

ONLINE APPENDIX

Half the Firms, Double the Profits: Public Firms' Transformation, 1996-2022

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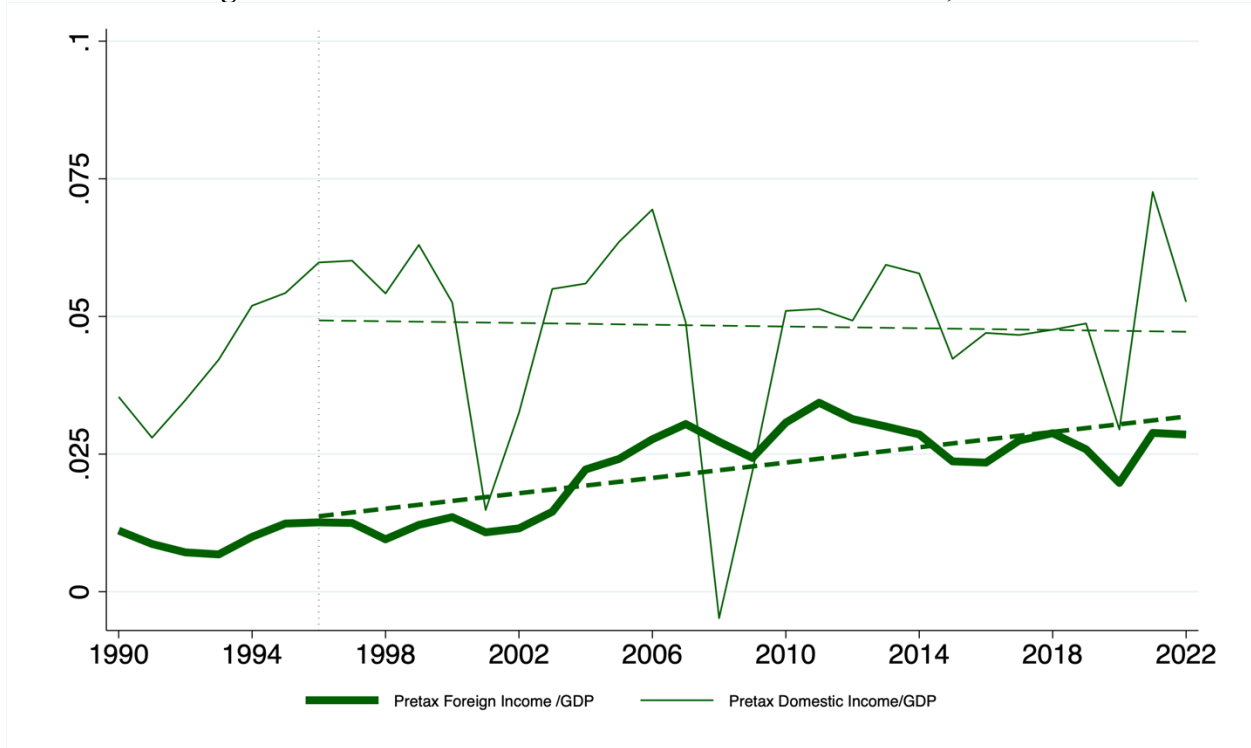
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Appendix Figure 1.
Foreign and Domestic Pre-Tax Income of US Public Firms, 1990-2022¹



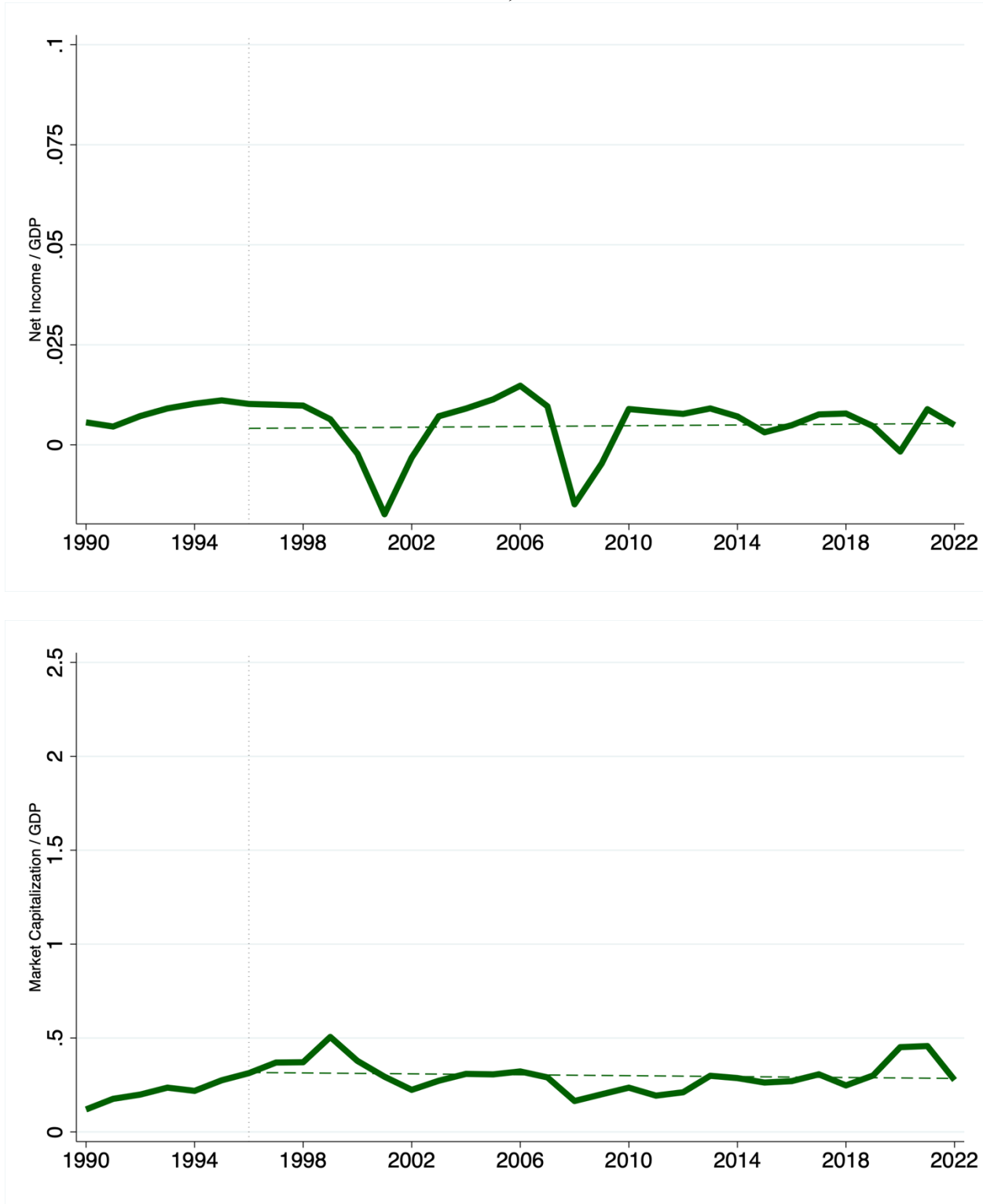
¹ Source: CRSP-Compustat merged database. Our sample consists of public firms with ordinary common shares included in Compustat, provided by S&P Global Market Intelligence, and CRSP, provided by the Center for Research in Security Prices. ADRs, real estate investment trusts, closed-end funds, trusts, and shares of beneficial interest are excluded from our analyses throughout.

Appendix Figure 2.
Profitability and Market Capitalization and Profitability of the American Public Firm Sector, Excluding the FAANG Companies, Scaled to GDP, 1990-2022²



² Source: CRSP-Compustat merged database, supra note 1.

Appendix Figure 3.
Profitability and Market Capitalization and Profitability of Non- S&P500 Companies,
Scaled to GDP, 1990-2022³



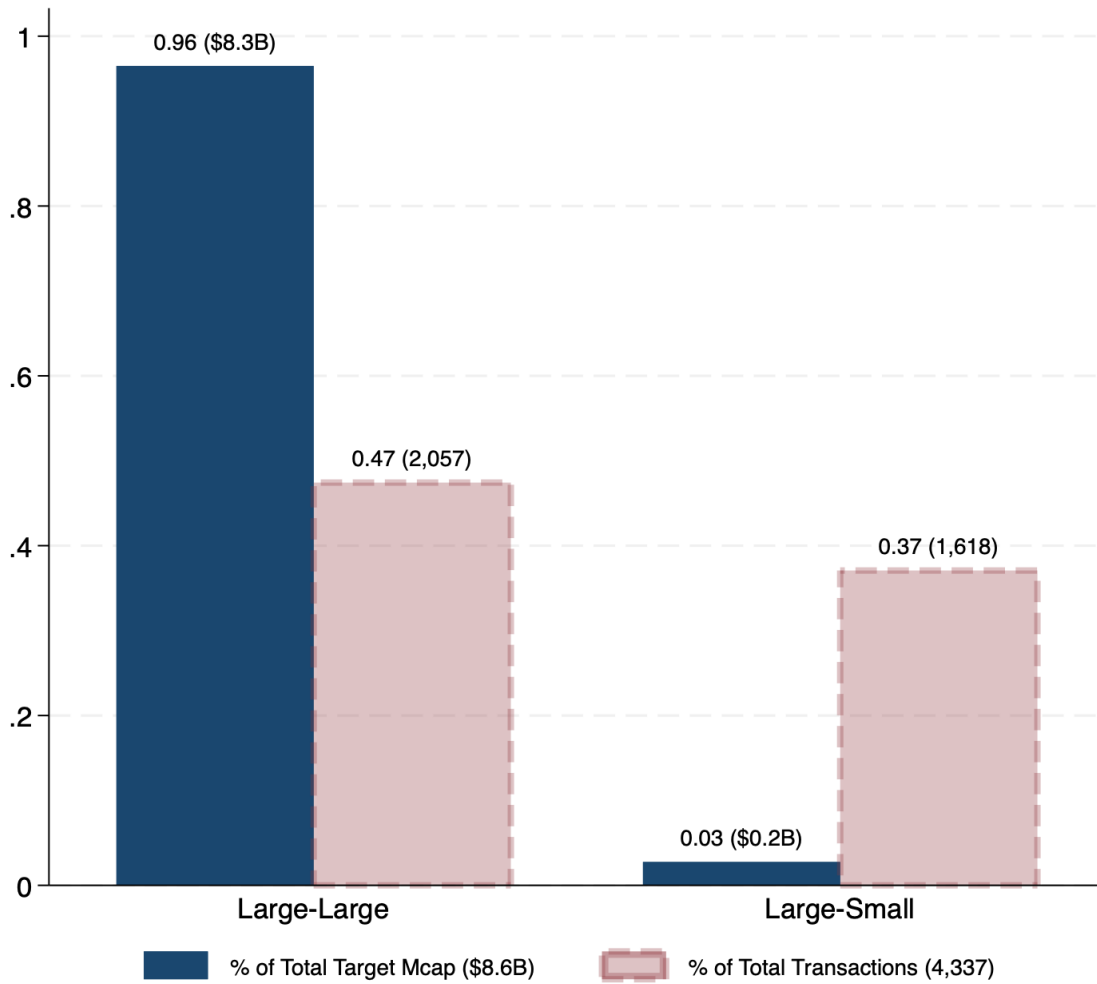
³ Source: CRSP-Compustat merged database, supra note 1.

Appendix Figure 4.
Profitability and Market Capitalization and Profitability of S&P500 Companies, Scaled to GDP, 1990-2022⁴



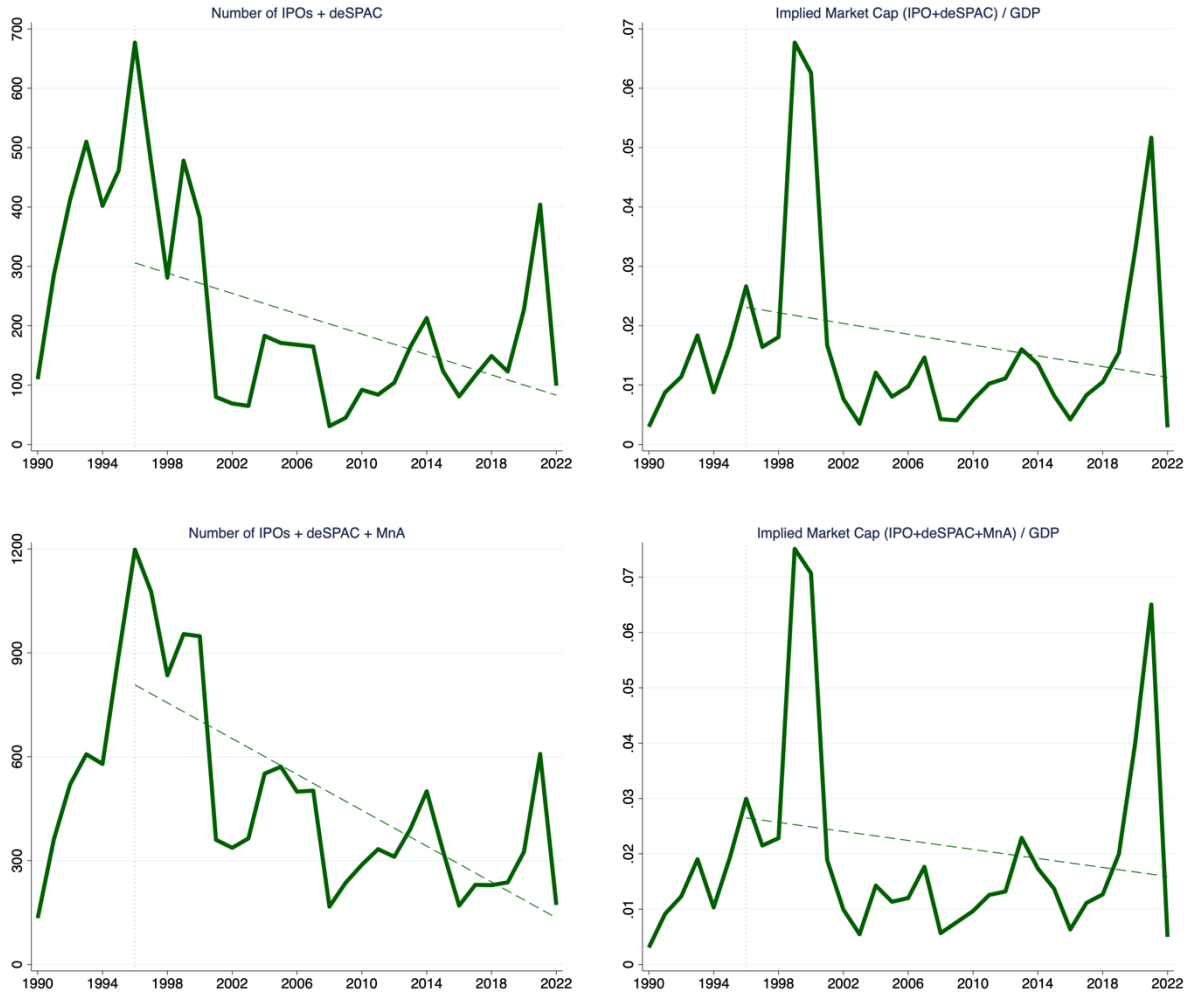
⁴ Source: CRSP-Compustat merged database, supra note 1.

**Appendix Figure 5.
Large Firms Acquired More Large Firms than Small Firms, 1996-2022⁵**



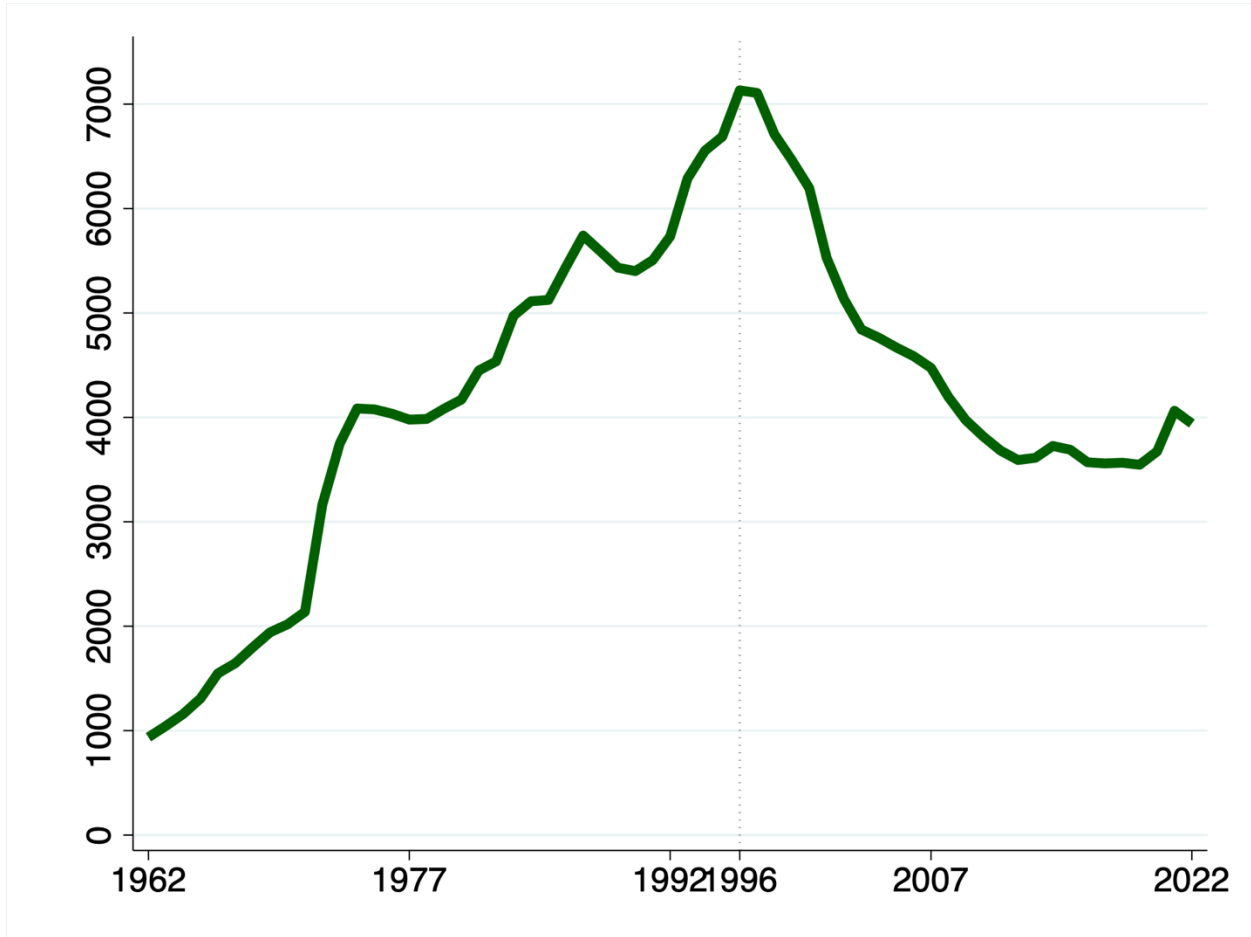
⁵ Source: Refinitiv SDC Platinum. This figure mimics Figure 12 of the main text, except that it defines large (small) firms as those with above median (above median) market capitalization. We use NYSE market capitalization cutoffs at the beginning of the calendar year to determine the median market capitalization.

Appendix Figure 6.
IPO Numbers and Implied Market Capitalization, Scaled to GDP, 1990-2022⁶



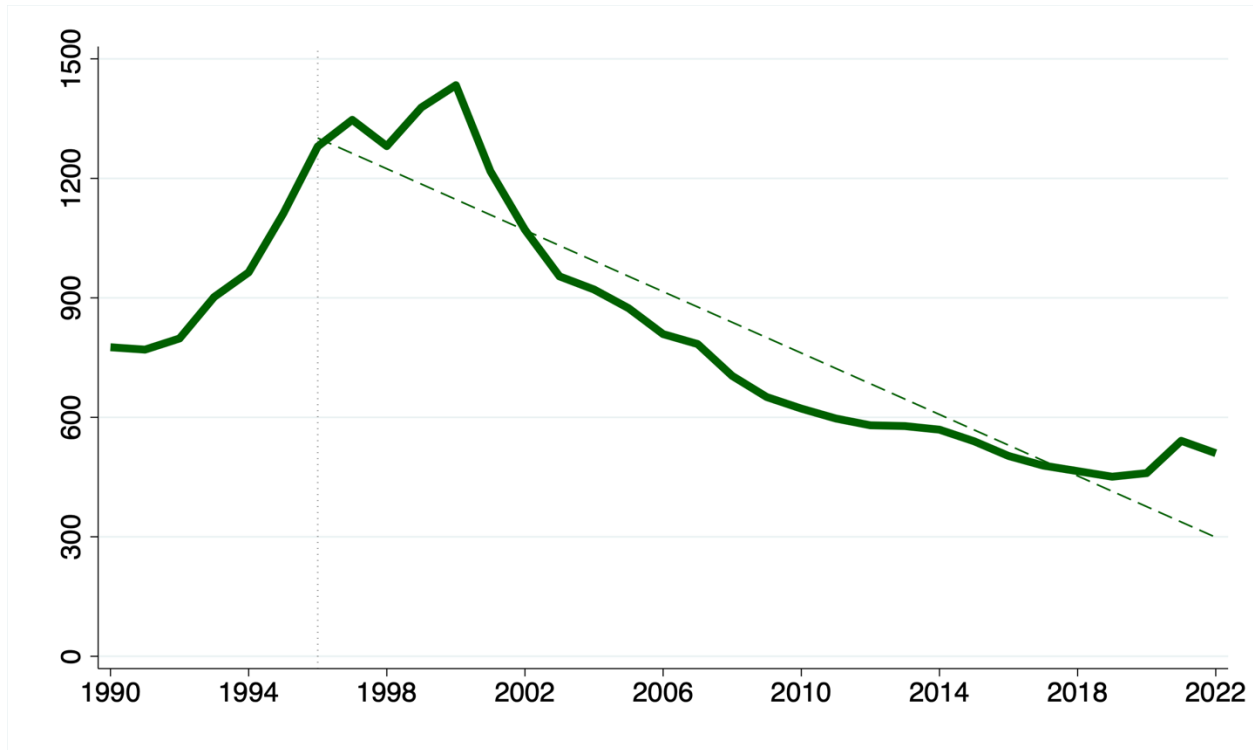
⁶ Source: IPO numbers and implied market capitalization (based on first closing market price) are obtained from Jay Ritter's IPO Database, <https://site.warrington.ufl.edu/ritter/ipo-data/>. De-SPAC data, acquisitions of private companies by special-purpose vehicles, are obtained from Refinitiv SDC Platinum. Data about mergers and acquisitions (MnA) of private companies by already-public companies are also obtained from Refinitiv.

Appendix Figure 7.
Number of U.S. Public Firms, 1962-2022⁷



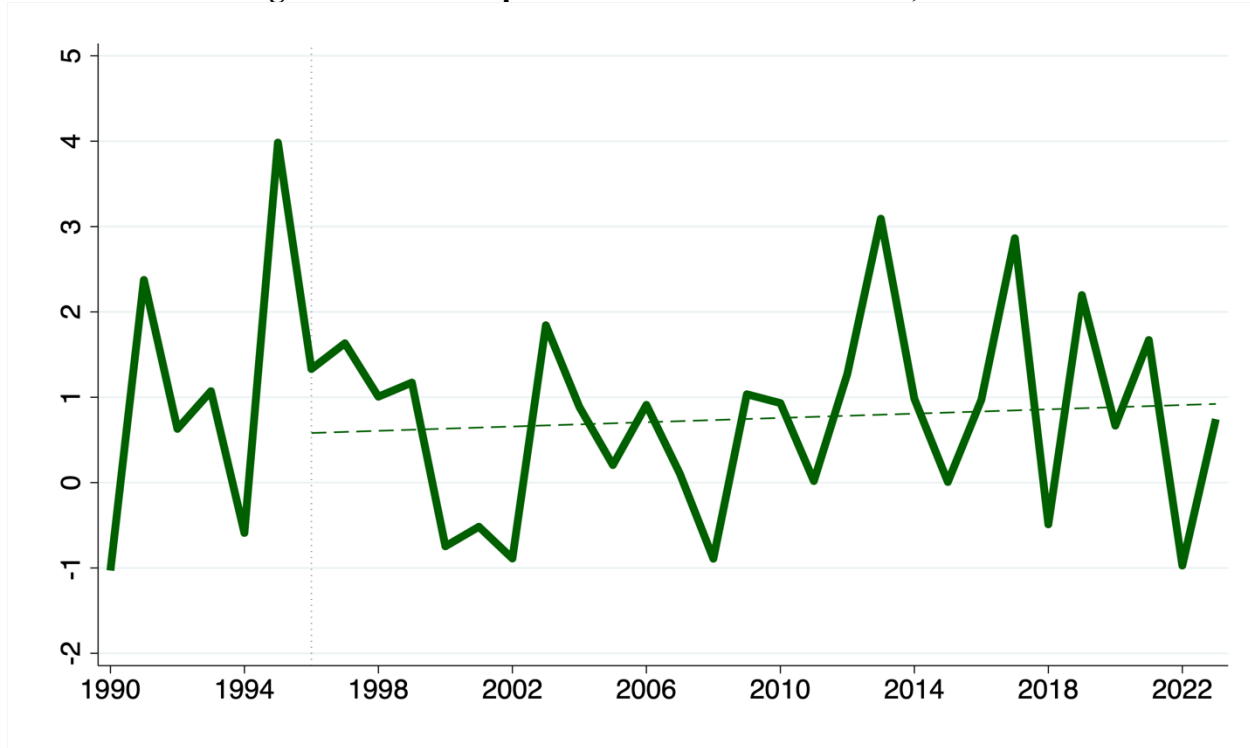
⁷ Source: CRSP-Compustat merged database, supra note 1.

Appendix Figure 8.
Number of Public Firms in the Information Technology Sector, 1990-2022⁸



⁸ Source: CRSP-Compustat merged database, supra note 1. Firms in the IT Sector are those belonging to two-digit Global Industry Classification Standard code of 45. These firms include those in software and services, technology hardware and equipment, and semiconductor and semiconductor equipment industries.

Appendix Figure 9.
Rolling One-Year Sharpe Ratio of U.S. Stock Market, 1990-2022⁹



⁹ Source: Kenneth R. French Data Library, https://mba.tuck.dartmouth.edu/pages/faculty/ken.french/ftp/F-F_Research_Data_5_Factors_2x3_daily_CSV.zip. We use the daily excess market returns and daily risk-free rate series and compute the rolling 252-trading-day cumulative market return and standard deviation of daily market returns. Then, we compute, on each day, the one-year Sharpe Ratio as the ratio of the 252-trading-day cumulative market return in excess of the annualized risk-free rate to the 252-trading-day standard deviation of daily returns annualized (multiplied by the square root of 252).

Appendix Table 1A. Statements of SEC Commissioners for Declining Number of Public Firms

| | |
|---|--------------------------|
| Good through August 7, 2022 | |
| | SEC Commissioners |
| | Elisse B. Walter (D) |
| | |
| I.O. Hypothesis | |
| • Anti-Trust | |
| • Economies of Scale/Winner-Take-All System/Network Effects | |
| | |
| • Other | |
| | |
| Important or Unimportant? | |
| | |
| Regulatory Hypothesis | |
| • Overregulation of Public Market | |
| | |
| • Deregulation of Private Market | |
| Important or Unimportant? | |
| | |
| State of Capital Markets (P/E or M/B) | |
| Important or Unimportant? | |

Appendix Table 1A. Statements of SEC Commissioners for Declining Number of Public Firms

| | |
|---|---|
| Good through August 7, 2022 | |
| | |
| | Luis A. Aguilar (D) |
| | |
| I.O. Hypothesis | |
| • Anti-Trust | |
| • Economies of Scale/Winner-Take-All System/Network Effects | |
| | |
| • Other | |
| | |
| Important or Unimportant? | |
| | |
| Regulatory Hypothesis | Yes |
| • Overregulation of Public Market | Yes "Supporters claim that the bill [JOBS Act] would improve capital formation in the United States by reducing the regulatory burden on capital raising. However, there is significant research to support the conclusion that disclosure requirements and other capital markets regulations enhance, rather than impede, capital formation, and that regulatory compliance costs are not a principal cause of the decline in IPO activity over the past decade." |
| | |
| • Deregulation of Private Market | |
| Important or Unimportant? | Burdensome Regulations for Public Firms: Unimportant |
| | |
| State of Capital Markets (P/E or M/B) | |
| Important or Unimportant? | |

Appendix Table 1A. Statements of SEC Commissioners for Declining Number of Public Firms

| | |
|---|---|
| Good through August 7, 2022 | |
| | |
| | Troy A. Paredes (R) |
| | |
| I.O. Hypothesis | |
| • Anti-Trust | |
| • Economies of Scale/Winner-Take-All System/Network Effects | |
| | |
| • Other | |
| | |
| Important or Unimportant? | |
| | |
| Regulatory Hypothesis | Yes |
| • Overregulation of Public Market | <p>Yes</p> <p>"When addressing a joint session of Congress last year, the President expressed his intent to 'cut away the red tape that prevents too many rapidly growing startup companies from raising capital and going public.' On April 5 of this year, the President signed into law the Jumpstart Our Business Startups (JOBS) Act to do exactly that. ... The JOBS Act looks to achieve its purpose by reducing the disclosure obligations and regulatory burdens that so-called 'emerging growth companies' confront when going public..."</p> |
| | |
| • Deregulation of Private Market | |
| Important or Unimportant? | Burdensome Regulations for Public Firms: Important |
| | |
| State of Capital Markets (P/E or M/B) | |
| Important or Unimportant? | |

Appendix Table 1A. Statements of SEC Commissioners for Declining Number of Public Firms

| | |
|---|---|
| Good through August 7, 2022 | |
| | |
| | Mary L. Schapiro (I) |
| | |
| I.O. Hypothesis | |
| • Anti-Trust | |
| • Economies of Scale/Winner-Take-All System/Network Effects | |
| | |
| • Other | |
| | |
| Important or Unimportant? | |
| | |
| Regulatory Hypothesis | Yes |
| • Overregulation of Public Market | <p>Yes "One study found that companies that had completed initial public offerings ranked the costs of SEC reporting requirements and officer liability introduced by the Sarbanes-Oxley Act of 2002 ("SOX") fairly low on the list of factors that affected their decision whether to conduct an initial public offering."</p> |
| | |
| • Deregulation of Private Market | <p>Yes "[T]he changes mandated by the JOBS Act could well have a very significant impact on the private offering market. ...The Act also significantly raises the thresholds for when companies have to start reporting with the SEC, which will allow companies to remain private for much longer, with many more investors, than they have in the past."</p> |
| Important or Unimportant? | Burdensome Regulations for Public Firms: Unimportant Deregulation of Private Capital Flows: Important |
| | |
| State of Capital Markets (P/E or M/B) | <p>Yes "Timing also is of great importance. Companies tend to go public when business conditions are good, profitability and valuations are high, and the cost of capital is low. ... Companies also tend to go public when companies with similar business models are overvalued and analysts may be overoptimistic about growth prospects of these companies."</p> |
| Important or Unimportant? | Important |

Appendix Table 1A. Statements of SEC Commissioners for Declining Number of Public Firms

| | |
|---|--|
| Good through August 7, 2022 | |
| | |
| | Daniel M. Gallagher (R) |
| | |
| I.O. Hypothesis | |
| • Anti-Trust | |
| • Economies of Scale/Winner-Take-All System/Network Effects | |
| | |
| • Other | |
| | |
| Important or Unimportant? | |
| | |
| Regulatory Hypothesis | Yes |
| • Overregulation of Public Market | <p>Yes</p> <p>"The impact of the decline in IPOs has been significant ... While pinpointing the exact causes has been difficult, the independent IPO Task Force concluded, crucially, 'that the cumulative effect of a sequence of regulatory actions, rather than one single event, lies at the heart of the crisis.' Paramount among these regulatory actions, of course, are the rules and regulations promulgated by the SEC."</p> |
| | <p>Another Quote:</p> <p>"[R]ather than thinking creatively about ways to promote capital formation, legislators and regulators are layering on law after law, regulation after regulation — strangling entrepreneurs, their enterprises, and of course their employees and customers."</p> |
| • Deregulation of Private Market | |
| Important or Unimportant? | Burdensome Regulations for Public Firms: Important |
| | |
| State of Capital Markets (P/E or M/B) | |
| Important or Unimportant? | |

Appendix Table 1A. Statements of SEC Commissioners for Declining Number of Public Firms

| | |
|---|---|
| Good through August 7, 2022 | |
| | |
| | Mary Jo White (I) |
| | |
| I.O. Hypothesis | |
| • Anti-Trust | |
| • Economies of Scale/Winner-Take-All System/Network Effects | |
| | |
| • Other | |
| | |
| Important or Unimportant? | |
| | |
| Regulatory Hypothesis | Yes |
| • Overregulation of Public Market | |
| | |
| • Deregulation of Private Market | <p>Yes "Our JOBS Act related-rulemaking will provide companies with a number of different alternatives to raise capital in the private markets. Some have even suggested that if the private markets develop sufficient liquidity, there may not be any reason for a company to go public or become a public company in the way we think of it now. ... [T]he JOBS Act provides additional avenues for raising capital in the private markets and may allow companies to stay private longer..."</p> |
| Important or Unimportant? | Deregulation of Private Capital Flows: Important |
| | |
| State of Capital Markets (P/E or M/B) | |
| Important or Unimportant? | |

Appendix Table 1A. Statements of SEC Commissioners for Declining Number of Public Firms

| | |
|---|---|
| Good through August 7, 2022 | |
| | |
| | Kara M. Stein (D) |
| | |
| I.O. Hypothesis | |
| • Anti-Trust | |
| • Economies of Scale/Winner-Take-All System/Network Effects | |
| | |
| • Other | |
| | |
| Important or Unimportant? | |
| | |
| Regulatory Hypothesis | Yes |
| • Overregulation of Public Market | <p>Yes "It simply has not been conclusively shown that so-called 'high regulatory costs' and 'burdensome SEC rules' actually discourage companies from accessing the public markets."</p> |
| | |
| • Deregulation of Private Market | <p>Yes "As a result of changes in both the law and regulations, private companies may now solicit investors and raise the capital they need in transactions outside of the view of the public. At the same time, there currently is an abundance of capital, which private companies are able to tap into and use to remain private for longer. These non-public companies are accessing private debt and private equity capital to fund their operations and growth."</p> |
| Important or Unimportant? | Burdensome Regulations for Public Firms: Unimportant Deregulation of Private Capital Flows: Important |
| | |
| State of Capital Markets (P/E or M/B) | |
| Important or Unimportant? | |

Appendix Table 1A. Statements of SEC Commissioners for Declining Number of Public Firms

| | |
|---|---|
| Good through August 7, 2022 | |
| | |
| | Michael S. Piwowar (R) |
| | |
| I.O. Hypothesis | |
| • Anti-Trust | |
| • Economies of Scale/Winner-Take-All System/Network Effects | |
| | |
| • Other | |
| | |
| Important or Unimportant? | |
| | |
| Regulatory Hypothesis | Yes |
| • Overregulation of Public Market | <p>Yes</p> <p>"[T]he disclosure regime of the federal securities laws has been hijacked in recent years by various special interests. ...[An] example is the conflict minerals disclosure requirement of Dodd-Frank. ...[P]roponents of the Dodd-Frank provision have singled out publicly-traded companies — and only publicly-traded companies — to be forced to admit that their products are not 'conflict free.' ... I am astonished that people believe it is appropriate to arbitrarily and capriciously penalize shareholders of publicly-traded companies ... while giving significant cost advantages to privately-held companies..."</p> |
| | <p>Another Quote:</p> <p>"[R]egulatory changes may have contributed to the downward trend in IPOs. The Sarbanes-Oxley Act of 2002 imposed higher regulatory burdens on smaller public companies."</p> |
| • Deregulation of Private Market | <p>Yes</p> <p>"The availability of alternative sources of capital, such as from private equity, hedge funds, and even mutual funds, means that private firms may be able to finance growth without having to go public. ...Modifications to the Section 12(g) shareholder threshold introduced by the Jumpstart Our Business Startups ('JOBS') Act in 2012 also make it more likely that companies will stay private for a longer period of time."</p> |
| Important or Unimportant? | Burdensome Regulations for Public Firms: Important Deregulation of Private Capital Flows: Important |
| | |
| | |
| State of Capital Markets (P/E or M/B) | |
| Important or Unimportant? | |

Appendix Table 1A. Statements of SEC Commissioners for Declining Number of Public Firms

| | |
|---|--|
| Good through August 7, 2022 | |
| | |
| | Jay Clayton (I) |
| | |
| I.O. Hypothesis | Yes |
| • Anti-Trust | |
| • Economies of Scale/Winner-Take-All System/Network Effects | |
| • Other | Correlation Between IPOs and M&A "It is not clear to me that there is a correlation between IPOs and M&A activity, and I cannot predict the effect that an increase in IPOs would have on public M&A activity..." |
| Important or Unimportant? | Unimportant |
| | |
| Regulatory Hypothesis | Yes |
| • Overregulation of Public Market | Yes "While there are many factors that drive the decision of whether to be a public company, increased disclosure and other burdens may render alternatives for raising capital, such as the private markets, increasingly attractive to companies that only a decade ago would have been all but certain candidates for the public markets." |
| • Deregulation of Private Market | |
| Important or Unimportant? | Burdensome Regulations for Public Firms: Important |
| | |
| State of Capital Markets (P/E or M/B) | |
| Important or Unimportant? | |

Appendix Table 1A. Statements of SEC Commissioners for Declining Number of Public Firms

| | |
|---|--|
| Good through August 7, 2022 | |
| | |
| | Robert J. Jackson Jr. (I) |
| | |
| I.O. Hypothesis | Yes |
| • Anti-Trust | |
| • Economies of Scale/Winner-Take-All System/Network Effects | |
| | |
| • Other | <p>Middle-Market Tax (Flat Tax of 7%) "[T]his tax on going public is far more significant for middle-market companies than for larger firms. ... With the deck stacked against them, it's no wonder that middle-market IPOs have been on a steady decline. And this has had real effects across our economy, which is now dominated by fewer and larger public companies than ever before."</p> |
| | <p>Concentration of Stock Exchanges "[T]he concentration of power in just a few players of enormous size and scope is a potential problem in nearly every area the SEC oversees. ... We currently have 13 public stock exchanges, which sounds like competition, until you realize that 12 of them are owned by just three corporations. ... [O]ur exchanges do this so they can charge investors to connect to each exchange."</p> |
| Important or Unimportant? | <p>Important Jackson suggests that the high cost of going public for small- and mid-sized firms (7%) leads to increased concentration. He also finds increased concentration among various features of the capital markets (e.g., stock exchanges, credit rating agencies, accountancies).</p> |
| | |
| Regulatory Hypothesis | Yes |
| | |
| • Overregulation of Public Market | <p>Yes "These days in Washington folks seem convinced that so-called red tape is the reason why small companies so rarely go public. We've even come up with a name for it: 'burdensome regulation.' But I think the story is much more complicated than that."</p> |
| | <p>Another Quote: "[T]here is a deeper assumption behind today's rule [expanding the definition of SRCs] that I cannot accept: that the hidden secret to helping small companies go and stay public is simply cutting red tape. ... [T]here's zero evidence for it."</p> |
| • Deregulation of Private Market | |
| Important or Unimportant? | Burdensome Regulations for Public Firms: Unimportant |
| | |
| State of Capital Markets (P/E or M/B) | |
| Important or Unimportant? | |

Appendix Table 1A. Statements of SEC Commissioners for Declining Number of Public Firms

| | |
|---|--|
| Good through August 7, 2022 | |
| | |
| | Elad L. Roisman (R) |
| | |
| I.O. Hypothesis | |
| • Anti-Trust | |
| • Economies of Scale/Winner-Take-All System/Network Effects | |
| | |
| • Other | |
| | |
| Important or Unimportant? | |
| | |
| Regulatory Hypothesis | Yes |
| • Overregulation of Public Market | <p>Yes</p> <p>"It is not secret that the owners of private companies struggle with the decision of whether to enter our public markets given the costs and challenges that come with it. ... I believe it is critical for the SEC to scrutinize whether its rules and regulations have contributed to this decreasing public company."</p> |
| | |
| • Deregulation of Private Market | |
| Important or Unimportant? | Burdensome Regulations for Public Firms: Important |
| | |
| State of Capital Markets (P/E or M/B) | |
| Important or Unimportant? | |

Appendix Table 1A. Statements of SEC Commissioners for Declining Number of Public Firms

| | |
|---|---|
| Good through August 7, 2022 | |
| | |
| | Allison Herren Lee (D) |
| | |
| I.O. Hypothesis | Yes |
| • Anti-Trust | |
| • Economies of Scale/Winner-Take-All System/Network Effects | <p>Yes "Some research suggests that small companies may find it more beneficial to be acquired by a larger company in the same industry rather than going public; the resulting economies of scale and scope may produce greater returns than the company could expect to generate organically on its own."</p> |
| | |
| • Other | |
| | |
| Important or Unimportant? | <p>Important Lee suggests that rising economies of scale, among other factors, may contribute to the decline in public firms.</p> |
| | |
| Regulatory Hypothesis | Yes |
| | |
| • Overregulation of Public Market | |
| | |
| • Deregulation of Private Market | <p>Yes "Congress and the Commission have steadily relaxed restrictions around private markets in a manner that has spurred their dramatic growth. ... Because of the vast capital available, relaxed legal restrictions, and greater opportunities for founders and early investors to cash out, companies can remain in the private markets nearly indefinitely."</p> |
| Important or Unimportant? | Deregulation of Private Capital Flows: Important |
| | |
| | |
| State of Capital Markets (P/E or M/B) | |
| Important or Unimportant? | |

Appendix Table 1A. Statements of SEC Commissioners for Declining Number of Public Firms

| | |
|---|-------------------|
| Good through August 7, 2022 | |
| | |
| | Mark T. Uyeda (R) |
| | |
| I.O. Hypothesis | |
| • Anti-Trust | |
| • Economies of Scale/Winner-Take-All System/Network Effects | |
| | |
| • Other | |
| | |
| Important or Unimportant? | |
| | |
| Regulatory Hypothesis | |
| • Overregulation of Public Market | |
| | |
| • Deregulation of Private Market | |
| Important or Unimportant? | |
| | |
| State of Capital Markets (P/E or M/B) | |
| Important or Unimportant? | |

Appendix Table 1A. Statements of SEC Commissioners for Declining Number of Public Firms

| | |
|---|---|
| Good through August 7, 2022 | |
| | |
| | Caroline A. Crenshaw (D) |
| | |
| I.O. Hypothesis | |
| • Anti-Trust | |
| • Economies of Scale/Winner-Take-All System/Network Effects | |
| | |
| • Other | |
| | |
| Important or Unimportant? | |
| | |
| Regulatory Hypothesis | Yes |
| • Overregulation of Public Market | |
| | |
| • Deregulation of Private Market | Yes "Increased exemptions to public offering registration requirements have put into place strong incentives to remain private for longer than ever before, and more capital is raised in the private markets than in the public markets." |
| Important or Unimportant? | Deregulation of Private Capital Flows: Important |
| | |
| State of Capital Markets (P/E or M/B) | |
| Important or Unimportant? | |

Appendix Table 1A. Statements of SEC Commissioners for Declining Number of Public Firms

| | |
|---|--|
| Good through August 7, 2022 | |
| | |
| | Hester M. Peirce (R) |
| | |
| I.O. Hypothesis | Maybe |
| • Anti-Trust | |
| • Economies of Scale/Winner-Take-All System/Network Effects | |
| | |
| • Other | Increased Concentration Due to M&A "Much of this [company] growth is, however, coming through private offerings, or through mergers and not through IPOs. This dearth of public companies does a few harmful things. To the extent that companies opt for acquisition as an exit for investors instead of going public, that results in greater concentration in the market." |
| | |
| Important or Unimportant? | Potentially Important |
| | |
| Regulatory Hypothesis | Yes |
| • Overregulation of Public Market | Yes "[W]e put lots of requirements on our public companies. Some of these requirements may be disproportionately burdensome for small companies" (e.g., Conflict Minerals Rule, Pay Ratio Rule). |
| | |
| • Deregulation of Private Market | |
| Important or Unimportant? | Burdensome Regulations for Public Firms: Important |
| | |
| State of Capital Markets (P/E or M/B) | |
| Important or Unimportant? | |

Appendix Table 1A. Statements of SEC Commissioners for Declining Number of Public Firms

| | | |
|---|------------------|---------------------|
| Good through August 7, 2022 | | |
| | | |
| | Gary Gensler (D) | Jaime Lizárraga (D) |
| | | |
| I.O. Hypothesis | | |
| • Anti-Trust | | |
| • Economies of Scale/Winner-Take-All System/Network Effects | | |
| | | |
| • Other | | |
| | | |
| Important or Unimportant? | | |
| | | |
| Regulatory Hypothesis | | |
| • Overregulation of Public Market | | |
| | | |
| • Deregulation of Private Market | | |
| Important or Unimportant? | | |
| | | |
| State of Capital Markets (P/E or M/B) | | |
| Important or Unimportant? | | |

Appendix Table IB. Statements of FTC Commissioners and Ass't Att'y Gen'ls for Antitrust on Increasing Industrial Concentration

| | | |
|---|--------------------------|-------------------|
| Good through August 7, 2022 | | |
| | FTC Commissioners | |
| | J. Thomas Rosch (R) | Jon Leibowitz (D) |
| | | |
| I.O. Hypothesis | | |
| | | |
| • Anti-Trust | | |
| | | |
| • Economies of Scale/Winner-Take-All System/Network Effects | | |
| | | |
| | | |
| • Other | | |
| | | |
| Important or Unimportant? | | |
| | | |
| Regulatory Hypothesis | | |
| | | |
| • Overregulation of Public Market | | |
| | | |
| • Deregulation of Private Market | | |
| | | |
| Important or Unimportant? | | |
| | | |
| State of Capital Markets (P/E or M/B) | | |
| Important or Unimportant? | | |

Appendix Table IB. Statements of FTC Commissioners and Ass't Att'y Gen'ls for Antitrust on Increasing Industrial Concentration

| | |
|---|--|
| Good through August 7, 2022 | |
| | |
| | Joshua D. Wright (R) |
| | |
| I.O. Hypothesis | Yes |
| | |
| • Anti-Trust | Yes (After End of Tenure) "There's simply no persuasive evidence, in my mind, that market concentration, or market power, is systematically on the rise in antitrust-relevant markets, much less that they are on the rise because of lax antitrust enforcement." |
| • Economies of Scale/Winner-Take-All System/Network Effects | |
| | |
| • Other | |
| | |
| Important or Unimportant? | Lax Antitrust Policy: Unimportant |
| | |
| Regulatory Hypothesis | |
| • Overregulation of Public Market | |
| • Deregulation of Private Market | |
| | |
| Important or Unimportant? | |
| | |
| State of Capital Markets (P/E or M/B) | |
| Important or Unimportant? | |

Appendix Table IB. Statements of FTC Commissioners and Ass't Att'y Gen'ls for Antitrust on Increasing Industrial Concentration

| | |
|---|-----------------|
| Good through August 7, 2022 | |
| | |
| | Julie Brill (D) |
| | |
| I.O. Hypothesis | |
| | |
| • Anti-Trust | |
| • Economies of Scale/Winner-Take-All System/Network Effects | |
| | |
| • Other | |
| | |
| Important or Unimportant? | |
| | |
| Regulatory Hypothesis | |
| • Overregulation of Public Market | |
| • Deregulation of Private Market | |
| | |
| Important or Unimportant? | |
| | |
| State of Capital Markets (P/E or M/B) | |
| Important or Unimportant? | |

Appendix Table IB. Statements of FTC Commissioners and Ass't Att'y Gen'ls for Antitrust on Increasing Industrial Concentration

| | |
|---|---|
| Good through August 7, 2022 | |
| | Edith Ramirez (D) |
| I.O. Hypothesis | Yes |
| <ul style="list-style-type: none"> • Anti-Trust | <p>Yes "[W]e hear that U.S. markets have become too concentrated... The suggestion — and sometimes outright criticism — is that antitrust enforcement has been too lax in recent years ... Those who think we are too permissive overestimate antitrust enforcement as a way of addressing some of our country's economic ills."</p> |
| <ul style="list-style-type: none"> • Economies of Scale/Winner-Take-All System/Network Effects | <p>Yes "Network effects may lead to increased concentration in sharing economy markets, as they do in other markets."</p> |
| | <p>Another Quote: "[L]arge firms can have scale economies and other efficiencies that are beneficial for consumers."</p> |
| <ul style="list-style-type: none"> • Other | |
| Important or Unimportant? | Economies of Scale/Winner-Take-All/Network Effects: Important |
| Regulatory Hypothesis | |
| <ul style="list-style-type: none"> • Overregulation of Public Market | |
| <ul style="list-style-type: none"> • Deregulation of Private Market | |
| Important or Unimportant? | |
| State of Capital Markets (P/E or M/B) | |
| Important or Unimportant? | |

Appendix Table IB. Statements of FTC Commissioners and Ass't Att'y Gen'ls for Antitrust on Increasing Industrial Concentration

| | |
|---|--|
| Good through August 7, 2022 | |
| | Terrell McSweeney (D) |
| I.O. Hypothesis | Yes |
| <ul style="list-style-type: none"> • Anti-Trust | <p>Yes "[T]here are also some areas of the antitrust enterprise that — to be quite candid — could use some work. First, we must enforce effectively. Second, we must continue to protect opportunity and advocate for competition. Third, we must eliminate barriers to effective antitrust enforcement, including antiquated federal immunities and protectionist state laws."</p> |
| <ul style="list-style-type: none"> • Economies of Scale/Winner-Take-All System/Network Effects | <p>Yes "Economies of scale in consumption — commonly referred to as network effects — may play a greater role in certain digital markets. The effects of scale may make certain digital markets more susceptible to consolidation of market power."</p> |
| <ul style="list-style-type: none"> • Other | |
| Important or Unimportant? | Economies of Scale/Winner-Take-All/Network Effects: Important |
| Regulatory Hypothesis | |
| <ul style="list-style-type: none"> • Overregulation of Public Market | |
| <ul style="list-style-type: none"> • Deregulation of Private Market | |
| Important or Unimportant? | |
| State of Capital Markets (P/E or M/B) | |
| Important or Unimportant? | |

Appendix Table IB. Statements of FTC Commissioners and Ass't Att'y Gen'ls for Antitrust on Increasing Industrial Concentration

| | |
|---|---|
| Good through August 7, 2022 | |
| | |
| | Maureen K. Ohlhausen (R) |
| | |
| I.O. Hypothesis | Yes |
| | |
| <ul style="list-style-type: none"> • Anti-Trust | <p>Yes "Some critics ... persist in their claim that the government has not effectively enforced antitrust laws. That charge, however, simply cannot be squared with the facts."</p> |
| <ul style="list-style-type: none"> • Economies of Scale/Winner-Take-All System/Network Effects | <p>Yes "Harold Demsetz showed that scale economies can produce a concentrated industry structure, in which efficient firms enjoy cost advantages and hence economic profits."</p> |
| | |
| | |
| <ul style="list-style-type: none"> • Other | |
| | |
| Important or Unimportant? | Economies of Scale/Winner-Take-All/Network Effects: Important |
| | |
| Regulatory Hypothesis | |
| | |
| <ul style="list-style-type: none"> • Overregulation of Public Market | |
| <ul style="list-style-type: none"> • Deregulation of Private Market | |
| | |
| Important or Unimportant? | |
| | |
| State of Capital Markets (P/E or M/B) | |
| Important or Unimportant? | |

Appendix Table IB. Statements of FTC Commissioners and Ass't Att'y Gen'ls for Antitrust on Increasing Industrial Concentration

| | |
|---|--|
| Good through August 7, 2022 | |
| | |
| | Joseph J. Simons (R) |
| | |
| I.O. Hypothesis | Yes |
| | |
| • Anti-Trust | <p>Yes "Merger retrospectives by FTC economists and others are advancing our understanding of the impacts of recent merger enforcement policy. One can certainly read that body of work as indicating under-enforcement."</p> |
| • Economies of Scale/Winner-Take-All System/Network Effects | |
| | |
| • Other | |
| | |
| Important or Unimportant? | Although Simons acknowledges the possibility of lax antitrust enforcement, he also stresses that we must |
| | |
| Regulatory Hypothesis | Yes |
| • Overregulation of Public Market | <p>Yes Some "studies ... link a decline in business start-ups to rising market power ... [I]f it is true that bigger companies are making more fixed-cost and sunk-cost investments, then start-ups may face higher hurdles to entering the market, which would reduce the number of start-ups. Other factors also may be involved, such as an increase in regulatory burdens that disproportionately affect potential new entrants."</p> |
| • Deregulation of Private Market | |
| | |
| Important or Unimportant? | Burdensome Regulations for Public Firms: Potentially Important |
| | |
| State of Capital Markets (P/E or M/B) | |
| Important or Unimportant? | |

Appendix Table IB. Statements of FTC Commissioners and Ass't Att'y Gen'ls for Antitrust on Increasing Industrial Concentration

| | |
|---|---|
| Good through August 7, 2022 | |
| | Rohit Chopra (D) |
| I.O. Hypothesis | Yes |
| <ul style="list-style-type: none"> • Anti-Trust | <p>Yes "Public policy choices, like narrowing the scrutiny of vertical mergers to allow mass consolidation, likely contributed to the startup slump."</p> |
| <ul style="list-style-type: none"> • Economies of Scale/Winner-Take-All System/Network Effects | <p>Yes "An unregulated market [for data-intensive digital platforms] is likely to tip toward a handful of platforms, or even just one. As more users join on a platform, it becomes even more valuable ... This is known as a network effect."</p> |
| | |
| <ul style="list-style-type: none"> • Other | |
| | |
| Important or Unimportant? | Economies of Scale/Winner-Take-All/Network Effects: Important |
| Regulatory Hypothesis | |
| <ul style="list-style-type: none"> • Overregulation of Public Market | |
| <ul style="list-style-type: none"> • Deregulation of Private Market | |
| Important or Unimportant? | |
| State of Capital Markets (P/E or M/B) | |
| Important or Unimportant? | |

Appendix Table IB. Statements of FTC Commissioners and Ass't Att'y Gen'ls for Antitrust on Increasing Industrial Concentration

| | |
|---|-------------------|
| Good through August 7, 2022 | |
| | |
| | Alvaro Bedoya (D) |
| | |
| I.O. Hypothesis | |
| | |
| • Anti-Trust | |
| | |
| • Economies of Scale/Winner-Take-All System/Network Effects | |
| | |
| | |
| • Other | |
| | |
| Important or Unimportant? | |
| | |
| Regulatory Hypothesis | |
| | |
| • Overregulation of Public Market | |
| | |
| • Deregulation of Private Market | |
| | |
| Important or Unimportant? | |
| | |
| State of Capital Markets (P/E or M/B) | |
| Important or Unimportant? | |

Appendix Table IB. Statements of FTC Commissioners and Ass't Att'y Gen'ls for Antitrust on Increasing Industrial Concentration

| | |
|---|--|
| Good through August 7, 2022 | |
| | Christine S. Wilson (R) |
| I.O. Hypothesis | Yes |
| <ul style="list-style-type: none"> • Anti-Trust | <p>Yes</p> <p>"It is fashionable today to argue that antitrust has long been too permissive... According to some proponents of this view, our alleged laxity in antitrust enforcement has led to historic levels of consolidation and concentration... Yet there is scant evidence that markets are less competitive today than they were in some ill-defined golden age of yore. Commentators most often point to general upward trends in the number of mergers, their valuations, or the size of the largest business. While I do not dispute the accuracy of these broad statistics, they simply do not support such a sweeping claim about the failure of American antitrust policy."</p> |
| <ul style="list-style-type: none"> • Economies of Scale/Winner-Take-All System/Network Effects | <p>Yes</p> <p>"Online markets typically have network effects that make them susceptible to 'tipping' toward one dominant firm."</p> |
| | <p>Another Quote:</p> <p>"[S]ome firms were winning competitive battles and achieving large shares not for pernicious reasons but because they were more efficient than other firms, and that other firms with significant shares benefitted from economies of scale."</p> |
| <ul style="list-style-type: none"> • Other | |
| Important or Unimportant? | Economies of Scale/Winner-Take-All/Network Effects: Important |
| Regulatory Hypothesis | |
| <ul style="list-style-type: none"> • Overregulation of Public Market | |
| <ul style="list-style-type: none"> • Deregulation of Private Market | |
| Important or Unimportant? | |
| State of Capital Markets (P/E or M/B) | |
| Important or Unimportant? | |

Appendix Table IB. Statements of FTC Commissioners and Ass't Att'y Gen'ls for Antitrust on Increasing Industrial Concentration

| | |
|---|---|
| Good through August 7, 2022 | |
| | Rebecca Kelly Slaughter (D) |
| I.O. Hypothesis | Yes |
| <ul style="list-style-type: none"> • Anti-Trust | <p>Yes "I ... think that where we are today, with this breakdown in deterrence, is the result of 40 years of courts' narrowing case law and periods of time where the antitrust agencies intentionally took a hands-off approach to market concentration and market power."</p> |
| <ul style="list-style-type: none"> • Economies of Scale/Winner-Take-All System/Network Effects | <p>Yes "Studies show increasing concentration in a number of sectors, including in technology markets. It is unquestionable that high concentration across industries can lead to increased market power within relevant antitrust markets ... When we add in technology-specific issues like data collection, network effects, winner-take-all markets, ... the challenges abound."</p> |
| | |
| <ul style="list-style-type: none"> • Other | |
| | |
| Important or Unimportant? | Economies of Scale/Winner-Take-All/Network Effects: Important |
| | |
| Regulatory Hypothesis | |
| <ul style="list-style-type: none"> • Overregulation of Public Market | |
| <ul style="list-style-type: none"> • Deregulation of Private Market | |
| Important or Unimportant? | |
| | |
| State of Capital Markets (P/E or M/B) | |
| Important or Unimportant? | |

Appendix Table IB. Statements of FTC Commissioners and Ass't Att'y Gen'ls for Antitrust on Increasing Industrial Concentration

| | |
|---|--|
| Good through August 7, 2022 | |
| | |
| | Noah Joshua Phillips (R) |
| | |
| I.O. Hypothesis | Yes |
| | |
| • Anti-Trust | <p>Yes</p> <p>"The history of mergers and acquisitions in America tells us that a merger wave is not likely caused by a change in antitrust law alone."</p> |
| • Economies of Scale/Winner-Take-All System/Network Effects | <p>Yes</p> <p>"Many innovation markets ... display 'network effects,' meaning that the product becomes more valuable to consumers, relative to competing products, as more consumers use it ... While generating benefits, network effects can also create lock-in, path dependence, and high barriers to entry, because firms that gain significant market penetration early on may enjoy significant advantages over laggards and because most or all of the market may eventually 'tip' to an incumbent who can only be dislodged by a superior product or a significant cost advantage."</p> |
| | <p>Another Quote:</p> <p>"Concentration may just as well result from the competitive process itself; for instance, as a result of superior efficiency. Economists have long recognized that economies of scale, on the demand and supply sides, can result in firm growth and concentration."</p> |
| • Other | |
| | |
| Important or Unimportant? | Economies of Scale/Winner-Take-All/Network Effects: Important |
| | |
| Regulatory Hypothesis | |
| | |
| • Overregulation of Public Market | |
| | |
| • Deregulation of Private Market | |
| | |
| Important or Unimportant? | |
| | |
| State of Capital Markets (P/E or M/B) | |
| Important or Unimportant? | |

Appendix Table IB. Statements of FTC Commissioners and Ass't Att'y Gen'ls for Antitrust on Increasing Industrial Concentration

| | |
|---|---|
| Good through August 7, 2022 | |
| | |
| | Lina Khan (D) |
| | |
| I.O. Hypothesis | Yes |
| | |
| <ul style="list-style-type: none"> • Anti-Trust | <p>Yes "[W]e need to address rampant consolidation and the dominance that it has enabled across markets ...Given the ongoing merger surge, there is a real risk that markets will become only more consolidated absent our vigilance and assertive posture."</p> |
| <ul style="list-style-type: none"> • Economies of Scale/Winner-Take-All System/Network Effects | |
| | |
| <ul style="list-style-type: none"> • Other | |
| | |
| Important or Unimportant? | Lax Antitrust Policy: Important |
| | |
| Regulatory Hypothesis | |
| <ul style="list-style-type: none"> • Overregulation of Public Market | |
| <ul style="list-style-type: none"> • Deregulation of Private Market | |
| | |
| Important or Unimportant? | |
| | |
| State of Capital Markets (P/E or M/B) | |
| Important or Unimportant? | |

Appendix Table IB. Statements of FTC Commissioners and Ass't Att'y Gen'ls for Antitrust on Increasing Industrial Concentration

| | |
|---|---|
| Good through August 7, 2022 | |
| | Assistant Attorneys General (DOJ's Antitrust Division) |
| | Sharon Pozen (Acting) |
| | |
| I.O. Hypothesis | |
| • Anti-Trust | |
| • Economies of Scale/Winner-Take-All System/Network Effects | |
| | |
| • Other | |
| | |
| Important or Unimportant? | |
| | |
| Regulatory Hypothesis | |
| • Overregulation of Public Market | |
| • Deregulation of Private Market | |
| | |
| Important or Unimportant? | |
| | |
| State of Capital Markets (P/E or M/B) | |
| Important or Unimportant? | |

Appendix Table IB. Statements of FTC Commissioners and Ass't Att'y Gen'ls for Antitrust on Increasing Industrial Concentration

| | |
|---|----------------------------|
| Good through August 7, 2022 | |
| | |
| | Joseph F. Wayland (Acting) |
| | |
| I.O. Hypothesis | |
| | |
| • Anti-Trust | |
| • Economies of Scale/Winner-Take-All System/Network Effects | |
| | |
| • Other | |
| | |
| Important or Unimportant? | |
| | |
| Regulatory Hypothesis | |
| • Overregulation of Public Market | |
| • Deregulation of Private Market | |
| | |
| Important or Unimportant? | |
| | |
| State of Capital Markets (P/E or M/B) | |
| Important or Unimportant? | |

Appendix Table IB. Statements of FTC Commissioners and Ass't Att'y Gen'ls for Antitrust on Increasing Industrial Concentration

| | |
|---|--|
| Good through August 7, 2022 | |
| | Renata Hesse (Acting) |
| I.O. Hypothesis | Yes |
| <ul style="list-style-type: none"> • Anti-Trust | <p>Yes</p> <p>"In the waning decades of the twentieth century, there was a tendency for antitrust enforcers to want to compromise with parties in antitrust disputes. With the unfounded Chicago-School presumption that mergers often benefit competition, many have wanted to save mergers by trimming off their anticompetitive effects with minimal divestitures or with behavioral limitations. Antitrust enforcers at the Antitrust Division and the FTC have become justifiably more skeptical about the promise of procompetitive benefits of mergers and of the likelihood that remedies solve the competitive concerns. As a result, we are more and more litigating to challenge mergers we see as fundamentally problematic and difficult, if not impossible, to fix."</p> |
| <ul style="list-style-type: none"> • Economies of Scale/Winner-Take-All System/Network Effects | <p>Yes</p> <p>"Markets can become concentrated for benign reasons ... [N]etwork effects could lead one firm to gain all or the lion's share of a market for a time."</p> |
| | <p>Another Quote:</p> <p>"[M]any high-tech markets are characterized by network effects, where the value of a product to consumers increases with the total number of users of the product ... This type of positive feedback benefits consumers and can operate as a powerful barrier to the success of new entrants and existing fringe competitors. In some markets, particularly platform markets, tipping can occur, resulting in a "winner take all," or "winner take most" outcome.</p> |
| <ul style="list-style-type: none"> • Other | |
| Important or Unimportant? | Economies of Scale/Winner-Take-All/Network Effects: Important |
| Regulatory Hypothesis | |
| <ul style="list-style-type: none"> • Overregulation of Public Market | |
| <ul style="list-style-type: none"> • Deregulation of Private Market | |
| Important or Unimportant? | |
| State of Capital Markets (P/E or M/B) | |
| Important or Unimportant? | |

Appendix Table IB. Statements of FTC Commissioners and Ass't Att'y Gen'ls for Antitrust on Increasing Industrial Concentration

| | |
|---|--|
| Good through August 7, 2022 | |
| | |
| | William Baer |
| I.O. Hypothesis | Yes |
| <ul style="list-style-type: none"> • Anti-Trust | <p>Yes (After End of Tenure) "In my view, the fear of getting it wrong warped antitrust enforcement. That is my fundamental concern with the state of antitrust enforcement today. It is too cautious, too worried about adverse effects of 'over enforcement.'"</p> |
| <ul style="list-style-type: none"> • Economies of Scale/Winner-Take-All System/Network Effects | <p>Yes (After End of Tenure) "We need, as they argue, to take a fresh look at behavior by dominant firms that has the purpose and effect of limiting the ability of actual or would-be competitors to offer meaningful alternatives to those with monopoly or near-monopoly power. That concern manifests itself increasingly in high tech markets, where network effects make it more likely that the market will 'tip' in the direction of one provider."</p> |
| <ul style="list-style-type: none"> • Other | |
| Important or Unimportant? | Economies of Scale/Winner-Take-All/Network Effects: Important |
| Regulatory Hypothesis | |
| <ul style="list-style-type: none"> • Overregulation of Public Market | |
| <ul style="list-style-type: none"> • Deregulation of Private Market | |
| Important or Unimportant? | |
| State of Capital Markets (P/E or M/B) | |
| Important or Unimportant? | |

Appendix Table IB. Statements of FTC Commissioners and Ass't Att'y Gen'ls for Antitrust on Increasing Industrial Concentration

| | |
|---|--|
| Good through August 7, 2022 | |
| | |
| | Makan Delrahim |
| I.O. Hypothesis | Yes |
| <ul style="list-style-type: none"> • Anti-Trust | <p>Yes "[A]ny casual observer or consumer will notice that market concentration is increasing in certain sectors, and the [2016] CEA report has a level of basic intuitive appeal. Yet it takes a tremendous leap of logic to conclude that antitrust law enforcement is the cause of these particular trends."</p> |
| <ul style="list-style-type: none"> • Economies of Scale/Winner-Take-All System/Network Effects | <p>Yes "[I]n certain platform markets involving network effects, there may be barriers to entry or a tendency toward a single firm emerging as the sole winner."</p> |
| | |
| <ul style="list-style-type: none"> • Other | |
| | |
| Important or Unimportant? | Economies of Scale/Winner-Take-All/Network Effects: Important |
| | |
| Regulatory Hypothesis | |
| <ul style="list-style-type: none"> • Overregulation of Public Market | |
| <ul style="list-style-type: none"> • Deregulation of Private Market | |
| Important or Unimportant? | |
| | |
| State of Capital Markets (P/E or M/B) | |
| Important or Unimportant? | |

Appendix Table IB. Statements of FTC Commissioners and Ass't Att'y Gen'ls for Antitrust on Increasing Industrial Concentration

| | |
|---|---|
| Good through August 7, 2022 | |
| | Jonathan Kanter |
| I.O. Hypothesis | Yes |
| <ul style="list-style-type: none"> • Anti-Trust | <p>Yes "I am here to declare that the era of lax enforcement is over, and the new era of vigorous and effective antitrust law enforcement has begun."</p> |
| <ul style="list-style-type: none"> • Economies of Scale/Winner-Take-All System/Network Effects | |
| <ul style="list-style-type: none"> • Other | |
| Important or Unimportant? | Lax Antitrust Policy: Important |
| Regulatory Hypothesis | |
| <ul style="list-style-type: none"> • Overregulation of Public Market | |
| <ul style="list-style-type: none"> • Deregulation of Private Market | |
| Important or Unimportant? | |
| State of Capital Markets (P/E or M/B) | |
| Important or Unimportant? | |

Appendix Table 2.
Distribution of Public Firms by Market Capitalization, 1996-2022¹⁰

| Market Capitalization (in Mil of 2022 Dollars) Percentile (%) Cutoffs by Year | | | | |
|--|----------------|----------------|----------------|----------------|
| | 20% | 40% | 60% | 80% |
| 1996 | 33.48 | 94.79 | 256.14 | 892.73 |
| 2000 | 44.72 | 135.63 | 424.64 | 1,666.97 |
| 2004 | 79.50 | 238.43 | 653.61 | 2,192.51 |
| 2008 | 93.64 | 279.30 | 748.79 | 2,774.87 |
| 2012 | 72.15 | 277.34 | 866.24 | 3,121.10 |
| 2016 | 105.79 | 390.16 | 1,244.35 | 4,224.93 |
| 2019 | 98.45 | 395.41 | 1,328.35 | 4,592.29 |
| 2022 | 138.27 | 413.00 | 1,430.59 | 5,316.61 |
| % Growth (1997-2022) | 313.03% | 335.68% | 458.52% | 495.55% |

The upper left-hand cell shows the stock market capitalization of the smallest 20% of public firms in 1997. Moving down that left-hand column, one sees that the stock market capitalization of the smallest firms had more than doubled by 2022. (The capitalization numbers are adjusted for inflation.) Each quintile grew substantially, but the largest growth was of the already-large quintiles.

¹⁰ Source: Market Capitalization data was obtained from the CRSP-Compustat merged database, supra note 1. The GDP deflator was obtained from the Federal Reserve Bank of St. Louis's Economic Database, at <https://fred.stlouisfed.org/series/GDPDEF>.

**Appendix Table 3.
Distribution of Mergers of Public Companies by Size, 1996-2022¹¹**

| Distribution of M&A Transactions, by Acquirer and Target Size Quintiles | | | | | | | | |
|--|--------------|-------------------------------------|--------------|--------------|--------------|----------------|--------------|--------------|
| | | Acquirer Market Cap Quintile | | | | | | |
| | | 1 (smallest) | 2 | 3 | 4 | 5 (largest) | Total (%) | Total (#) |
| Target Market Cap Quintile | 1 (smallest) | 3.23% | 4.68% | 4.96% | 3.76% | 3.55% | 20.18% | 875 |
| | 2 | 0.12% | 1.73% | 5.49% | 5.86% | 7.24% | 20.43% | 886 |
| | 3 | 0.09% | 0.30% | 2.05% | 6.94% | 12.45% | 21.84% | 947 |
| | 4 | 0.02% | 0.07% | 0.21% | 3.87% | 16.85% | 21.03% | 912 |
| | 5 (largest) | 0.00% | 0.00% | 0.02% | 0.32% | 16.19% | 16.53% | 717 |
| | Total | 3.46% | 6.78% | 12.73% | 20.75% | 56.28% | 100.00% | 4,337 |

The upper left cell (column “1” and row “1”) shows the percentage of total mergers between public acquirers and targets (“public-public small mergers”) completed between 1996 and 2022 that involved a microcap firm (in the bottom 20% of market capitalization at the beginning of the year) acquiring another microcap firm. Only 3.23% of the total public-public mergers have microcap firms acquiring microcap firms. And only 20.18% of the mergers involve the acquisition of microcap firms (for which the overregulation thesis would be strongest). The “Total” columns on the right show that transactions are spread evenly distributed across quintile groupings: there were about as many acquisitions of larger firms as there were of smaller firms. Acquisitions of microcap firms (i.e., in row “1”) can be explained either by one of the I.O. Hypotheses or the over-regulatory Legal Hypothesis: small firms’ fixed legal costs are a higher proportion of value and income than they are of larger firms. Larger firms’ acquisitions of other larger firms are better explained by the I.O. Hypotheses. The largest acquiring firms (in column “5”) accounted for more than half of the acquisitions and only a small fraction (3.55%) of those acquisitions were of small firms whose separate existence legal costs could imperil.

| Distribution of Target Firm Market Cap (in 2022 \$), by Acquirer and Target Size Quintiles | | | | | | | | |
|---|--------------|-------------------------------------|--------------|--------------|--------------|----------------|--------------|------------------|
| | | Acquirer Market Cap Quintile | | | | | | |
| | | 1 (smallest) | 2 | 3 | 4 | 5 (largest) | Total (%) | Total (\$) |
| Target Market Cap Quintile | 1 (smallest) | 0.03% | 0.07% | 0.09% | 0.06% | 0.06% | 0.31% | 27,130 |
| | 2 | 0.00% | 0.09% | 0.37% | 0.41% | 0.45% | 1.32% | 114,408 |
| | 3 | 0.02% | 0.04% | 0.33% | 1.61% | 2.19% | 4.19% | 362,315 |
| | 4 | 0.01% | 0.08% | 0.13% | 2.44% | 10.34% | 13.00% | 1,123,118 |
| | 5 (largest) | 0.00% | 0.00% | 0.08% | 0.57% | 80.52% | 81.17% | 7,013,469 |
| | Total | 0.06% | 0.28% | 1.01% | 5.09% | 93.56% | 100.00% | 8,640,440 |

The upper left cell shows the percentage of total stock market capitalization (number of shares times the price of an individual share) of acquired firms in public-public mergers completed between 1996 and 2022 that involved a microcap firm (in the smallest 20% by stock market capitalization) acquiring another microcap firm. These micro-micro mergers account for only 0.31% of the total stock market capitalization of target firms in completed mergers. In contrast, large firm mergers with large firms (in the largest 20% by stock market capitalization) account for 81% of the total stock market capitalization of target firms in completed mergers. The Legal Hypotheses have more trouble explaining these mergers. These contrasts fit better with the I.O. Hypotheses.

¹¹ Source: Refinitiv SDC Platinum. The GDP deflator was obtained from the Federal Reserve Bank of St. Louis’s Economic Database, at <https://fred.stlouisfed.org/series/GDPDEF>.

Appendix Table 4.
Distribution of Mergers of Public Companies by Size Before and After Sarbanes-Oxley, 1996-2022¹²

| Distribution of M&A Transactions, by Acquirer and Target Size Quintiles | | | | | | | | |
|---|--------------|--------------|--------------|--------------|--------------|---------------|---------|-------|
| (1996-2003) | | | | | | | | |
| Acquirer Market Cap Quintile | | | | | | | | |
| | | 1 | 2 | 3 | 4 | 5 | Total | Total |
| | | (smallest) | | | | (largest) | (%) | (#) |
| Target Market Cap Quintile | 1 (smallest) | 2.21% | 3.82% | 3.65% | 3.70% | 3.27% | 16.66% | 392 |
| | 2 | 0.21% | 1.61% | 4.93% | 5.40% | 8.03% | 20.19% | 475 |
| | 3 | 0.09% | 0.25% | 2.17% | 6.33% | 14.19% | 23.03% | 542 |
| | 4 | 0.04% | 0.00% | 0.21% | 3.27% | 18.49% | 22.01% | 518 |
| | 5 (largest) | 0.00% | 0.00% | 0.00% | 0.30% | 17.81% | 18.10% | 426 |
| | Total | 2.55% | 5.69% | 10.96% | 19.00% | 61.79% | 100.00% | 2,353 |
| (2004-2022) | | | | | | | | |
| Acquirer Market Cap Quintile | | | | | | | | |
| | | 1 | 2 | 3 | 4 | 5 | Total | Total |
| | | (smallest) | | | | (largest) | (%) | (#) |
| Target Market Cap Quintile | 1 (smallest) | 4.44% | 5.70% | 6.50% | 3.83% | 3.88% | 24.34% | 573 |
| | 2 | 0.00% | 1.86% | 6.15% | 6.40% | 6.30% | 20.72% | 487 |
| | 3 | 0.10% | 0.35% | 1.92% | 7.66% | 10.38% | 20.41% | 480 |
| | 4 | 0.00% | 0.15% | 0.20% | 4.59% | 14.92% | 19.86% | 467 |
| | 5 (largest) | 0.00% | 0.00% | 0.05% | 0.35% | 14.26% | 14.67% | 345 |
| | Total | 4.54% | 8.06% | 14.82% | 22.83% | 49.75% | 100.00% | 1,984 |

The upper panel displays the distribution of the number of public company mergers from 1996 to 2003 by acquirer and target market capitalization. The upper right-hand corner's four cells show that 20.40% (from 3.70%+3.27%+5.40%+8.03%) of the 2,353 acquisitions in this period involved larger firm acquirers (in the top 40% by market capitalization) and smaller firm targets (in the bottom 40% by market capitalization). The bottom panel displays the distribution for the post-Sarbanes period from 2004 to 2022. The upper right-hand corner of this panel shows that 20.41% (from 3.83%+3.88%+6.40%+6.30%) of the 1,984 acquisitions in this period involved large firm acquirers and small firm targets. That is, the propensity for large-small public acquisitions did *not* increase significantly, as the Legal Hypothesis should predict. If the cost of being public increased in 2003, when Sarbanes-Oxley ("SOX") came into play, we would expect this number to increase, but it did not.

After 2003, acquisitions of microcap firms (in row "1" of both panels) did increase as a percentage of total acquisitions, from 16.66% in the 1996-2003 period to 24.34% in the 2004-2022 period; this increase fits with both the I.O. and the over-regulatory Legal Hypotheses. It's the row in this table that has the strongest potential fit with the over-regulatory Legal Hypothesis. But it is weak evidence for the over-regulation hypothesis: even if the entire increase in the number of mergers with the smallest quintile as the target was attributed to the Legal Hypothesis, that would account for only 152 public firm disappearances. That is, had the pre-SOX 16.66% acquisition rate of micro-cap firms persisted, there would have been 152 (from [24.34%-16.66%]*1,984) fewer mergers that eliminated smaller, regulatory-sensitive firms in the post-2003 period. Thus, at best, this explains only a small fraction of the overall disappearance of more than 3,000 firms.

¹² Source: Refinitiv SDC Platinum. The GDP deflator was obtained from the Federal Reserve Bank of St. Louis's Economic Database, at <https://fred.stlouisfed.org/series/GDPDEF>.

Appendix Table 5.
Distribution of Public-Private Mergers by Size Before and After Sarbanes-Oxley,
1996-2022¹³

Distribution of Public-Private M&A Deal Value (in 2022 \$),
by Acquiror Size and Target Deal Value Quintiles

(1997-2003)

| | | Acquiror Market Cap Quintile | | | | | Total (%) | Total (\$) |
|-------------------------------|--------------|-------------------------------------|--------------|--------------|--------------|----------------|--------------|----------------|
| | | 1 (smallest) | 2 | 3 | 4 | 5 (largest) | | |
| Target Deal Value Quintile | 1 (smallest) | 0.38% | 0.64% | 0.84% | 1.01% | 0.73% | 3.59% | 24,133 |
| | 2 | 0.32% | 0.64% | 1.39% | 2.90% | 3.43% | 8.68% | 58,281 |
| | 3 | 0.31% | 0.33% | 1.17% | 4.13% | 9.73% | 15.66% | 105,173 |
| | 4 | 0.31% | 0.08% | 0.58% | 3.84% | 20.90% | 25.72% | 172,683 |
| | 5 (largest) | 0.00% | 0.00% | 0.00% | 2.03% | 44.31% | 46.34% | 311,165 |
| Total | | 1.32% | 1.69% | 3.99% | 13.90% | 79.10% | 100.00% | 671,435 |

(2004-2022)

| | | Acquiror Market Cap Quintile | | | | | Total (%) | Total (\$) |
|-------------------------------|--------------|-------------------------------------|--------------|--------------|--------------|----------------|--------------|------------------|
| | | 1 (smallest) | 2 | 3 | 4 | 5 (largest) | | |
| Target Deal Value Quintile | 1 (smallest) | 0.74% | 0.69% | 0.99% | 0.91% | 0.32% | 3.65% | 24,531 |
| | 2 | 0.37% | 0.80% | 2.16% | 3.56% | 2.11% | 9.01% | 60,527 |
| | 3 | 0.32% | 0.70% | 2.17% | 5.99% | 8.92% | 18.11% | 121,589 |
| | 4 | 0.51% | 0.31% | 2.30% | 6.88% | 17.38% | 27.37% | 183,763 |
| | 5 (largest) | 0.00% | 0.00% | 0.00% | 2.34% | 39.52% | 41.85% | 281,024 |
| Total | | 1.95% | 2.50% | 7.62% | 19.68% | 68.25% | 100.00% | 1,626,554 |

¹³ Source: Refinitiv SDC Platinum. The GDP deflator was obtained from the Federal Reserve Bank of St. Louis's Economic Database, at <https://fred.stlouisfed.org/series/GDPDEF>.

Distribution of M&A Transactions, by Acquirer Size and Target Deal Value Quintiles

(1997-2003)

| | | Acquirer Market Cap Quintile | | | | | Total (%) | Total (#) |
|----------------------------|--------------|------------------------------|--------------|--------------|---------------|----------------|-----------|-----------|
| | | 1 (smallest) | 2 | 3 | 4 | 5 (largest) | | |
| Target Deal Value Quintile | 1 (smallest) | 6.02% | 7.73% | 9.64% | 10.87% | 7.15% | 41.42% | 1,280 |
| | 2 | 1.23% | 2.10% | 5.05% | 9.64% | 10.65% | 28.67% | 886 |
| | 3 | 0.42% | 0.49% | 1.33% | 4.79% | 10.65% | 17.67% | 546 |
| | 4 | 0.10% | 0.03% | 0.32% | 1.49% | 7.44% | 9.39% | 290 |
| | 5 (largest) | 0.00% | 0.00% | 0.00% | 0.16% | 2.69% | 2.85% | 88 |
| | Total | 7.77% | 10.36% | 16.34% | 26.96% | 38.58% | 100.00% | 3,090 |

(2004-2022)

| | | Acquirer Market Cap Quintile | | | | | Total (%) | Total (#) |
|----------------------------|--------------|------------------------------|--------------|---------------|---------------|----------------|-----------|-----------|
| | | 1 (smallest) | 2 | 3 | 4 | 5 (largest) | | |
| Target Deal Value Quintile | 1 (smallest) | 12.50% | 9.74% | 11.50% | 10.09% | 3.59% | 47.43% | 1,465 |
| | 2 | 1.31% | 2.59% | 6.46% | 9.81% | 5.73% | 25.91% | 801 |
| | 3 | 0.31% | 0.62% | 2.21% | 5.84% | 7.77% | 16.75% | 518 |
| | 4 | 0.17% | 0.07% | 0.66% | 2.04% | 4.84% | 7.77% | 240 |
| | 5 (largest) | 0.00% | 0.00% | 0.00% | 0.24% | 1.90% | 2.14% | 66 |
| | Total | 14.30% | 13.02% | 20.83% | 28.01% | 23.83% | 100.00% | 2,895 |

The upper (bottom) panels display the distribution of the deal values (deal counts) of public company acquisitions of private firms by acquirer market capitalization and target deal value quintiles and sub-periods: from 1996 to 2003 and 2004 to 2022. Row “1” in each represents the smallest acquisitions by deal value: where the deal values are below the 20th percentile of the beginning-of-year public-firm market capitalization distribution.

The number of public-private acquisitions in the 1996-2003 period averaged 386 (from 3090/7) transactions per year. This represents a dramatic increase compared to the 139 (from 836/6) per year of public-private acquisitions in the 1990-1995 period (untabulated). In the 2004-2022 period, the average declined to 161 transactions per year. The decrease in public firms’ annual count of private firm acquisitions after 2003 (and their roughly steady annual deal value) is some evidence that Sarbanes-Oxley—the major purported increase in legal cost during the modern era—had a limited impact when it became effective in 2003. The over-regulatory Legal Hypothesis is not supported. The reduction of the private capital market hypothesis, however, is consistent with a drop in the number of public firm acquisitions of private companies. The majority of the deal value in *all* subperiods is accounted for by acquirers in the highest three quintiles of market capitalization. The major annual increase in deal count (and deal value, untabulated) occurred in 1996, not 2003, when Sarbanes-Oxley came into play.

After 2003, acquisitions of microcap firms (in row “1” of both panels) did increase as a percentage of total acquisitions, from 41.42% in the 1996-2003 period to 47.34% in the 2004-2022 period. However, even if the entire increase in the number of mergers with the smallest quintile as the target was attributed to the Legal Hypothesis, that would account for only 17 fewer public firms: Had the pre-SOX 16.66% acquisition rate of micro-cap firms persisted, there would have been 17 (from $[47.43\% - 41.42\%] \times 2,895$) more small-firm IPOs. Thus, at best, this piece, which fits with the Legal Hypothesis explains only a small fraction of the ~3,000 net decline of public firms.