02	Overstock.com	5.0	\$13.00	\$39.0 M	\$39.00 M	60%
09/03	Red Envelope	6.0	\$14.00	\$30.8 M	\$30.80 M	56%
10/03	Genitope	7.0	\$9.00	\$33.3 M	\$33.30 M	89%
08/04	New River Pharm.	8.0	\$8.00	\$33.6 M	\$33.60 M	98%
03/05	Boff Holding	6.0	\$11.50	\$35.1 M	\$35.10 M	82%
05/05	Morningstar	21.0	\$18.50	\$140.8 M	\$140.80 M	65%
07/05	Cryocor	5.0	\$11.00	\$40.8 M	\$40.80 M	59%
09/05	Avalon Pharm.	6.0	\$10.50	\$28.9 M	\$28.90 M	---
11/05	Dover Saddlery	7.0	\$10.00	\$27.5 M	\$27.50 M	---
01/06	Traffic.com	8.0	\$12.00	\$78.6 M	\$78.60 M	---
01/06	FortuNet	17.0	\$9.00	\$22.5 M	\$22.50 M ¹⁸³	---
MEDIAN		7.0	\$10.50	\$33.3 M	\$33.30 M	77%
MEAN		10.0	\$11.38	\$42.2 M	\$41.42 M	77%

183. This figure does not comport with the reported \$9.00 Offering Price and 2.5 million share offering. Compare WR Hambrecht + Co, OpenIPO: Completed Auctions, <http://www.wrhambrecht.com/ind/auctions/completed.html> (last visited Sept. 25, 2007) with WR Hambrecht + Co, Open IPO: Fortunet, Inc., <http://www.wrhambrecht.com/ind/auctions/openipo/fnet/index.html> (last visited Sept. 25, 2007).

TABLE 3B OPENIPO DATA, 1999–2006

OPENIPO DATE	FIRM	1ST-DAY RETURN	ABSOLUTE 1ST-DAY	3-YEAR RETURN	ABSOLUTE 3-YEAR
04/99	Ravenswood	3.62%	3.62%	(2.37%)	2.37%
06/99	Salon.com	(5.00%)	5.00%	(99.05%)	99.05%
12/99	Andover.net	252.11%	252.11%	4.00%	4.00%
05/00	Nogatech	(21.58%)	21.58%	(3.33%)	3.33%
01/01	Peet's Coffee & Tea	17.25%	17.25%	113.00%	113.00%
05/01	Briazz	0.38%	0.38%	(98.25%)	98.25%
05/02	Overstock.com	0.23%	0.23%	199.62%	199.62%
09/03	Red Envelope	3.93%	3.93%	(39.64%)	39.64%
10/03	Genitope	11.11%	11.11%	(61.00%)	61.00%
08/04	New River Pharm.	(6.25%)	6.25%	--	---
03/05	Bofi Holding	0.00%	0.00%	---	---
05/05	Morningstar	8.38%	8.38%	---	---
07/05	Cryocor	(1.18%)	1.18%	---	---
09/05	Avalon Pharm.	(9.62%)	9.62%	---	---
11/05	Dover Saddlery	2.50%	2.50%	---	---
01/06	Traffic.com	1.25%	1.25%	---	---
01/06	FortuNet	0.56%	0.56%	---	---
MEDIAN		0.56%	3.93%	(3.33%)	61.00%
MEAN		15.16%	20.29%	1.44%	68.92%

As a preliminary matter, there are significant caveats to the data. The paucity of OpenIPOs obviously accords each firm unduly significant weight. For instance, some might exclude Andover.net's first-day return as an outlier;¹⁸⁴ such exclusion, however, lacks a principled basis.¹⁸⁵ The better approach, instead, is to regard the

184. Excluding Andover.net results in an aggregate first-day return median of 0.47% and mean of 1.32%. *But see infra* note 185 and accompanying text.

185. *See, e.g.,* Bruno Biais & Anne Marie Faugeron-Crouzet, *IPO Auctions: English, Dutch, . . . French, and Internet*, 11 J. FIN. INTERMEDIATION 9, 13 (2002) (noting that Andover.net's "Open IPO actually set the IPO price at a significant discount relative to the market clearing price, more in line with the rules governing the bookbuilding or the *Mise en Vente* than with those of the Dutch auction"); *see also* Berkeley et al., *supra* note 179, at 242 (reporting that Andover.net lowered its clearing price "to reduce the possibility of after market disappointment following offering exuberance and in an effort to build a loyal shareholder base"). Like Google, Andover.net appears to have engaged in deliberate underpricing, the very practice for which bookbuilding has been criticized. One reason may be that the first two OpenIPOs conducted by Hambrecht experienced relatively low first-day returns, and thus failed to

OpenIPO data as just a small statistical sample with a limited capacity to support causal inferences—either for or against Dutch IPOs. Moreover, the data includes OpenIPOs within the anomalous Internet bubble, when investors and venture capitalists were particularly exuberant.¹⁸⁶ While bubble OpenIPOs did outperform all IPOs in first-day returns,¹⁸⁷ both groups experienced extremely severe underpricing that says more about the period than any particular method.¹⁸⁸

In any event, the performance of OpenIPOs is mixed. Bill Hambrecht has said that “an auction with a first-day pop of 10% or more is a failure.”¹⁸⁹ By Hambrecht’s measure, then, the average OpenIPO has failed. The mean underpricing for all OpenIPOs is 15.16%, or 20.29% in absolute terms,¹⁹⁰ and 23.53% of the time there has been a first-day pop greater than 10%.¹⁹¹ Moreover, 66.67% of all OpenIPOs have experienced negative three-year returns, with a mean of 1.44%, or 68.92% in absolute terms.

Even more revealing are the returns once bubble IPOs are excluded. The five nonbubble OpenIPOs experienced a mean first-

generate market enthusiasm by satisfying the established norm of a first-day pop. *See supra* Tables 3A and 3B and accompanying notes 182–83 (OpenIPO Data, 1999–2006). Regardless, Andover.net demonstrates that underpricing is not an inherent function of the IPO method, and thus, the Hambrecht data set should be considered as a whole.

186. *See supra* notes 134–39 and accompanying text.

187. The four bubble OpenIPOs had a mean first-day return of 57.3%, or 70.6% in absolute terms, versus 63.3% for all bubble IPOs. *See supra* Tables 3A and 3B and accompanying notes 182–83 (OpenIPO Data, 1999–2006); *see also* Laura S. Unger, *Raising Capital on the Internet*, 69 U. CIN. L. REV. 1205, 1207–08 (2001) (observing, as an SEC Commissioner during the height of the Internet bubble, that the doubling of Peet’s Coffee & Tea’s stock during the first week of trading, while “belying the notion that an auction ensures that the issuing company raises the maximum amount of money that the market will bear,” also “perhaps prov[es] that secondary market trading in IPOs is still vigorous”).

188. That same caution applies to the post-bubble OpenIPOs, whose 2.2%, or 4.8% absolute, mean first-day return outperformed the 11.3% mean of all post-bubble IPOs, but are more meaningful as reflections of the period’s generally scarce venture capital and downturn in IPOs. *See supra* notes 132–33 and accompanying text.

189. Hurt, *What Google Can’t Tell Us*, *supra* note 27, at 428. Arguably, the benchmark should be Hambrecht’s commission rate. *Cf.* Loughran & Ritter, *supra* note 119, at 8 (“[G]iven the use of bookbuilding, the joint hypothesis that issuers desire to maximize their proceeds and that underwriters act in the best interests of issuers can be rejected whenever average underpricing exceeds [the standard commission rate of] seven percent.”).

190. *See supra* Tables 3A and 3B and accompanying note 182 (OpenIPO Data, 1999–2006).

191. *See supra* Tables 3A and 3B (OpenIPO Data, 1999–2006). Over the same time frame, all IPOs had a first-day return of 43.9%. *Id.*

day return of 2.2%, only slightly outperforming the 7.7% mean for all IPOs during that period.¹⁹² Further, the nonbubble OpenIPOs experienced a mean three-year return of 22.8%, which was greater than the 20.4% for all IPOs during that period; and 60% of the OpenIPOs experienced negative three-year returns, with an absolute mean of 102.3%.¹⁹³

Rearranging the OpenIPO data generates some valuable insights. The average OpenIPO involved a firm that is 10.0 years old with a relatively modest \$11.38 offering price and \$52.2 million offering amount.¹⁹⁴ Table 4A summarizes OpenIPO returns based on whether the firms were above or below the mean age:

TABLE 4A
MEAN OPENIPO RETURNS BY FIRM AGE

GROUP	FIRST-DAY (%)		THREE-YEAR (%)	
	<i>Real</i>	<i>Absolute</i>	<i>Real</i>	<i>Absolute</i>
Above Mean	7.5	7.5	55.3	57.7
Below Mean	17.5	24.0	(14.0)	72.1
All OpenIPOs	15.2	20.3	1.4	68.9

Younger firms thus experienced a higher average first-day return than their older peers or all firms. Conversely, younger firms experienced a lower average three-year return than their older peers and all firms. This is hardly surprising in that younger firms may be less known commodities that bidding investors fail to value accurately, and that are more susceptible to first-day investor exuberance.

192. See *supra* Tables 3A and 3B and accompanying notes 182–83 (OpenIPO Data, 1999–2006).

193. Ritter, *supra* note 1, at 9. The comparison of three-year returns includes OpenIPO firms that were either acquired or merged beforehand and obviously does not include any post-2003 IPOs. See *supra* Tables 3A and 3B and accompanying note 182 (OpenIPO Data, 1999–2006).

194. See *supra* Tables 3A and 3B (OpenIPO Data, 1999–2006). Once Morningstar, the only OpenIPO raising more than \$100 million (and almost \$100 million more than the mean), is excluded, the profile becomes a quite humble 9.3 year-old firm with an offering price of \$10.94 and offering amount of \$36.0 million. As a reference point, from 1983–2002, the average IPO involved a firm that was 18.6 years old, Jason Fink et al., Firm Age and Fluctuations in Idiosyncratic Risk 31 tbl.2 (May 2004) (unpublished manuscript, online at <http://ssrn.com/abstract=891173>), and shares since the Great Depression tend to be nominally priced at \$35.00. See, e.g., Shlomo Benartzi et al., The Nominal Price Puzzle 2 (March 2006) (unpublished manuscript, online at <http://ssrn.com/abstract=891213>).

Far more illuminating is the extent to which the returns correlate with the size and robustness of an OpenIPO. Tables 4B, 4C, and 4D summarize OpenIPO returns based on, respectively, Offering Price, Offering Amount, and Gross Proceeds:

TABLE 4B
MEAN OPENIPO RETURNS BY OFFERING PRICE

GROUP	FIRST-DAY (%)		THREE-YEAR (%)	
	<i>Real</i>	<i>Absolute</i>	<i>Real</i>	<i>Absolute</i>
Above Mean	34.9	41.0	40.1	61.7
Below Mean	1.3	5.8	(29.5)	74.7
All OpenIPOs	15.2	20.3	1.4	68.9

TABLE 4C
MEAN OPENIPO RETURNS BY OFFERING AMOUNT

GROUP	FIRST-DAY (%)		THREE-YEAR (%)	
	<i>Real</i>	<i>Absolute</i>	<i>Real</i>	<i>Absolute</i>
Above Mean	87.4	87.4	4.0	4.0
Below Mean	(0.3)	5.9	1.1	77.0
All OpenIPOs	15.2	20.3	1.4	68.9

TABLE 4D
MEAN OPENIPO RETURNS BY GROSS PROCEEDS

GROUP	FIRST-DAY (%)		THREE-YEAR (%)	
	<i>Real</i>	<i>Absolute</i>	<i>Real</i>	<i>Absolute</i>
Above Mean	60.0	70.8	0.3	3.7
Below Mean	1.4	4.7	1.8	87.6
All OpenIPOs	15.2	20.3	1.4	68.9

Firms featuring an Offering Price and Amount, as well as Gross Proceeds, above the mean all experience first-day returns greater than those below the mean and the entire group. Moreover, underpricing correlates with all of these variables to a greater extent than with firm age.

These Tables collectively suggest the presence and effect of unsophisticated bidding. As a preliminary matter, firms above the mean in all of the Tables experienced increases in average first-day and three-year returns. Of all the variables, Offering Amount featured the highest first-day returns for firms above that mean, as well as the lowest first-day returns for firms below that mean. This

is notable because Offering Amount and Firm Age are the only two variables that prospective OpenIPO investors know in advance of submitting their bids. To the extent such information might function as a simple proxy for firm quality,¹⁹⁵ the accuracy of OpenIPO investors' judgments should be manifest in a lower degree of returns.¹⁹⁶ Instead, the positive correlation between the Offering Amount and the first-day returns comports with studies that have found larger auctions tend to introduce more risk-seeking or uninformed participants.¹⁹⁷

This is corroborated by the Offering Price return data. Prior to submitting bids, OpenIPO investors do not know what the Offering Price will be.¹⁹⁸ Nevertheless, the Offering Price does represent a funnel of investors' judgments about the firm, fellow investors' judgments, and general market conditions. Presumably, investors with access to superior information or tools enjoy a superior position to gauge the ultimate Offering Price.¹⁹⁹ The sizable positive first-day returns, however, suggests that the Offering Price has been difficult to gauge or that the judgments of less sophisticated investors have had a greater net impact.

195. See, e.g., Anand, *supra* note 106, at 243 ("Retail shareholders . . . have a greater impact on price in a Dutch auction than they would have in a traditional underwritten offering. Because of their lack of sophistication, these investors can make the market less efficient . . ."). A more common proxy is underwriter quality, but that does not apply here, as there is no reputational assurance from a firm commitment or best efforts arrangement.

196. This is less so with bookbuilding because a degree of underpricing is acceptable, if not preferred, and thus the first-day returns reflect the underwriters' pricing judgment.

197. See, e.g., Rock, *supra* note 52, at 189 (predicting that "the greater the uncertainty about the true price of the new shares, the greater the advantage of the informed investors and the deeper the discount the firm must offer to entice uninformed investors into the market"). See also generally Ann E. Sherman, Global Trends in IPO Methods: Book Building vs. Auctions with Endogenous Entry 35 (Dec. 2004) (unpublished manuscript, online at <http://ssrn.com/abstract=276124>) (finding auctions with larger pools of bidders are susceptible to more inaccurate pricing). This is merely one possible explanation, as the correlation between Offering Size and Returns is tenuous given the paucity of OpenIPOs.

198. This is only complicated by the fact that the offering price is not necessarily equal to the clearing price, or the lowest price that will sustain the entire allotment of shares. Hambrecht reserves the right to fix an offering price that is different than the clearing price. See *supra* note 173 and accompanying text. Moreover, given the relative novelty of this procedure within the U.S., unsophisticated investors are highly unlikely to be able to project what the ultimate offering price will be.

199. Demographic data for OpenIPO investors are not available, but would facilitate a sense of the proportion of individual versus institutional investors to permit a better portrait of the bidding pool's relative sophistication.

In sum, domestic auction-based IPOs have hardly distinguished themselves from their bookbuilt counterparts. The levels of underpricing in both IPO methods seem to be relatively comparable.²⁰⁰ The problem is that auction-based IPOs, according to their proponents, should not be producing the same level of underpricing as bookbuilding. Despite a paucity in data, OpenIPOs seem to suffer from inaccurate pricing due to an influx of unsophisticated bids; in essence, using an auction seems to introduce different problems that produce results quite comparable to and better justified by bookbuilding.

B. International Auction-Based IPOs

The results of domestic auction-based IPOs are in line with what the world has known for some time. Well before 1999, when Hambrecht unveiled its OpenIPO platform, a substantial number of countries already had experimented with auction-based IPOs and abandoned them in favor of some form of bookbuilding.²⁰¹ Moreover, when given a choice between an auction-based IPO or bookbuilding, foreign issuers overwhelmingly have preferred the latter.²⁰² As a prominent finance scholar has observed, “[a]round the world, auctions have fallen out of favor” as a way to go public.²⁰³

200. Auction-based IPOs, however, do seem more prone to lose their value dramatically over a three-year span. *See supra* Tables 3A and 3B and accompanying notes 182–83 (OpenIPO Data, 1999–2006). This merely contributes to the suspicion that auction-based IPOs tend to appeal more to nascent firms seeking a way to generate additional publicity for their equity-raising effort. *Cf.* Berkeley et al., *supra* note 179, at 242 (“Of course, companies that select the Dutch auction approach are likely to self-select and be predisposed to the approach for collateral social reasons, be attracted by the novelty, and be willing to extend it extra tolerance.”).

201. *See* Jagannathan & Sherman, *supra* note 142, at 45–46 tbl.1; Ann E. Sherman & Ravi Jagannathan, Supplement to “Why Do IPO Auctions Fail?” (Mar. 14, 2006) (unpublished manuscript, online at <http://ssrn.com/abstract=892026>) [hereinafter Sherman & Jagannathan, *Appendix D*].

202. *See* Jagannathan & Sherman, *supra* note 142, at 45–46 tbl.1.

203. Ruth Simon & Elizabeth Weinstein, *Investors Eagerly Anticipate Google’s IPO: Dutch Auction-Type Process May Give Smaller Bidders a More Level Playing Field*, WALL ST. J., Apr. 30, 2004, at C1, C4 (quoting Alexander Ljungqvist, Associate Professor of Finance, New York University Leonard N. Stern School of Business); *see also* Ann E. Sherman, *IPOs and Long-Term Relationships: An Advantage of Book Building*, 13 REV. FIN. STUD. 697 (2000) (noting that “[t]here is an international trend toward increased use of the U.S. book-building (firm commitment) method for initial public offerings” and “that auctions have not been more popular [globally]”). This is especially notable in that underpricing appears to be an even more pervasive problem within international equity markets. *See, e.g.*, Galbraith et al., *supra* note 71, at 31–32 (“Within world markets the underpricing averages tend to be somewhat

A survey of fifty countries identifies twenty-four that have experimented with an auction-based IPO method.²⁰⁴ Currently, five countries no longer permit the method, and thirteen countries effectively have abandoned it.²⁰⁵ Instead, bookbuilding is now either growing in acceptance or already the dominant method for issuers in fourteen countries;²⁰⁶ auction-based IPOs are the dominant method in only one country, Israel, which prohibited the use of bookbuilding until just this year.²⁰⁷

Indeed, Israel is the only reported country that has been an exclusive auction-based IPO regime.²⁰⁸ Like the OpenIPO, Israeli auctions are open to all types of prospective investors who know the total number of shares and minimum acceptable price via a prospectus.²⁰⁹ Without any commission, these investors submit their bids, and, unlike the OpenIPO, the clearing price is the final offering

higher—a result that is often explained by differences in the perceived risk between domestic and international equity markets.”); *see also* Thomas J. Boulton et al., *Governance and International IPO Underpricing 4* (May 19, 2007) (unpublished manuscript, online at <http://ssrn.com/abstract=928526>) (finding mean first-day return of 28% for 4,485 IPOs in 35 countries from 2000–2004 while examining corporate governance variables).

204. Jagannathan & Sherman, *supra* note 142, at 45–46 tbl.1. Included within this figure are Germany and Spain, each of which reportedly has experienced only two auction-based IPOs, as well as Finland and Kenya, each of which allows fixed-price auctions. *Id.* Jagannathan and Sherman also include within their survey pure fixed-price offerings as well as fixed-price and bookbuilding hybrids. *Id.* While these are prominent IPO methods, they are omitted here as they can be used with auctions or bookbuilding, and so do not directly bear on which method of price discovery is superior. In any event, bookbuilding appears to generate higher expected proceeds than fixed-price offerings. *See generally* Lawrence M. Benveniste & William J. Wilhelm, *A Comparative Analysis of IPO Proceeds Under Alternative Regulatory Environments*, 28 J. FIN. ECON. 173 (1990). *But see* Lawrence M. Benveniste & Walid Y. Busaba, *Bookbuilding vs. Fixed Price: An Analysis of Competing Strategies for Marketing IPOs*, 32 J. FIN. & QUANTITATIVE ANALYSIS 383, 383 (1997) (“[B]ookbuilding generates higher expected profits but exposes the issuer to greater uncertainty . . .”).

205. *See* Jagannathan & Sherman, *supra* note 142, at 45–46 tbl.1 (identifying Argentina, Australia, Germany, Italy, and Sweden as no longer permitting auction-based IPOs, and Brazil, Peru, Poland, South Korea, and the United States as continuing to permit some form of auction-based IPOs). In all of these countries that permit auction-based IPOs, Jagannathan and Sherman find bookbuilding to be either growing or dominant. *Id.*

206. *Id.* The only truly competing alternative is some variant of a fixed-price offering. *See supra* note 204.

207. *Id.* at 45–46 tbl.1.

208. *Id.*

209. *See* Shmuel Kandel et al., *The Demand for Stocks: An Analysis of IPO Auctions*, 12 REV. FIN. STUD. 227, 230 (1999).

price.²¹⁰ In these respects, then, Israel provides an opportunity to examine the efficiency of a quite pure auction-based IPO.

There are three prominent studies of Israeli auction-based IPOs. Table 5 summarizes these studies' findings:

TABLE 5
ISRAELI AUCTION-BASED IPO RETURNS

STUDY	SCOPE	SAMPLE	MEAN	MEDIAN
Amihud et al. ²¹¹	1989–1993	284	12.0%	6.6%
Hauser et al. ²¹²	1992–1996	53	(5.3%)	—
Kandel et al. ²¹³	1993–1996	27	4.1%	—

Beyond featuring the most comprehensive sample, the study by Amihud et al. also eschews two significant events. For a number of years, Israeli issuers could announce just a minimum price or an acceptable price range, with the offering price in either case being determined by an auction;²¹⁴ in December 1993, however, the option of announcing a price was eliminated.²¹⁵ At the end of February 1994, the Tel Aviv Stock Exchange crashed, which had a precipitous effect on IPOs.²¹⁶

Nevertheless, the studies bear collective results that roughly comport with the OpenIPO data. First, a significant portion of Israeli issuers experienced negative first-day returns, ranging from 33.3% to 44.4%,²¹⁷ which evince overpricing and equity loss. Second,

210. *Id.*

211. Yakov Amihud et al., *Allocations, Adverse Selection, and Cascades in IPOs: Evidence from the Tel Aviv Stock Exchange*, 68 J. FIN. ECON. 137, 145 tbl.2 (2003) (reporting a *t*-value of 7.2%). Thirty-nine of the IPOs were fixed-price auctions, in which the issuer pre-announced a minimum and maximum price. See *supra* note 204 and accompanying text.

212. Shmuel Hauser et al., *Initial Public Offering Discount and Competition*, 49 J.L. & ECON. 331, 338 tbl.2 (2006) (reporting *t*-value of 4.3%).

213. Kandel, *supra* note 209, at 238 tbl.3 (reporting a standard deviation of 11.3%).

214. Hauser et al., *supra* note 212, at 332.

215. Amihud et al., *supra* note 211, at 141; see also Hauser et al., *supra* note 212, at 332–33 (explaining the change was in “reaction to frequent herding of bids at the binding maximum price and consequent severe rationing and uncertain share allocations”).

216. See Kandel et al., *supra* note 209, at 231 n.4 (“Following the crash there was a dramatic decline in IPO activity and almost all the issues offered after the crash were sold at the minimum price set in the offers’ prospectuses.”).

217. Compare Amihud et al., *supra* note 211, at 143, and Kandel et al.,

larger IPOs appeared to enjoy greater demand but also result in greater underpricing, which is consistent with an influx of more uncertainty via a more diverse bidding pool.²¹⁸ Finally, a number of the studies tested for the effects of cascading, in which prospective investors imitate each other and thus generate artificial increases in demand;²¹⁹ these tests tend to demonstrate that Israeli bidders who are better informed about the potential rates of subscription, and thus allocation, tend to make superior decisions about when and how to invest in an auction-based IPO.²²⁰

Far more illuminating than an exclusive regime,²²¹ however, are countries that have provided issuers with a choice of diverse methods. For instance, since 1989, Japanese issuers were restricted to only an auction-based method; but once bookbuilding became available in 1997, that method quickly became the preferred choice.²²²

supra note 209, at 245 app. B, with *supra* Tables 3A and 3B and accompanying notes 182–83 (OpenIPO Data, 1999–2006); *see also* Amihud et al., *supra* note 211, at 143 (finding that Israeli IPO returns changed minimally over the initial five months and suggesting “that the market prices the issued units efficiently immediately after the IPO and that the initial return is not a result of fad or overreaction”). Smaller successful bids also experienced negative first-day returns. *See, e.g.*, Hauser et al., *supra* note 212, at 341–42 tbls.4–5. Amihud et al. use the allocation rate as a proxy for uninformed investors on the basis that shares are awarded mechanically to all parties. *See, e.g.*, Amihud et al., *supra* note 211, at 138 (“IPOs were slightly *overpriced* for uninformed investors, or that the demand of these investors for IPOs was on average too high.”). While larger investors are likely to be well-informed, the converse does not necessarily obtain.

218. *See, e.g.*, Amihud et al., *supra* note 211, at 149. Amihud et al. interpret this as evidence of possibly deliberate underpricing, on the assumption “that new issues are underpriced by more than is necessary to offset the negative effects of large size and uncertainty,” but a larger bidding pool may actually result in upward pricing effects. *Id.*

219. Ivo Welch, *Sequential Sales, Learning, and Cascades*, 47 J. FIN. 695, 696 (1992).

220. *See, e.g.*, Amihud et al., *supra* note 211, at 155 (finding relatively late investors could improve their performance by discerning other investors’ strategies); Hauser et al., *supra* note 212, at 342 (finding investors can benefit by avoiding weaker issues and being more selective with price).

221. Nine countries have abandoned auction-based IPOs entirely in favor of bookbuilding. *See* Jagannathan & Sherman, *supra* note 142, at 4 (identifying Argentina, Italy, Malaysia, Portugal, Singapore, Sweden, Switzerland, Turkey, and the United Kingdom). The decision to switch methods, however, may be motivated by any number of reasons, some of which may be independent of economic merit.

222. *Id.* at 5. *See generally* Richard H. Pettway & Takashi Kaneko, *The Effects of Removing Price Limits and Introducing Auctions upon Short-Term IPO Returns: The Case of Japanese IPOs*, 4 PAC.-BASIN FIN. J. 241 (1996).

Besides Israel, only France and Taiwan still offer a choice between bookbuilding and an auction-based method.²²³ Of these countries, France is the most mature auction-based regime, having permitted the method since the 1960s.²²⁴ French issuers have a choice between bookbuilding, known as the *Placement Garanti*, and a variant of the dirty Dutch IPO, known as the *Mise en Vente*.²²⁵ In this type of auction, the issuer meets with investment banks to set the final offering amount approximately a week before the IPO.²²⁶

223. This Article does not examine Taiwanese IPOs, as they are peculiar in a number of significant respects. First, Taiwanese issuers typically do not conduct initial public offerings due to regulatory scrutiny; instead, “it is common practice, when new funds are needed, for the company to issue more shares to existing stockholders who then sell those shares in the IPO itself.” Yao-Min Chiang et al., *Underpricing, Partial Adjustment and the Effects of Entry on Taiwan’s IPO Auctions* 17–18 n.22 (Oct. 22, 2006) (unpublished manuscript, online at <http://www.nd.edu/~finance/020601/news/Ann%20Sherman%20Paper%20%20-%202006.pdf>). Second, Taiwanese auction-based IPOs are conducted in two stages, consisting of a competitive discriminatory auction for 50% of the issue to certain preferred bidders, followed by an offering of the remaining shares to the general public at a price capped at 1.5 times the reserve price; bidders at both stages also face caps in the number of possible allocable shares. See, e.g., An-Sing Chen et al., *Price Support in Taiwan IPO Stock Auctions* 7–9 (Jan. 2005) (unpublished manuscript, online at <http://www.fma.org/Chicago/Papers/PriceSupport13.pdf>); Ji-Chai Lin et al., *Why Have Auctions Been Losing Market Shares to Bookbuilding in IPO Markets?* 8–9 (June 1, 2003) (unpublished manuscript, online at <http://ssrn.com/abstract=410183>). In any event, according to one study, “Taiwanese auctions are not necessarily better at incorporating more recent market information into the IPO price.” Yenshan Hsu & Chung-Wen Hung, *Why Have IPO Auctions Lost Market Share to Fixed-Price Offers? Evidence from Taiwan* 4, 34 tbl.2 (Aug. 2005) (unpublished manuscript, online at http://www.fma.org/Chicago/Papers/IPO_methods.pdf) (finding mean first-day return of 21.1% for eighty-four Taiwanese IPOs from 1995 to 2000).

224. See, e.g., John G. McDonald & Bertrand C. Jacquillat, *Pricing of Initial Equity Issues: The French Sealed-Bid Auction*, 47 J. BUS. 37, 37 (1974) (“In France all initial issues of common stock since 1964 have been priced and allocated in a sealed-bid auction procedure . . .”).

225. Biais & Faugeron-Crouzet, *supra* note 185, at 10. As with Israel, France offers a choice of three IPO types: *Placement Garanti*, or orthodox bookbuilding; *Offre à prix ferme*, or fixed-price auction; and *Mise en Vente* or *Offre à prix minimal*, or French auction. See, e.g., Bruno Husson & Bertrand Jacquillat, *French New Issues, Underpricing and Alternative Methods of Distribution*, in A REAPPRAISAL OF THE EFFICIENCY OF FINANCIAL MARKETS 349, 351 (Rui M. C. Guimarães et al. eds., 1989). This Article only focuses on the choice between the *Placement Garanti* and *Mise en Vente*. See *supra* note 204.

226. See, e.g., Bruno Biais et al., *An Optimal IPO Mechanism*, 69 REV. ECON. STUD. 117, 118 (2002) (“[T]he firm sets a reservation price and investors submit bids.”).

Unlike the OpenIPO, however, Euronext Paris²²⁷ processes French investors' bids and converts them into a demand curve.²²⁸ Euronext Paris then determines the final offering price with the express objective of producing the "highest executable order volume."²²⁹ On the day of the IPO, while the issuer's investment bank stands prepared to purchase or sell the securities for price stabilization,²³⁰ Euronext Paris executes the final orders and allocates the shares. Oversubscribed offerings can result in a postponement of the IPO or allocation on a pro rata basis.²³¹

There are four prominent studies of the *Mise en Vente*.²³² Table

227. Euronext Paris is a branch of Euronext, which was formed in September 2000 from a merger of the Amsterdam, Brussels, and Paris stock exchanges, and subsequently acquired interests in the London International Financial Futures and Options Exchange as well as the Lisbon stock exchange; in 2003, French financial regulatory authorities were consolidated into one entity, the *Autorité des Marchés Financiers* ("AMF"), which monitors the disclosure of material information for all French IPOs. See generally AUTORITÉ DES MARCHÉS FINANCIERS, INTRODUCTION TO THE AMF AND OVERVIEW OF OPERATIONS IN 2004 (2004), http://www.amf-france.org/documents/general/6393_1.pdf. Prior to the formation of Euronext Paris, the *Société des Bourses Françaises*, or France's equivalent to the SEC, processed investors' bids and converted them into a demand curve. See, e.g., Husson & Jacquillat, *supra* note 225, at 351. Although Euronext's markets are integrated, they remain legally separate and subject to their respective country's laws. EURONEXT, EURONEXT RULE BOOK, in 1 STOCK EXCHANGES OF THE WORLD: SELECTED RULES & REGULATIONS 39, 39 (Robert C. Rosen ed., 2002).

228. Unlike their American counterparts, prospective French investors first submit nonbinding bids to Euronext Paris, which then generates an offering price based on the current bidding pool. EURONEXT, *supra* note 227, at 69 ("Each auction shall begin with a call phase in which orders are automatically recorded without giving rise to Transactions. During such call phase, Members may enter new orders as well as modify or cancel existing orders.").

229. *Id.* at 70 ("The auction price shall be . . . the price which produces the highest executable order volume.").

230. See François Derrien & Kent L. Womack, *Auctions vs. Bookbuilding and the Control of Underpricing in Hot IPO Markets*, 16 REV. FIN. STUD. 31, 35 (2003); Bertrand C. Jacquillat et al., *French Auctions of Common Stock: New Issues, 1966–1974*, 2 J. BANKING & FIN. 305, 307 (1978).

231. Husson & Jacquillat, *supra* note 225, at 351 (finding twenty out of ninety-nine *Mise en Ventes* from 1992 to 1988 were postponed due to excessive demand).

232. Other French IPO studies exist, but either are too dated or feature too small of a sample to include here. See, e.g., Jacquillat et al., *supra* note 230 (finding a 2.7% mean first-day return for sixty *Mise en Ventes* from 1966–1974); John G. McDonald & Bertrand C. Jacquillat, *Pricing of Initial Equity Issues: The French Sealed-Bid Auction*, 47 J. BUS. 37, 44 (1974) (finding a 3.0% mean first-day return for thirty-one *Mise en Ventes* from 1968–1971); Patrick Topsacalian, *Second Marché: Sous Évaluation des Titres à L'introduction*, 4 ANALYSE FINANCIÈRE 52 (1984) (finding a 29.7% mean first-day return for eight

6A summarizes these studies' findings:

TABLE 6A
FRENCH AUCTION-BASED IPO RETURNS²³³

STUDY	SCOPE	SAMPLE	MEAN FIRST-DAY RETURN
Derrien & Womack ²³⁴	1992–1998	99	9.7%
Belletante & Paliard ²³⁵	1984–1991	165	20.7%
Biais & Faugeron-Crouzet ²³⁶	1983–1996	92	13.0%
Husson & Jacquillat ²³⁷	1983–1986	47	35.9%

These returns may be best described by Biais and Faugeron-Crouzet, who conclude that the *Mise en Vente* experiences underpricing “very similar to those [underpricing levels] observed in the United States in the context of the Book Building procedure.”²³⁸ Indeed, for three of the four studies, the mean underpricing for U.S. bookbuilt IPOs outperformed the *Mise en Vente*.²³⁹

Mise en Ventes from 1983).

233. The Biais & Faugeron-Crouzet and Husson & Jacquillat studies concern only the *Second Marché*, an intermediary securities tier with less stringent listing requirements than the *Cote Officielle*. Biais & Faugeron-Crouzet, *supra* note 185, at 23; Husson & Jacquillat, *supra* note 225, at 354. The sample data refer to the number of *Mise en Ventes* examined, except for the Belletante & Paliard study, which is not available in English.

234. Derrien & Womack, *supra* note 230, at 36 tbl.1 (reporting a standard deviation of 12.3% and median of 6.3%). Over the same period, the *Placement Garanti* had a mean first-day return of 16.89%, with a standard deviation of 24.5%. *Id.* French underwriters, however, conduct road shows and meetings with investors over a markedly more compressed timeframe than their U.S. counterparts do. *Id.* at 37 fig.3. Moreover, French firms “tend to choose their regular bank as their lead underwriter,” in contrast to the competitive beauty pageant that is a hallmark, and arguably a strength, of American underwriters. *Id.* at 58.

235. Benoît F. Leleux, *Post-IPO Performance: A French Appraisal*, 14 FIN. 79, 85 (1993) (citing Bernard Belletante & Remy Paliard, *Does Knowing Who Sells Matter in IPO Pricing? The French Second Market Experience*, 14 CAHIERS LYONNAIS DE RECHERCHE EN GESTION 42 (1993)).

236. Biais & Faugeron-Crouzet, *supra* note 185, at 24 (reporting a standard deviation of 16.5%).

237. Husson & Jacquillat, *supra* note 225, at 355, 360 (reporting a standard deviation of 3.4% for nonadjusted return).

238. Biais & Faugeron-Crouzet, *supra* note 185, at 24.

239. For the period examined by Derrien & Womack, the U.S. mean was 14.8%; for the period examined by Belletante & Paliard, the U.S. mean was 6.7%; for the period examined by Biais and Faugeron-Crouzet, the U.S. mean was 10.9%; and for the period examined by Husson and Jacquillat, the U.S.

Cross-country comparisons, however, are unnecessary. A simple comparison of mean first-day returns between the *Mise en Vente* and *Placement Garanti* would suffice:

TABLE 6B
FRENCH AUCTION V. BOOKBUILDING RETURNS²⁴⁰

STUDY	SCOPE	MISE EN VENTE (%)	PLACEMENT GARANTI (%)
Derrien & Womack ²⁴¹	1992–1998	9.7%	16.9%
Belletante & Paliard ²⁴²	1984–1991	16.4%	4.3%
Husson & Jacquillat ²⁴³	1983–1986	35.9%	10.5%

As a preliminary matter, none of the studies evinces that the *Mise en Vente* effectively eliminates underpricing, which should be the proper standard. Further, two of the studies reveal that, on average, the *Mise en Vente* not only fails Bill Hambrecht's standard of ten percent returns, but also dramatically exceeds that of the *Placement Garanti*. These experiences are consistent with French issuers' choice of method, as summarized in Table 6C, which covers the same time span as the studies:

mean was 6.5%. See Ritter, *supra* note 1, at 10 tbl.7.

240. Biais and Faugeron-Crouzet do not provide underpricing data for the *Placement Garanti*.

241. Derrien & Womack, *supra* note 230, at 36 tbl.1 (reporting a standard deviation of 24.5% for *Placement Garanti*).

242. Leleux, *supra* note 235, at 85. These are the market-adjusted returns for both the *Mise en Vente* and *Placement Garanti*, as the nonadjusted returns are not available.

243. Husson & Jacquillat, *supra* note 225, at 355.

TABLE 6C
FRENCH CHOICE OF IPO METHOD²⁴⁴

YEAR	OFFRE À PRIX FERME (%)	MISE EN VENTE (%)	PLACEMENT GARANTI (%)
1983–1984	9 (32.1)	8 (28.6)	11 (39.3)
1985–1986	15 (26.3)	39 (68.4)	3 (5.3)
1987–1988	37 (52.1)	13 (18.3)	21 (34.4)
1989–1990	20 (60.6)	6 (18.2)	7 (21.2)
1991–1992	4 (44.4)	4 (44.4)	1 (11.1)
1993–1994	12 (33.3)	12 (33.3)	12 (33.3)
1995–1996	6 (10.5)	31 (54.4)	20 (35.1)
1997–1998	4 (3.0)	47 (35.3)	82 (61.7)
TOTAL	107 (24.9)	162 (38.8)	160 (37.3)

Over this sixteen-year period, the *Mise en Vente* (38.8%) has been the most popular method, but only by a slight margin over the *Placement Garanti* (37.3%), which has enjoyed increasing popularity over the past decade.²⁴⁵ Both methods enjoy prominence at the expense of the fixed-price method. To be sure, the choice of method requires the consideration of a wide variety of variables involving the specific firm's attributes and the general financial climate. But French issuers clearly are gravitating toward a bookbuilt IPO, which is no less, if not more, efficient than the *Mise en Vente*.

In sum, the empirical data hardly establish the superiority of auction-based IPOs over traditional bookbuilding. On the contrary, underpricing correlates directly with the offering size of OpenIPOs, which tend to lose their value significantly over the long run. These trends comport with a portrait of younger, smaller companies seeking publicity from this relatively novel IPO method. With the benefit of more extended and sizable auction-based experience, foreign countries and issuers clearly appreciate the merits of bookbuilding. Comprehensive domestic data eventually may become available to test these tentative conclusions. At the very least, however, the data presented here do not advance the claims of Dutch IPO proponents and arguably justify some serious doubt.²⁴⁶

244. Leleux, *supra* note 235, at 84 (1983–1991 data); *see also* François Degeorge & François Derrien, IPO Performance and Earnings Expectations: Some French Evidence 30 *tbl.2* (Apr. 25, 2001) (unpublished manuscript, online at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=269555) (1992–1998 data).

245. *See supra* notes 227–28 and accompanying text.

246. A more fundamental question, beyond the scope of this Article, is

III. SOPHISTICATED AUCTION BEHAVIOR

The previous Parts evaluated arguments against bookbuilding and for auction-based IPOs. Both methods are best understood as devices for issuers to resolve asymmetrical information problems.²⁴⁷ Auctions collect bidders' valuations while sidestepping collective bargaining problems by presuming the seller has all of the negotiating power.²⁴⁸ This power comes in the form of the seller's unilateral ability to select an auction type and a set of policies in advance.

Auctions, however, are uniquely susceptible to strategic behavior. Simply by reducing their demand, bidders can manipulate the price of shares and then turn a profit in the aftermarket. Further, by exchanging information and analyzing past IPOs, bidders can collude with each other. Unfortunately, in neither instance can such manipulation or collusion be easily detected. This Part delineates some fundamental principles of auctions before demonstrating how they can be undermined through sophisticated behavior.

A. *Manipulative Bidding*

Constructing an optimal Dutch IPO model is a matter of elementary auction theory. Although there is a diverse array of auction types, they are all governed by the Revenue Equivalence Theorem ("RET"), which provides:

Assume each of a given number of risk-neutral potential buyers has a privately-known valuation independently drawn from a strict-increasing atomless distribution

Then any mechanism in which (i) the prizes always goes to the k buyers with the highest valuations and (ii) any bidder with the lowest feasible valuation expects zero surplus, yields the

whether greater democracy in the IPO process is desirable. See Anand, *supra* note 106, at 233–34 (cautioning against the Dutch IPO's inclusion of unsophisticated retail investors and contending that offering markets, when understood as a public good, already are well protected by existing fiduciary duties). Anand persuasively argues that completely displacing bookbuilding with Dutch IPOs is unnecessary (if not unjustified), especially when the "most efficient offering mechanism will vary by issuer." *Id.* at 256.

247. See, e.g., R. Preston McAfee & John McMillan, *Bidding Rings*, 82 AM. ECON. REV. 579, 581 (1992) ("The distinctive feature of an auction is asymmetric information; if the seller knew the bidders' demands, he would simply post a price.").

248. See generally Jeremy Bulow & John Roberts, *The Simple Economics of Optimal Auctions*, 97 J. POL. ECON. 1060 (1989) (demonstrating that optimal auction design is tantamount to third-degree price discrimination).

same expected revenue (and results in each bidder making the same expected payment as a function of her valuation).²⁴⁹

Provided the RET's assumptions obtain,²⁵⁰ different auction types have been shown to generate the same average revenue.²⁵¹

In theory, then, Dutch IPOs should perform like any auction. Specifically, Dutch IPOs should generate Pareto optimal outcomes.²⁵² Prospective Dutch IPO investors, however, privately submit their bids and thus do not know each others' valuations.²⁵³ Under such circumstances, bidders are vulnerable to what is known as the "winner's curse," or a feeling of regret experienced by the highest bidder for having paid more than anyone else.²⁵⁴ Dutch IPOs do not

249. PAUL KLEMPERER, WHY EVERY ECONOMIST SHOULD LEARN SOME AUCTION THEORY 4 (2001), <http://www.nuff.ox.ac.uk/users/Klemperer/WhyEveryEconomist.pdf> (describing the RET as auction theory's "most celebrated theorem"); see also Paul Klemperer, *Auction Theory: A Guide to the Literature*, 13 J. ECON. SURVS. 227, 230 (1999). For the seminal derivation of the RET, see William Vickrey, *Auction and Bidding Games*, in RECENT ADVANCES IN GAME THEORY 15 (1962).

250. Some of these assumptions need not obtain for certain auction types to yield the same revenue. See, e.g., Vickrey, *supra* note 249 (demonstrating revenue equivalence for first-price, sealed-bid English auctions and sealed-bid Dutch auctions).

251. McAfee & McMillan, *supra* note 30, at 707, 710 ("Each of these auction forms yields on average the same revenue to the seller. . . . [But] [t]he Revenue-Equivalence Theorem does not imply that the outcomes of the four auction forms are always exactly the same."). If supplemented by an optimal reserve price, all of these auction types are equally optimal selling mechanisms for the seller. See, e.g., John G. Riley & William F. Samuelson, *Optimal Auctions*, 71 AM. ECON. REV. 381, 382 (1981) ("[F]or a broad family of auction rules, expected seller revenue is maximized using either of the two common auctions if the seller announces that he will not accept bids below some appropriately chosen minimum or 'reserve' price."). For the bidder, the expected revenue equals the winner's expected marginal revenue. See McAfee & McMillan, *supra* note 30, at 707–08; cf. Bulow & Roberts, *supra* note 248, at 1061 ("[The RET] is essentially equivalent to the analysis of standard monopoly third-degree price discrimination. The auctions problem can therefore be solved by applying the usual logic of marginal revenue versus marginal cost.").

252. William Vickrey, *Counterspeculation, Auctions, and Competitive Sealed Tenders*, 16 J. FIN. 8, 19–20 (1961).

253. See, e.g., Klemperer, *supra* note 249, at 229 ("In the basic *private-value* model each bidder knows how much she values the object(s) for sale, but her value is private information to herself.").

254. See Vickrey, *supra* note 252, at 20–23 (describing strategies when bids are privately submitted). See generally James C. Cox & R. Mark Isaac, *In Search of the Winner's Curse*, 22 ECON. INQUIRY 579 (1984) (delineating permutations of the winner's curse and contending that it generally occurs when bidders are not utilizing *ex ante* optimal strategies). One way to produce a more optimal expected return is to designate the second-highest sealed bid as the winner, otherwise known as a second-price, or Vickrey, auction. Cf.

expose their investors to a “winner’s curse” in the orthodox sense because all successful bids receive shares at a uniform price; instead, prospective investors risk their allocations either by bidding underneath the clearing price or receiving a fractional allocation from an oversubscribed IPO.²⁵⁵ Whatever the auction type, to combat the “winner’s curse,” bidders rationally should submit a price less than their own true valuation based upon guesses about other bidders’ valuations, thereby reaching a Nash equilibrium.²⁵⁶

In reality, however, Dutch IPOs deviate significantly from the RET. First, Dutch IPOs involve rather heterogeneous bidding pools. By opening access to both institutional and retail investors, Dutch IPOs admit bids reflecting widely disparate levels of knowledge and sophistication,²⁵⁷ as well as asymmetrical risk-profiles.²⁵⁸ Second, Dutch IPOs involve uncertain bids. By reserving the discretion to de-link the clearing and offering prices, Dutch IPOs complicate the ability of investors to value shares and bid accordingly, resulting in distorted bids.²⁵⁹ Third, this heterogeneity and uncertainty may

Klemperer, *supra* note 249, at 266 n.10 (“Confusingly, the second-price sealed-bid auction is sometimes called a Dutch auction by investment bankers.”).

255. See Anand, *supra* note 106, at 243 (“The winner’s curse possibility may lead Dutch auction issuers to deliberately underprice the issue in order to prevent this divestiture and to maintain investor following after the IPO.”).

256. McAfee & McMillan, *supra* note 30, at 710 (noting that this is a “nontrivial computational problem”).

257. See Vickrey, *supra* note 252, at 20 (“[W]here there is much variation in the state of information or the generally expected intensity of desire of the various players for the object, or where the bidders are insufficiently sophisticated to discern the equilibrium-point strategy . . . the Dutch auction is likely to prove relatively inefficient”); see also Anand, *supra* note 106, at 243 (“Retail shareholders typically do less research and diligence in making their investment decision than a sophisticated institutional investor.”). While certainly more heterogeneous than bookbuilding, the investing pool in a Dutch IPO may or may not be different than any other auction. *But cf.* Chris Yung, *IPOs with Buy- and Sell-Side Information Production: The Dark Side of Open Sales*, 18 REV. FIN. STUD. 327, 328 (2005) (arguing open auctions may result in lower due diligence due to a free rider problem).

258. See generally Steven Matthews, *Comparing Auctions for Risk Averse Buyers: A Buyer’s Point of View*, 55 ECONOMETRICA 633 (1987) (demonstrating how risk profiles can affect the bidding pool’s size); Keith Waehrer et al., *Auction Form Preferences of Risk-Averse Bid Takers*, 29 RAND J. ECON. 179 (1998) (demonstrating how auctioneers’ risk profiles may affect their choice of method).

259. Neither Google nor Hambrecht has disclosed its pricing (or allocation) formula, unlike other countries. See, e.g., Biais & Faugeron-Crouzet, *supra* note 185, at 14 (mathematically defining *Mise en Vente* price function). Presumably this is to mitigate the risk of insincere bidding. See *infra* Part III.B. *But see* Dorton, *supra* note 33, at 1391 (“[B]idders in an auction have incentives to value the securities accurately. In an appropriately designed auction, the fear

magnify each other's effects. Without substantial confidence in how a firm will price (and allocate) its shares, investors have an incentive to hedge their preferences by submitting multiple bids of varying prices (and allocations);²⁶⁰ further, the degree and form of response to such an incentive likely reinforces the differences among bidders, who have varying abilities to capitalize on such uncertainty.²⁶¹

Auction theory, however, does provide a very real problem with Dutch IPOs. Specifically, bidders can affect market demand by engaging in strategic behavior to alter the clearing price.²⁶² Various models have demonstrated that, "under certain scenarios, . . . a rational bidder will profit from lowering the amount of shares it offers to buy in the IPO."²⁶³ By estimating the equilibrium price and market elasticity for an untainted auction, bidders can employ their reduced demand to yield underpriced shares, which they can purchase in the aftermarket.²⁶⁴ Bidders will engage in such a

of losing a desirable purchase opportunity discourages undervaluation. Any tendency to overvalue the securities is countered by the fear of paying more than the securities are worth.").

260. See, e.g., Anand, *supra* note 106, at 243–45 (delineating different strategic incentives for bidders and issuers that may result in inefficient Dutch IPO pricing).

261. For instance, risk-averse institutional bidders may use their leverage to procure some form of insurance or guarantee. Eric Maskin & John Riley, *Optimal Auctions with Risk Averse Buyers*, 52 *ECONOMETRICA* 1473, 1474 (1984).

262. Biais & Faugeron-Crouzet, *supra* note 185, at 13 ("[T]he optimal strategy of the investors is to shade their bids rather than to 'make a bid at the maximum price at which they are comfortable owning shares of the issue' as advised on Open IPO's website.").

263. Mira Ganor, A Proposal to Restrict Manipulative Strategy in Auction IPOs 13 (July 2004) (unpublished manuscript, online at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=572243); see also Biais & Faugeron-Crouzet, *supra* note 185, at 13 ("In [the Dutch] auction, bidders can tacitly collude by placing demand functions such that the market clearing price is very low, and such that, any attempt to bid more aggressively, to gain market share, would push prices too high to be attractive.").

264. See Ganor, *supra* note 263, at 17, 18 n.30 (noting that "[f]airly sophisticated investors, such as investor bankers, are well positioned to calculate" and execute such a strategy, and pointing out that "[s]ome variations on the Dutch IPO auction make it even easier for the investors to calculate these variables") (citing Hurt, *Moral Hazard*, *supra* note 27, at 767 ("During [the Wit Capital Corporation] auction, any Internet user could view the aggregate demand in the auction at each price point, making the pricing of the shares virtually transparent.")). Conducting an IPO via an auction thus meets the two conditions for profitable manipulation: "first, trading must cause the price of the relevant security to rise; and second, the manipulator must be able to sell at a price higher than the price at which the manipulator purchased."

strategy when the increased utility exceeds the costs of going into the aftermarket and purchasing the remaining shares to meet their original demand.²⁶⁵

This reduced allocation strategy should circumvent a Dutch IPO's primary antifraud devices. The strategy may be difficult to detect because the investor is scaling back its bid on shares rather than prices.²⁶⁶ A comparison of the prospective investor's bids across various IPOs is possible, but the information would have to be shared among issuers, and the search costs might be prohibitive for a sizable pool. Though a strategic bidder will be most visible while entering the aftermarket to purchase additional shares, "without the bidder trading on the days following the IPO, the restricted strategy cannot be detected."²⁶⁷ Instituting a reserve price is likely to be a risky prophylactic, as this would likely distort the relationship between the demand curve and clearing price.²⁶⁸

The strategy, however, may enjoy only limited success with current types of Dutch IPOs.²⁶⁹ To be successful, strategic bidders must be assured of receiving an allocation; this is because the strategy requires a precise comparison between the number of shares the bidder would receive in an untainted auction versus what

Daniel R. Fischel & David J. Ross, *Should the Law Prohibit "Manipulation" in Financial Markets?*, 105 HARV. L. REV. 503, 512 (1991). These conditions pertain to aftermarket trading, but the point here is that an auction introduces the problem of manipulation at the pre-IPO stage in a way that arguably is not self-detering.

265. See Ganor, *supra* note 263, at 16 ("[T]he strategy always assures a profit. This is because the bidder buys the same amount of shares, only now he does this in two stages—first in the auction and later in the aftermarket—but he pays a lower price for some of the shares, and he pays the same price he would have paid without the strategy, for the rest of the shares.").

266. *Id.* at 20 ("[T]he strategy manifests itself only as an offer for fewer shares, and Q_n , the real amount the bidder would ask for without the strategy, cannot be proven."). The same logic applies for lock-up agreements or regulatory restrictions on aftermarket purchases, which would diminish the number of strategic bidders, but not eliminate those whose expected utility exceeded the cost of waiting until their right to purchase shares was restored.

267. *Id.*

268. As Google demonstrated, altering the clearing price in the eleventh hour can engender heavy trading on the first day, which is a negative signal for a Dutch IPO. See *supra* note 189 and accompanying text.

269. The analysis from Ganor, as well as Biais and Faugeron-Crouzet, concerns Dutch IPOs and properly focuses on valuation instead of price. See Biais & Faugeron-Crouzet, *supra* note 185; Ganor, *supra* note 263. Both of Ganor's illustrations, however, envision a strategic bidder with the highest valuation of an IPO's shares, a dramatically more complicated scenario in a Dutch IPO as it involves multiple sealed-bids. Ganor, *supra* note 263, at 10–11, 13–15.

the bidder expects to receive in a tainted auction.²⁷⁰ Only when equipped with this knowledge can the strategic bidder profit from reducing the requested allocation.²⁷¹ This is easily accomplished in an ascending-bid auction, as the dominant Pareto strategy is for the bidder with the highest valuation simply to submit the highest price.²⁷² In the case of Dutch IPOs, however, allocations are based on an opaque formula in which market demand is just a variable.²⁷³ Payment is thus not purely a function of bids, and so English and Dutch IPOs cannot be equated pursuant to the RET.²⁷⁴ Further, the formula's opacity, combined with the current paucity of Dutch IPOs, makes reverse-engineering difficult.²⁷⁵ This erodes the precision with which bidders can reduce their requested allocations. Given the apparently heterogeneous bidding pools in the OpenIPO,²⁷⁶ the ability of strategic bidders to reliably assess market elasticity and predict the final offer price may be dubious.

B. *Bidding Rings*

A simpler and superior scheme would be to form a bidding ring.²⁷⁷ In essence, by agreeing not to compete with each other, prospective investors can assume joint control over the auction price.²⁷⁸ While a variety of forms exist,²⁷⁹ all successful bidding rings must satisfy at least four conditions. First, the ring members must

270. See *supra* note 262 and accompanying text.

271. See *supra* note 265 and accompanying text.

272. Ganor, *supra* note 263, at 10–11, 13–15 (presenting two illustrations in which the strategic bidder has the highest valuation).

273. See *supra* notes 157–58, 168–70, and accompanying text.

274. See *supra* note 249 and accompanying text.

275. This may explain, in part, Hambrecht's decision not to publish its pro rata allocation data. See *supra* note 182.

276. See *supra* notes 195–97 and accompanying text.

277. McAfee and McMillan note:

Biddings conspiracies are prevalent enough to have added some exotic locutions to the English language. Cartels are variously called "rings," "pies," and "kippers." A "schlepper" is an insincere bidder attracted solely by the cartel's profits, and a "shill" is a phony bidder used by the auctioneer to drive up the price. A "knockout" is a private auction held by the cartel to determine which member gets the item and how much he pays the other members.

McAfee & McMillan, *supra* note 247, at 579 n.1.

278. See RALPH CASSADY, JR., AUCTIONS AND AUCTIONEERING 177 (1967) ("When all the buyers who are interested in the same merchandise are included in the [bidding] ring, buyer competition gives way to monopsony, or buyer monopoly.").

279. See, e.g., *id.* at 177–89 (delineating different types of bidding rings in the antique, fish, and wool industries).

agree on how to allocate profits.²⁸⁰ Second, that agreement must be self-enforcing.²⁸¹ Third, there must be barriers to new bidders.²⁸² Fourth, a bidding ring must be sufficiently stable to withstand attacks from victims.²⁸³

Notably, none of these conditions requires that all buyers participate in the bidding ring. Intuitively, the ideal bidding ring might include all buyers, who in turn can select a representative to act as a monopsonist with the seller,²⁸⁴ but a bidding ring can operate in a dual market, split between ring and nonring buyers.²⁸⁵ Indeed, such a dual market can be preferable:

280. McAfee & McMillan, *supra* note 247, at 579 (observing that this is an adverse selection problem, as colluding bidders “do not know how much each of their fellow cartel members is willing to pay for the item being sold”). See generally Akerlof, *supra* note 73 (seminally delineating the adverse selection problem).

281. See, e.g., Dilip Abreu et al., *Optimal Cartel Equilibria with Imperfect Monitoring*, 31 J. ECON. THEORY 351 (1986).

282. See, e.g., Paul Klemperer, *What Really Matters in Auction Design*, 16 J. ECON. PERSPS. 169, 172 (2002).

283. See, e.g., Marc S. Robinson, *Collusion and the Choice of Auction*, 16 RAND J. ECON. 141, 143 (1985) (“For the prospective cartel to be stable, the recommended cartel strategies should be *incentive-compatible*, at least in the weak sense that some other strategy for an individual bidder not be strictly preferred by that bidder, given what the others are doing.”). Incentive-compatibility is a function of sharing information, which is crucial for any bidding ring’s stability. *Id.* at 141 & n.1 (“[A]s long as all cartel members share the same information, cartels are stable (i.e., incentive-compatible) What is crucial for the results is . . . whether the cartel members regret their strategies if cheating occurs.”). Sealed-bid auctions, however, tend to be less susceptible than their oral counterparts to bidding rings. See, e.g., Walter J. Mead, *Natural Resource Disposal Policy—Oral Auction Versus Sealed Bids*, 7 NAT. RESOURCES J. 194, 223 (1967) (concluding that “[o]ral bidding is vulnerable to collusive practices among bidders as well as to certain devices of unfair competition and emotionalism” to a greater degree than sealed bidding).

284. See, e.g., CASSADY, *supra* note 278, at 178 (“An attempt is made to identify and make arrangements with all buyers who are expected to be interested in a particular item or a lot of goods. Once this task is accomplished, one buyer, acting for all, is in a position to exert complete monopsonistic power and thus depress prices drastically”); Daniel A. Graham & Robert C. Marshall, *Collusive Bidder Behavior at Single-Object Second-Price and English Auctions*, 95 J. POL. ECON. 1217, 1220 (1987) (“The ring appoints a sole bidder who bids on behalf of the coalition at the auction.”).

285. See, e.g., CASSADY, *supra* note 285, at 178 (“There would then be a dual market situation: one market would include all the interested buyers, uninformed as well as informed, and the other would include only those who are informed. It is the informed segment that the ring leader attempts to control”); see also Graham & Marshall, *supra* note 279, at 1221 (“[I]f two or more distinct [collusive] coalitions appear at the same auction, they will invariably merge to form a single coalition.”).

An obvious absence of competition would almost certainly alert the seller or his agent and lead to defensive action against the ring In fact, the appearance of competition is so important that the head of the [bidding ring] may find it necessary, in the absence of actual competition, to provide simulated competitive activity by assigning bidding roles to certain ring members, who stop either at a pre-arranged cutoff point or at a signal from the leader.²⁸⁶

This simulated competition, or phantom bid, strategy is possible because ring buyers do not participate in an auction as individuals, but as a group.²⁸⁷ Any proceeds from the auction belong to the bidding ring, and are shared among its members instead of the individual member with the winning bid.²⁸⁸ A bidding ring thus seeks to maximize its joint expected profits.

Such profits typically are determined and then distributed through separate auctions. Prior to the at-large auction, the bidding ring ascertains each member's valuation through bids.²⁸⁹ The member with the highest valuation then submits a bid for the ring in the at-large auction.²⁹⁰ Should the bidding ring prevail, it will conduct another auction, or a "knockout."²⁹¹ Every member of the bidding ring then receives a portion of the difference between the winning bids in the at-large and knockout auctions.²⁹²

286. CASSADY, *supra* note 278, at 179.

287. *See, e.g.*, Kenneth Hendricks & Robert H. Porter, *Collusion in Auctions*, 15/16 ANNALES D'ECONOMIE ET DE STATISTIQUE 217, 221 (1989) ("[P]hantom bids . . . may be submitted to create the appearance of competition. . . . [G]iven the available data, it would be very difficult to detect the presence of an inclusive cartel that submitted phantom bids.").

288. *See, e.g.*, Graham & Marshall, *supra* note 284, at 1220 ("The benefits of ring formation are shared among members rather than, for example, accruing entirely to the ring member who ultimately obtains possession of the item.").

289. This valuation need not even be accurate for the bidding ring to work successfully. *See, e.g.*, McAfee & McMillan, *supra* note 247, at 580 ("The revelation principle states that the outcome of any mechanism [for assigning bids and post-auction transfers] that is not incentive-compatible can be mimicked by one that is incentive-compatible, so that honesty can be assumed without loss of generality.").

290. *See, e.g., id.* at 586 ("An optimal cartel mechanism has the property that the bidder with the highest value wins if and only if his value exceeds r and the seller receives r .").

291. Not all bidding rings, however, are capable of making post-auction transfer payments. As McAfee and McMillan have demonstrated, "weak" bidding rings operate by submitting identical bids that effectively convert the auction process into a random contest among the colluders. *See id.* at 584 ("Why do the bidding firms choose such an apparently naive form of coordination? The answer . . . is that, given the asymmetry of information . . . identical bidding is the best the cartel can do short of using side-payments.").

292. *Id.* at 587. Even distributions of the difference, however, may not be

Though there is no honor among thieves, bidding rings tend to be rather effective at self-enforcement. When there is only one auction, the bidding ring clearly will not have to resort to threats of future retaliation, but instead may have to implement what has been called “an organized-crime approach” to punishment.²⁹³ When there are repeated auctions or interaction among the bidding ring members, the threat of future retaliation is usually sufficient to secure cooperation.²⁹⁴ Case studies of retaliation in various industries ironically demonstrate that “it works very much to the seller’s advantage as vindictive competition leads to crazy prices.”²⁹⁵

On the flip side, legal prophylactics tend to be not only scarce, but also ineffective. One of the few such examples is England’s Auctions (Bidding Agreements) Act of 1927, which prohibits any agreements to abstain from auctions:

If any dealer agrees to give, or gives, or offers any gift or consideration to any other person as an inducement or reward for abstaining, or for having abstained, from bidding at a sale by auction either generally or for any particular lot, or if any person agrees to accept, or accepts, or attempts to obtain from any dealer any such gift or consideration as aforesaid, he shall be guilty of an offence under this Act.²⁹⁶

This statute, however, “is seldom invoked, and has had almost no effect on ring operations in England.”²⁹⁷ Perhaps the closest American analogue to the Bidding Agreements Act is the Sherman Act,²⁹⁸ but its prohibitions are tailored to cartel arrangements that are analytically distinct from auction-related collusion.²⁹⁹ The law

optimal. *See, e.g.*, Robinson, *supra* note 283, at 144 (contending even payment of ex post profits would fail to establish a Nash equilibrium in a sealed-bid auction among otherwise compliant ring members).

293. McAfee & McMillan, *supra* note 247, at 580–81.

294. *See, e.g., id.* at 581 (“A deviating bidder can be threatened with noncooperative profit levels in all future auctions should he win the current auction when the mechanism dictated otherwise. This threat will be sufficient to deter deviations if discounting is sufficiently low.”).

295. JEREMY C. COOPER, *UNDER THE HAMMER: THE AUCTIONS AND AUCTIONEERS OF LONDON* 37-8 (Constable and Co. 1977).

296. Auctions (Bidding Agreements) Act, 1927, 17 & 18 Geo. 5, c. 12, § 1 (Eng.). The penalty for such an offense is either a fine capped at the prescribed sum, six months imprisonment, or both. *Id.*

297. CASSADY, *supra* note 278, at 191; *see also id.* (concluding in passing that “recourse to law is at best a doubtful way of stamping out ring activities”).

298. 15 U.S.C. § 1 (2000). The U.C.C. does generally provide for sales by an auction. *See* U.C.C. § 2-328 (2004). But, there is no provision for bidding rings or manipulative schemes.

299. *See, e.g.*, Robert C. Marshall & Michael J. Meurer, *Bidder Collusion and Antitrust Law: Refining the Analysis of Price Fixing to Account for the*

thus affords sellers extremely limited formal means for detecting and combating bidding rings.

Sellers, however, are hardly helpless victims of bidding rings. They have recourse to private countermeasures that involve lower transaction costs than formal legal means.³⁰⁰ In the short run, a seller simply can retract its item or select a bid from a friendly party.³⁰¹ In the long run, a seller can protect itself by submitting its own phantom bids or using an arbitrary or unpredictable method of selecting winning bidders.³⁰² A seller also can set a reserve price, thereby diminishing the bidding ring's profit margin,³⁰³ that reserve price then can be adjusted upwards or downwards to influence the expected purchase price.³⁰⁴ Further, a seller could withhold certain bidding information, such as the winning valuation, in an attempt to disrupt the bidding ring's ability to divide spoils or detect cheating internally.³⁰⁵

Special Features of Auction Markets, 72 ANTITRUST L.J. 83, 83 (2004) (“[T]here are significant differences regarding the economics of collusion in auction and procurement markets as compared to posted-price markets . . .”). Antitrust actions may be relevant, however, in that they are notoriously costly and difficult to conduct, much less win. *See, e.g.*, John E. Lopatka & William H. Page, *Economic Authority and the Limits of Expertise in Antitrust Cases*, 90 CORNELL L. REV. 617, 639 (2005) (referencing the “daunting evidentiary challenges in antitrust litigation” and general skepticism that even the “big case’ is worth its institutional costs”) (citations omitted).

300. Indeed, this may be the primary reason why legal regulation of auctions is so scarce.

301. *See, e.g.*, CASSADY, *supra* note 278, at 191 (“Upon recognizing the existence of a ring, the auctioneer not only can disregard the bids of the ring leader, but can actually make a sale to a friendly buyer Perhaps the most effective defensive tactic is to run up the price of an article by the use of phantom bids, or bids from nonexistent traders.”). *But see, e.g.*, Klemperer, *supra* note 282, at 176 (“It may not be credible for the auctioneer to punish a bidder violating the auction rules when just one bidder needs to be eliminated to end an auction, because excluding the offending bidder would end the auction immediately, and it might be hard to impose fines large enough to have a serious deterrent effect.”).

302. *See, e.g.*, Hendricks & Porter, *supra* note 287, at 223 (“The oligopoly literature suggests that increasing this sort of uncertainty can be fatal to a collusive agreement.”). In the case of identical bids, the seller could select the winning bid on a mercurial arbitrary basis.

303. *See, e.g.*, CASSADY, *supra* note 278, at 191 (“In some auctions, the most effective way of overcoming a buyers’ ring is to set a reserve price, prohibiting sale of the item below its estimated value and thus impairing the profitability of a collusive operation.”).

304. *See* McAfee & McMillan, *supra* note 247, at 591.

305. *See, e.g.*, Hendricks & Porter, *supra* note 287, at 223 (“Clearly, restricting information flows within the cartel may hinder its ability to detect cheating.”).

While scarce,³⁰⁶ some evidence of bidding rings does exist. Priceline.com, for instance, features a patented online Dutch auction process for travel-related services.³⁰⁷ Bidders name the maximum price and quantity they are willing to purchase, and the company's engine matches these sealed-bids to the available supply. This process, however, has spawned an elementary bidding ring.³⁰⁸ A website, BiddingForTravel.com, has the primary goal of "promot[ing] informed bidding when using [P]riceline.com's (US) travel products."³⁰⁹ Individuals post information that includes failed and winning bids, re-bidding strategies, and anecdotal evidence about the auction engine's mechanics.³¹⁰ While the forum does prohibit bidders from attempting to resell winning bids,³¹¹ contacting each other or even setting up an alternative place to conduct a knockout auction is hardly formidable.

In the same way, prospective investors could establish an elementary Dutch IPO bidding ring. A website or accessible forum would enable prospective investors to meet and exchange information.³¹² That mechanism would collect and disseminate data

306. See Steve Thel, *\$850,000 in Six Minutes—The Mechanics of Securities Manipulation*, 79 CORNELL L. REV. 219, 279–80 (1994) ("Aside from being diverse and transitory, the details of common manipulative techniques are hard to discover. The success of many manipulative schemes often depends upon the target's ignorance . . . Thus, manipulative practices are likely to be disguised, and accordingly, they are hard to study.").

307. But see Eugene R. Quinn, Jr., *Abusing Intellectual Property Rights in Cyberspace: Patent Misuse Revisited*, 28 WM. MITCHELL L. REV. 955, 957 (2002) ("This patent purports to give Priceline.com the exclusive right to what is known as a Dutch auction, something that is hardly new or unobvious Apparently, the fact that a Dutch auction has never been done online makes this particular business method patentable.").

308. BiddingForTravel.com, <http://p070.ezboard.com/bpricelineandexpediabidding> (last visited Oct. 2, 2007).

309. *Id.*

310. See Posting of Sheryl to <http://p070.ezboard.com/Beware-of-the-Priceline-Raise-Your-Bid-Screen/fpricelineandexpediabiddingbiddingtips.showMessage?topicID=4.topic> (Jan. 24, 2000, 22:54 EST) (advising bidders to disregard Priceline.com's warning about unreasonably low bids on the basis that the engine does not take into consideration periods of low airline load factors or low hotel occupancy levels); see also Posting of yekat to <http://p070.ezboard.com/Tips-on-how-to-rebid-right-away/fpricelineandexpediabiddingbiddingtips.showMessage?topicID=22.topic> (Mar. 31, 2001, 20:27 EST) (providing instructions on how to re-bid on flights successfully).

311. See Posting of Sheryl to <http://p070.ezboard.com/fpricelineandexpediabiddingpostingguidelines.showMessage?topicID=23.topic> (Aug. 30, 2000, 08:38 EST) ("Effective immediately, it is the policy of BiddingForTravel.com that the posting of any future requests to re-sell a winning bid are off topic and any such requests will be removed.").

312. Google and all OpenIPOs have used sealed bids.

on the number of parties interested in submitting bids as well as their preferred allotment and valuation of IPO shares. This data in turn would facilitate the ability of all ring members to estimate market demand and execute a reduced allocation strategy.³¹³ As the members would simply be exchanging data, and not coordinating bids, such an elementary ring would not require an agreement.³¹⁴ Detecting such a tacit strategy thus would be extremely difficult.³¹⁵

A more sophisticated ring might involve coordinated collusion strategies. Prospective investors could agree to submit multiple bids, either individually or as a group, that comprise a spread of different allocations and prices. Some of these bids could be of the phantom sort, designed to mask the ring's true preferences.³¹⁶ Other bids could be of the insincere sort, designed to manipulate the demand curve into underpricing the issue.³¹⁷

The problem is magnified by the Dutch IPO's profit function. Provided the expected short-run or long-run return exceeds a prospective investor's IPO valuation, there is an incentive to participate in a bidding ring. On the one hand, in the short-run, a ring member can benefit from either a simple discrepancy in valuation or an anticipated first-day pop; these incentives arguably apply most strongly to retain investors who are likely to be infrequent bidders that can afford not to act in a risk-averse or reputation-preserving manner.³¹⁸ On the other hand, in the long run, a ring member can benefit from future business with other members through either another IPO ring or some other unrelated venture; these arrangements arguably favor institutional investors, who enjoy a superior network and position to organize and

313. See *supra* notes 263–65 and accompanying text.

314. More sophisticated rings might prefer an agreement or some kind of arrangement to ensure that the members supply reliable bid information.

315. To be sure, an agreement would enhance the ring's ability to enforce itself, and thus be stable. Cf. *supra* notes 293–94 and accompanying text. But, a simple and noncommittal arrangement stands a better chance of attracting a larger pool of institutional and retail investors, and thus more complete market demand information.

316. See *supra* notes 285–87 and accompanying text. Issuers also can submit “shill” bids, in which either they or their associates attempt to drive up the price and generate market demand.

317. This manipulation is not restricted to lowering the clearing price. Affluent repeat investors could benefit from a higher clearing price, which might diminish market demand and thus allow only purchasers of significant blocks of shares to capitalize on pricing spreads. Moreover, highly sophisticated investors might attempt to manipulate the demand curve to glean more information about the issuer's allocation formula and private self-valuation.

318. Bidding rings featuring short-term or one-time investors, however, have a limited capacity for self-enforcement and stability.

distribute a knockout auction.

Moreover, such tactics are hardly the exclusive province of investors. As a preliminary matter, bidding rings and their manipulative strategies are equally available to issuers. There is no reason why an issuer could not submit actual or phantom bids to buoy the offering price. Indeed, issuers may be well positioned to execute such a strategy by virtue of their access to the market demand data. In this regard, Dutch IPOs present a peculiar and real risk of fraudulent issuers manufacturing their own demand and thus directly manipulating their own equity. By cutting out underwriters, Dutch IPOs effectively grant issuers access to the investing public that is unmediated by any independent private gatekeepers.

Instead, that gatekeeping function belongs to the issuer's Dutch IPO platform. Hambrecht's website, for instance, provides the following disclaimer:

WRH+Co reserves the right to reject bids that it deems manipulative or disruptive in order to facilitate the orderly completion of an offering, and it reserves the right, in exceptional circumstances, to alter the method of allocation as it deems necessary to ensure a fair and orderly distribution of the issuing company's shares. . . . In addition, WRH+Co may reject or reduce a bid by a prospective investor who has engaged in practices that could have a manipulative, disruptive or otherwise adverse effect on an offering.³¹⁹

To date, there are no reported instances of Hambrecht having exercised this right. Nevertheless, beyond its apparent deterrent value, this classic countermeasure,³²⁰ combined with an opaque pricing formula,³²¹ does represent an effective way to combat a bidding ring.

Unfortunately, the countermeasure cannot compensate entirely for deficiencies that inhere within the Dutch IPO method. For the offering price to reflect market demand fully, and thus eliminate underpricing, the bidding pool perforce should include all investors. This influx of unsophisticated retail bids opens the door to a dual market that disguises the presence of bidding rings.³²² Ring

319. WR Hambrecht + Co, OpenIPO: Frequently Asked Questions, <http://www.wrhambrecht.com/ind/auctions/openipo/faq.html> (last visited Oct. 2, 2007); *see also id.* (“[L]arge orders may be reduced to ensure a public distribution, and bids may be rejected or reduced based on eligibility or creditworthiness criteria.”).

320. *See supra* notes 301–02 and accompanying text.

321. *See supra* notes 172–74 and accompanying text.

322. *See supra* notes 284–86 and accompanying text.

members thus enjoy not only the cover of nonmembers, but also of unsophisticated investors, a problem that merely increases with the size of the IPO. As a result, ring members and sophisticated investors are ironically the most likely beneficiaries of democratic access.

Further, Dutch IPOs require a significant degree of transparency. This is because pricing and allocation are predicated on actual bids. Although the bids are sealed during the auction phase, the distribution of prices and quantities requested by the entire prospective investor pool, as well as the pro rata allocation data, are arguably material information for aftermarket purchasers.³²³ Such information, however, epitomizes the dilemma posed by Dutch IPOs. On the one hand, increased disclosure will better equip manipulative and strategic bidders. On the other hand, such disclosure may be necessary to guard against fraudulent Dutch issuers.³²⁴

In sum, Dutch IPOs introduce a unique set of manipulative and fraudulent tactics. Both the reduced allocation strategy and bidding rings are premised on features specific to auctions. These tactics, however, are largely inapplicable to the bookbuilding method. The relationship between underwriters and preferred investors rests on effective bonding and reputational mechanisms. To be sure, the bookbuilding method is not immune from manipulation or fraud, but Dutch IPOs introduce a different set of potential problems that should be considered within any comparative assessment of methods.

CONCLUSION

The movement for Dutch IPOs is a coalition of two groups. Some support this alternative method out of dissatisfaction with abusive allocation practices and astronomical underpricing levels during the Internet bubble period. Others support the method for its promises of a more efficient, egalitarian, and equitable offering process.

Neither group, however, presents a convincing case. Critics of

323. Indeed, such information is available for many foreign auction-based IPOs. See, e.g., Biais et al., *supra* note 226, at 117 (France); Jagannathan & Sherman, *supra* note 142, at 46 tbl.2 (Singapore).

324. One way to resolve this tension might be to increase the involvement of the NASD, NYSE, or SEC. In fact, various other countries charge a centralized governmental body with operating and overseeing the entire Dutch IPO process. This, however, is assuredly a costly process that would further strain already limited governmental monitoring and enforcement resources. Such a commitment is hardly warranted until, or unless, Dutch IPOs become far more prevalent here than the present.

bookbuilding have rushed to broad conclusions inferred from anecdotal and incomplete data that fail to engage extensive financial literature justifying underpricing and certain preferential allocation practices. Further, the data on Dutch IPOs present, at best, a mixed picture in comparison to their bookbuilt peers. Whether English or Dutch, auction-based IPOs are uniquely vulnerable to certain manipulative practices and bidding rings.

The soundest conclusion for now is that we have not advanced beyond the findings of the blue-ribbon committee commissioned by the SEC. Specifically, the committee concluded that “[t]he market, and not regulators, should determine whether bookbuilding, a Dutch auction or another method is desirable for a particular IPO.”³²⁵ At present, the available empirical and theoretical evidence supplies no reason for Dutch IPOs to displace bookbuilding.

At the same time, Dutch IPOs do represent a functional option. Any appraisal of this alternate method, however, should consider comprehensive data, interpret those results carefully, and utilize sound inferences. When one considers the substantial stakes that issuers, investors, and underwriters have in the public offering process, demanding concrete proof about an alternative method seems not only reasonable, but appropriate.

325. IPO COMM. REPORT, *supra* note 11, at 9.