# Initial Public Offerings: Underpricing 

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Table 1: Mean First-day Returns and Money Left on the Table, 1980-2023 (updated January 1, 2024) The sample is IPOs with an offer price of at least $\$ 5.00$, excluding ADRs, unit offers, closed-end funds, REITs, natural resource limited partnerships, small best efforts offers, banks and S\&Ls, and stocks not listed on CRSP (CRSP includes Amex, NYSE, and NASDAQ stocks). Proceeds exclude overallotment options. The amount of money left on the table is defined as the closing market price on the first day of trading minus the offer price, multiplied by the shares offered.

| Year | Number of IPOs | Mean First-day Return |  | Median <br> First-day <br> Return | Aggregate Amount Left on the Table | Aggregate <br> Proceeds |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Equalweighted | Proceedsweighted |  |  |  |
| 1980 | 71 | 14.3\% | 20.0\% | 6.9\% | \$0.18 billion | \$0.91 billion |
| 1981 | 192 | 5.9\% | 5.7\% | 0.3\% | \$0.13 billion | \$2.31 billion |
| 1982 | 77 | 11.0\% | 13.3\% | 3.7\% | \$0.13 billion | \$1.00 billion |
| 1983 | 451 | 9.9\% | 9.4\% | 2.5\% | \$0.84 billion | $\$ 8.89$ billion |
| 1984 | 171 | 3.7\% | 2.5\% | 0.0\% | \$0.05 billion | \$2.02 billion |
| 1985 | 186 | 6.4\% | 5.6\% | 2.8\% | \$0.23 billion | \$4.09 billion |
| 1986 | 393 | 6.1\% | 5.1\% | 1.1\% | \$0.68 billion | \$13.40 billion |
| 1987 | 285 | 5.6\% | 5.7\% | 1.3\% | \$0.66 billion | \$11.68 billion |
| 1988 | 105 | 5.5\% | 3.4\% | 2.3\% | \$0.13 billion | \$3.88 billion |
| 1989 | 116 | 8.0\% | 4.7\% | 4.0\% | \$0.27 billion | $\$ 5.81$ billion |
| 1990 | 110 | 10.8\% | 8.1\% | 5.6\% | \$0.34 billion | \$4.27 billion |
| 1991 | 286 | 11.9\% | 9.7\% | 7.5\% | \$1.50 billion | \$15.39 billion |
| 1992 | 412 | 10.3\% | 8.0\% | 4.4\% | \$1.82 billion | \$22.69 billion |
| 1993 | 510 | 12.7\% | 11.2\% | 6.3\% | \$3.52 billion | \$31.44 billion |
| 1994 | 402 | 9.6\% | 8.3\% | 4.2\% | \$1.43 billion | \$17.18 billion |
| 1995 | 462 | 21.4\% | 17.5\% | 13.2\% | \$4.90 billion | \$27.95 billion |
| 1996 | 677 | 17.2\% | 16.1\% | 10.0\% | \$6.76 billion | \$42.05 billion |
| 1997 | 474 | 14.0\% | 14.4\% | 9.4\% | \$4.56 billion | \$31.76 billion |
| 1998 | 283 | 21.9\% | 15.6\% | 8.9\% | $\$ 5.25$ billion | \$33.66 billion |
| 1999 | 476 | 71.2\% | 57.4\% | 37.5\% | \$37.11 billion | \$64.67 billion |
| 2000 | 380 | 56.3\% | 45.8\% | 27.9\% | \$29.68 billion | \$64.80 billion |
| 2001 | 80 | 14.0\% | 8.4\% | 10.2\% | \$2.97 billion | \$35.29 billion |
| 2002 | 66 | 9.1\% | 5.1\% | 8.2\% | \$1.13 billion | \$22.03 billion |
| 2003 | 63 | 11.7\% | 10.4\% | 8.7\% | \$1.00 billion | \$9.54 billion |
| 2004 | 173 | 12.3\% | 12.4\% | 7.1\% | \$3.86 billion | \$31.19 billion |
| 2005 | 159 | 10.3\% | 9.3\% | 5.8\% | \$2.64 billion | \$28.23 billion |
| 2006 | 157 | 12.1\% | 13.0\% | 5.6\% | \$3.95 billion | \$30.48 billion |
| 2007 | 159 | 14.0\% | 13.9\% | 6.8\% | \$4.95 billion | \$35.66 billion |
| 2008 | 21 | 5.7\% | 24.7\% | -1.7\% | \$5.63 billion | \$22.76 billion |
| 2009 | 41 | 9.8\% | 11.1\% | 5.7\% | \$1.46 billion | \$13.17 billion |
| 2010 | 91 | 9.4\% | 6.2\% | 3.1\% | \$1.84 billion | \$29.82 billion |
| 2011 | 81 | 13.9\% | 13.0\% | 8.5\% | \$3.51 billion | \$26.97 billion |
| 2012 | 93 | 17.7\% | 8.9\% | 11.1\% | \$2.75 billion | \$31.11 billion |
| 2013 | 158 | 20.9\% | 19.0\% | 13.0\% | $\$ 7.89$ billion | \$41.56 billion |
| 2014 | 206 | 15.5\% | 12.8\% | 5.8\% | $\$ 5.40$ billion | \$42.20 billion |
| 2015 | 118 | 19.2\% | 18.9\% | 10.3\% | \$4.16 billion | \$22.00 billion |
| 2016 | 75 | 14.5\% | 14.2\% | 5.0\% | \$1.77 billion | \$12.52 billion |
| 2017 | 106 | 12.9\% | 16.0\% | 9.0\% | \$3.68 billion | \$22.98 billion |
| 2018 | 134 | 18.6\% | 19.1\% | 11.6\% | \$6.39 billion | \$33.47 billion |
| 2019 | 113 | 23.5\% | 17.6\% | 17.9\% | \$6.95 billion | \$39.28 billion |
| 2020 | 165 | 41.6\% | 47.9\% | 26.2\% | \$29.66 billion | \$61.86 billion |
| 2021 | 311 | 32.1\% | 24.0\% | 17.0\% | \$28.65 billion | \$119.36 billion |
| 2022 | 38 | 48.9\% | 14.2\% | 9.3\% | \$0.99 billion | $\$ 6.98$ billion |
| 2023 | 54 | 11.9\% | 16.1\% | -0.5\% | \$1.92 billion | \$11.92 billion |
| 1980-2023 | 9,181 | 18.9\% | 20.5\% | 7.0\% | \$233.32 billion | \$1,140 billion |

Table 1a (updated January 17, 2024)
Mean First-day Returns and Money Left on the Table, 1980-2023
The market value includes the market value of all share classes using the post-issue no. of shares.

| Year | Number of IPOs | Mean <br> First-day return | Percentage with $1^{\text {st }}$-day return of |  | Aggregate Proceeds | Market value at $1^{\text {st }}$ closing market price |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | <0\% | =0\% |  |  |
| 1980 | 71 | 14.3\% | 31.0\% | 9.9\% | \$0.91 billion | \$5.88 billion |
| 1981 | 192 | 5.9\% | 20.8\% | 29.2\% | \$2.31 billion | \$10.71 billion |
| 1982 | 77 | 11.0\% | 16.9\% | 20.8\% | \$1.00 billion | \$5.11 billion |
| 1983 | 451 | 9.9\% | 18.2\% | 23.1\% | $\$ 8.89$ billion | \$41.35 billion |
| 1984 | 171 | 3.7\% | 25.7\% | 32.7\% | \$2.02 billion | \$8.76 billion |
| 1985 | 186 | 6.4\% | 18.3\% | 14.5\% | \$4.09 billion | \$15.18 billion |
| 1986 | 393 | 6.1\% | 28.2\% | 19.6\% | \$13.40 billion | \$46.77 billion |
| 1987 | 285 | 5.6\% | 19.3\% | 26.0\% | \$11.68 billion | \$45.59 billion |
| 1988 | 105 | 5.5\% | 18.1\% | 20.0\% | \$3.88 billion | \$21.65 billion |
| 1989 | 116 | 8.0\% | 12.1\% | 16.4\% | \$5.81 billion | \$22.37 billion |
| 1990 | 110 | 10.8\% | 13.6\% | 19.1\% | \$4.27 billion | \$17.79 billion |
| 1991 | 286 | 11.9\% | 9.4\% | 17.1\% | \$15.35 billion | \$54.06 billion |
| 1992 | 412 | 10.3\% | 13.8\% | 19.7\% | \$22.69 billion | \$74.35 billion |
| 1993 | 510 | 12.7\% | 9.4\% | 15.5\% | \$31.44 billion | \$126 billion |
| 1994 | 402 | 9.6\% | 7.5\% | 21.1\% | \$17.18 billion | \$64 billion |
| 1995 | 462 | 21.4\% | 6.9\% | 10.0\% | \$27.95 billion | \$127 billion |
| 1996 | 677 | 17.2\% | 8.7\% | 12.7\% | \$42.05 billion | \$215 billion |
| 1997 | 474 | 14.0\% | 7.2\% | 12.4\% | \$31.76 billion | \$141 billion |
| 1998 | 283 | 21.9\% | 12.0\% | 14.8\% | \$33.66 billion | \$164 billion |
| 1999 | 476 | 71.2\% | 11.8\% | 5.9\% | \$64.67 billion | \$652 billion |
| 2000 | 380 | 56.3\% | 11.8\% | 6.1\% | \$64.80 billion | \$642 billion |
| 2001 | 80 | 14.2\% | 12.5\% | 5.0\% | \$35.29 billion | \$177 billion |
| 2002 | 66 | 9.1\% | 15.2\% | 6.1\% | \$22.03 billion | \$84 billion |
| 2003 | 63 | 11.7\% | 17.5\% | 7.9\% | \$9.54 billion | \$40 billion |
| 2004 | 173 | 12.3\% | 19.1\% | 7.5\% | \$31.19 billion | \$148 billion |
| 2005 | 159 | 10.3\% | 22.6\% | 10.1\% | \$28.23 billion | \$105 billion |
| 2006 | 157 | 12.1\% | 17.8\% | 7.0\% | \$30.48 billion | \$135 billion |
| 2007 | 159 | 14.0\% | 25.2\% | 4.4\% | \$35.66 billion | \$212 billion |
| 2008 | 21 | 5.7\% | 61.9\% | 4.8\% | \$22.76 billion | \$63 billion |
| 2009 | 41 | 9.8\% | 19.5\% | 9.8\% | \$13.17 billion | \$59 billion |
| 2010 | 91 | 9.4\% | 23.1\% | 13.2\% | \$29.82 billion | \$116 billion |
| 2011 | 81 | 13.3\% | 22.2\% | 4.9\% | \$26.97 billion | \$178 billion |
| 2012 | 93 | 17.7\% | 18.3\% | 2.2\% | \$31.11 billion | \$181 billion |
| 2013 | 158 | 20.9\% | 22.8\% | 3.8\% | \$41.56 billion | \$270 billion |
| 2014 | 206 | 15.5\% | 27.7\% | 5.8\% | \$42.20 billion | \$238 billion |
| 2015 | 118 | 19.2\% | 24.6\% | 5.9\% | \$22.00 billion | \$150 billion |
| 2016 | 75 | 14.5\% | 22.7\% | 12.0\% | \$12.52 billion | \$79 billion |
| 2017 | 106 | 12.9\% | 25.5\% | 3.8\% | \$22.98 billion | \$162 billion |
| 2018 | 134 | 18.6\% | 26.1\% | 4.5\% | \$33.47 billion | \$225 billion |
| 2019 | 113 | 23.5\% | 27.4\% | 2.7\% | \$39.53 billion | \$333 billion |
| 2020 | 165 | 41.6\% | 19.4\% | 2.4\% | \$61.86 billion | \$687 billion |
| 2021 | 311 | 32.1\% | 24.4\% | 4.2\% | \$119.36 billion | \$1,205 billion |
| 2022 | 38 | 48.9\% | 39.5\% | 2.6\% | $\$ 6.98$ billion | \$73 billion |
| 2023 | 54 | 11.9\% | 53.7\% | 3.7\% | \$11.92 billion | \$115 billion |
| 1980-2023 | 9,181 | 18.9\% | 16.3\% | 13.1\% | \$1,140 billion | \$7,536 billion |


| 1980-1989 | 2,047 | $7.2 \%$ | $21.2 \%$ | $22.3 \%$ | $\$ 53.98$ billion | $\$ 223$ billion |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: |
| $1990-1998$ | 3,616 | $14.8 \%$ | $9.3 \%$ | $15.2 \%$ | $\$ 226.40$ billion | $\$ 985$ billion |
| $1999-2000$ | 856 | $64.6 \%$ | $11.8 \%$ | $6.0 \%$ | $\$ 129.47$ billion | $\$ 1,294$ billion |
| $2001-2023$ | 2,661 | $18.9 \%$ | $23.6 \%$ | $5.6 \%$ | $\$ 730.37$ billion | $\$ 5,034$ billion |
| $\mathbf{1 9 8 0}-\mathbf{2 0 2 3}$ | $\mathbf{9 , 1 8 0}$ | $\mathbf{1 8 . 9 \%}$ | $\mathbf{1 6 . 3 \%}$ | $\mathbf{1 3 . 1 \%}$ | $\mathbf{\$ 1 , 1 4 0}$ billion | $\$ \mathbf{7 , 5 3 6}$ billion |

Table 4 g (updated January 1, 2024)

## Life Science Company IPOs, 1980-2023

IR is the initial return (underpricing), measured as the equally weighted average of the first-day return from the offer price to close. There are 1,000 biotech IPOs from 1980-2023, after excluding those with an offer price below $\$ 5.00$ per share, unit offers, ADRs, closed-end funds, partnerships, special purpose acquisition companies (SPACs), REITs, bank and S\&L IPOs, and firms not listed on CRSP. Missing and questionable numbers from the SDC new issues database are supplemented by direct inspection of prospectuses on EDGAR, information from Dealogic for IPOs after 1991, Howard and Co.'s Going Public: The IPO Reporter from 1980-1985, and the Graeme Howard-Todd Huxster collection of IPO prospectuses for 1975-2006.

Life science includes biotech and pharmaceutical firms, defined as SIC=2830, 2834, 2835, 2836, and 8731.

Sales are the last twelve months (LTM) revenues as reported in the prospectus. The median sales, in millions, are expressed in dollars of 2022 purchasing power using the CPI. Pro forma numbers are usually used if there have been recent mergers or mergers that coincide with the IPO. The percentage of IPOs that are profitable measures profitability using trailing LTM earnings (usually using after extraordinary items earnings, and usually using pro forma numbers that are computed assuming that any recent or concurrent mergers have already occurred, and the conversion of convertible preferred stock into common stock). In some cases, last fiscal year earnings are used when LTM earnings are unavailable. EPS is earnings per share. Age is the median age in years, defined as the calendar year of the IPO minus the calendar year of founding.

Many of the biotech companies with positive sales have research contracts producing revenue, rather than product sales.

| Year | Number of IPOs |  | Life Sci IR,\% | Life Science IPOs |  | Life Sci sales (\$2022, millions) |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total | Life Sci |  | EPS>0 | Age | \# zero | \% zero | Median |
| 1980 | 71 | 3 | 44.3\% | 67\% | 4 | 0 | 0.0\% | 20.5 |
| 1981 | 192 | 10 | 14.1\% | 30\% | 4.5 | 2 | 20.0\% | 4.9 |
| 1982 | 77 | 2 | 16.0\% | 50\% | 2 | 0 | 0.0\% | 4.0 |
| 1983 | 451 | 21 | 6.2\% | 42\% | 3 | 1 | 4.8\% | 7.4 |
| 1984 | 171 | 2 | 0.0\% | 100\% | 16 | 0 | 0.0\% | 136.3 |
| 1985 | 186 | 5 | 2.4\% | 40\% | 3 | 1 | 20.0\% | 12.5 |
| 1986 | 393 | 23 | 7.0\% | 35\% | 5 | 0 | 0.0\% | 10.8 |
| 1987 | 285 | 10 | 5.1\% | 20\% | 4 | 0 | 0.0\% | 7.8 |
| 1988 | 105 | 2 | -1.6\% | 0\% | 9 | 1 | 50.0\% | 9.9 |
| 1989 | 116 | 4 | 3.8\% | 0\% | 6 | 0 | 0.0\% | 2.7 |
| 1990 | 110 | 4 | 0.8\% | 0\% | 4 | 2 | 50.0\% | 4.5 |
| 1991 | 286 | 32 | 12.8\% | 16\% | 4 | 3 | 9.4\% | 7.0 |
| 1992 | 412 | 33 | 9.9\% | 18\% | 5 | 6 | 18.2\% | 2.6 |
| 1993 | 510 | 27 | 7.7\% | 22\% | 5 | 3 | 11.1\% | 3.0 |
| 1994 | 402 | 20 | 3.4\% | 20\% | 7.5 | 3 | 15.0\% | 3.2 |
| 1995 | 462 | 21 | 6.6\% | 14\% | 5 | 5 | 23.8\% | 5.8 |
| 1996 | 677 | 44 | 12.2\% | 14\% | 4 | 7 | 15.9\% | 4.1 |
| 1997 | 474 | 22 | 8.3\% | 14\% | 6 | 3 | 13.6\% | 9.9 |
| 1998 | 283 | 10 | 6.2\% | 30\% | 7 | 0 | 0.0\% | 13.4 |
| 1999 | 476 | 10 | 31.8\% | 20\% | 5.5 | 1 | 10.0\% | 10.1 |
| 2000 | 380 | 50 | 31.9\% | 12\% | 6 | 10 | 20.0\% | 6.6 |
| 2001 | 80 | 5 | 10.7\% | 0\% | 5 | 2 | 40.0\% | 0.3 |
| 2002 | 66 | 5 | -4.9\% | 40\% | 9 | 0 | 0.0\% | 228.0 |
| 2003 | 63 | 8 | 2.6\% | 0\% | 6 | 4 | 50.0\% | 0.1 |
| 2004 | 173 | 30 | 7.8\% | 7\% | 7 | 6 | 20.0\% | 5.3 |
| 2005 | 159 | 16 | 8.0\% | 13\% | 6 | 1 | 6.3\% | 18.2 |
| 2006 | 157 | 24 | 4.2\% | 8\% | 8 | 4 | 16.7\% | 4.8 |
| 2007 | 159 | 19 | 2.2\% | 5\% | 8 | 8 | 42.1\% | 2.0 |
| 2008 | 21 | 1 | -5.7\% | 0\% | 9 | 0 | 0.0\% | 0.4 |
| 2009 | 41 | 3 | 1.3\% | 67\% | 14 | 0 | 0.0\% | 50.0 |
| 2010 | 91 | 11 | 0.9\% | 0\% | 6 | 6 | 54.5\% | 0.0 |
| 2011 | 81 | 8 | 6.4\% | 0\% | 5.5 | 3 | 37.5\% | 4.0 |
| 2012 | 93 | 10 | 7.8\% | 0\% | 7 | 5 | 50.0\% | 0.5 |
| 2013 | 158 | 40 | 19.3\% | 7\% | 10 | 12 | 30.0\% | 11.9 |
| 2014 | 206 | 71 | 13.8\% | 7\% | 10 | 38 | 53.5\% | 0.0 |
| 2015 | 118 | 42 | 22.9\% | 0\% | 7 | 26 | 61.9\% | 0.0 |
| 2016 | 75 | 25 | 7.0\% | 8\% | 8 | 8 | 32.0\% | 1.1 |
| 2017 | 106 | 32 | 7.0\% | 0\% | 6.5 | 23 | 71.9\% | 0.0 |
| 2018 | 134 | 59 | 13.8\% | 0\% | 5 | 39 | 66.1\% | 0.0 |
| 2019 | 113 | 42 | 21.7\% | 0\% | 4 | 33 | 78.6\% | 0.0 |
| 2020 | 165 | 76 | 37.6\% | 5\% | 6 | 49 | 64.5\% | 0.0 |
| 2021 | 311 | 89 | 24.4\% | 2\% | 5 | 55 | 61.8\% | 0.0 |
| 2022 | 38 | 16 | 49.4\% | 0\% | 4 | 13 | 81.3\% | 0.0 |
| 2023 | 54 | 13 | 5.4\% | 0\% | 4 | 10 | 76.9\% | 0.0 |
| 2001-23 | 2,662 | 645 | 17.7\% | 4\% | 7 | 345 | 53.5\% | 0.0 |
| 1980-2023 | 9,181 | 1,000 | 15.9\% | 10\% | 6 | 393 | 39.3\% | 1.4 |

Table 4h (updated January 1, 2024)
Technology Company IPO Underpricing, 1980-2023
Underpricing is measured as the equally weighted average of the first-day return from the offer price to close. The screens described in Table 1 apply, including the exclusion of ADRs.

| Year | Number of IPOs |  |  | EW mean 1 ${ }^{\text {st }}$-day Return, \% |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total | Tech | NonTech | Total | Tech | NonTech |
| 1980 | 71 | 22 | 49 | 14.3\% | 21.7\% | 10.9\% |
| 1981 | 192 | 72 | 120 | 5.9\% | 7.0\% | 5.2\% |
| 1982 | 77 | 42 | 35 | 11.0\% | 13.6\% | 7.9\% |
| 1983 | 451 | 173 | 278 | 9.9\% | 13.9\% | 7.5\% |
| 1984 | 171 | 50 | 121 | 3.7\% | 5.5\% | 2.9\% |
| 1985 | 186 | 37 | 149 | 6.4\% | 6.1\% | 6.5\% |
| 1986 | 393 | 77 | 316 | 6.1\% | 7.2\% | 5.9\% |
| 1987 | 285 | 59 | 226 | 5.6\% | 7.3\% | 5.2\% |
| 1988 | 105 | 28 | 77 | 5.5\% | 5.5\% | 5.5\% |
| 1989 | 116 | 35 | 81 | 8.0\% | 11.9\% | 6.3\% |
| 1990 | 110 | 32 | 78 | 10.8\% | 14.9\% | 9.1\% |
| 1991 | 286 | 71 | 215 | 11.9\% | 17.3\% | 10.1\% |
| 1992 | 412 | 115 | 297 | 10.3\% | 14.4\% | 8.7\% |
| 1993 | 510 | 127 | 383 | 12.7\% | 17.8\% | 11.1\% |
| 1994 | 402 | 115 | 287 | 9.6\% | 14.1\% | 7.8\% |
| 1995 | 462 | 205 | 257 | 21.4\% | 30.8\% | 14.0\% |
| 1996 | 677 | 276 | 401 | 17.2\% | 20.2\% | 15.2\% |
| 1997 | 474 | 174 | 300 | 14.0\% | 16.9\% | 12.4\% |
| 1998 | 283 | 113 | 170 | 21.9\% | 39.1\% | 10.3\% |
| 1999 | 476 | 370 | 106 | 71.2\% | 86.7\% | 17.2\% |
| 2000 | 380 | 261 | 119 | 56.3\% | 69.2\% | 28.1\% |
| 2001 | 80 | 24 | 56 | 14.0\% | 22.7\% | 10.3\% |
| 2002 | 66 | 20 | 46 | 9.1\% | 8.6\% | 9.3\% |
| 2003 | 63 | 18 | 45 | 11.7\% | 17.4\% | 9.5\% |
| 2004 | 173 | 61 | 112 | 12.3\% | 16.6\% | 10.0\% |
| 2005 | 159 | 45 | 114 | 10.3\% | 10.8\% | 10.1\% |
| 2006 | 157 | 48 | 109 | 12.1\% | 15.3\% | 10.8\% |
| 2007 | 159 | 76 | 83 | 14.0\% | 18.8\% | 9.6\% |
| 2008 | 21 | 6 | 15 | 5.7\% | 2.6\% | 7.0\% |
| 2009 | 41 | 14 | 27 | 9.8\% | 16.9\% | 6.2\% |
| 2010 | 91 | 33 | 58 | 9.4\% | 15.5\% | 5.9\% |
| 2011 | 81 | 36 | 45 | 13.9\% | 20.2\% | 9.0\% |
| 2012 | 93 | 40 | 53 | 17.7\% | 23.4\% | 13.3\% |
| 2013 | 158 | 45 | 113 | 20.9\% | 26.7\% | 18.5\% |
| 2014 | 206 | 53 | 153 | 15.5\% | 25.0\% | 12.2\% |
| 2015 | 118 | 38 | 80 | 19.2\% | 18.8\% | 19.4\% |
| 2016 | 75 | 21 | 54 | 14.5\% | 32.4\% | 7.5\% |
| 2017 | 106 | 30 | 76 | 12.9\% | 21.1\% | 9.6\% |
| 2018 | 134 | 39 | 95 | 18.6\% | 32.3\% | 13.0\% |
| 2019 | 113 | 37 | 76 | 23.5\% | 28.6\% | 21.1\% |
| 2020 | 165 | 46 | 119 | 41.6\% | 62.6\% | 33.5\% |
| 2021 | 311 | 121 | 190 | 32.1\% | 33.0\% | 31.6\% |
| 2022 | 38 | 6 | 32 | 49.9\% | 9.3\% | 56.4\% |
| 2023 | 54 | 9 | 45 | 11.9\% | -5.6\% | 15.4\% |
| 1980-2023 | 9,181 | 3,320 | 5,861 | 18.9\% | 31.2\% | 12.0\% |

## Table 5

## Number of U. S. IPOs (excluding ADRs) with an offer price of greater than \$5.00

 that doubled (offer to close) in price on the first day of trading, 1997-2023A listing of each IPO since 1980 that doubled on the first day can be found elsewhere on Jay Ritter's IPO Data page.

| Quarter | Number | Quarter | Number |
| :---: | :---: | :---: | :---: |
| 1997, first | 0 | 2007, first | 0 |
| 1997, second | 2 | 2007, second | 0 |
| 1997, third | 0 | 2007, third | 0 |
| 1997, fourth | 0 | 2007, fourth | 0 |
| 1998, first | 0 | 2008, first | 0 |
| 1998, second | 2 | 2008, second | 0 |
| 1998, third | 3 | 2008, third | 0 |
| 1998, fourth | 7 | 2008, fourth | 0 |
| 1999, first | 19 | 2009, first | 0 |
| 1999, second | 24 | 2009, second | 0 |
| 1999, third | 27 | 2009, third | 0 |
| 1999, fourth | 45 | 2009, fourth | 0 |
| 2000, first | 48 | 2010, first | 0 |
| 2000, second | 9 | 2010, second | 0 |
| 2000, third | 20 | 2010, third | 0 |
| 2000, fourth | (Transmeta) 1 | 2010, fourth | (Youku.com ADR) 0 |
| 2001, first | 0 | 2011, first | (Qihoo 360 ADR) 0 |
| 2001, second | 0 | 2011, second | (LinkedIn) 1 |
| 2001, third | 0 | 2011, third | (China Mobile Games ADR) 0 |
| 2001, fourth | 0 | 2011, fourth | 0 |
| 2002, first | 0 | 2012, first | 0 |
| 2002, second | 0 | 2012, second | (Splunk) 1 |
| 2002, third | 0 | 2012, third | 0 |
| 2002, fourth | 0 | 2012, fourth | 0 |
| 2003, first | 0 | 2013, first | 0 |
| 2003, second | 0 | 2013, second | (Noodles \& Co.) 1 |
| 2003, third | 0 | 2013, third | (Sprout, Benefitfocus) 2 |
| 2003, fourth | 0 | 2013, fourth | (Potbelly, Container Store) 2 |
| 2004, first | 0 | 2014, first | 4 |
| 2004, second | (Jed Oil) 1 | 2014, second | 0 |
| 2004, third | 0 | 2014, third | 1 (ReWalk Robotics) 1 |
| 2004, fourth | 0 | 2014, fourth | 1(Habit Restaurants) 1 |
| 2005, first | 0 | 2015, first | (Spark Therapeutics, Shake Shack) 2 |
| 2005, second | 0 | 2015, second | (Aduro Biotech, Seres Therapeutics)2 |
| 2005, third | (Baidu.com is ADR) 0 | 2015, third | (Global Blood Theraperutics) 1 |
| 2005, fourth | 0 | 2015, fourth | 0 |
| 2006, first | (Chipotle Mexican) 1 | 2016, first | 0 |
| 2006, second | 0 | 2016, second | 0 |
| 2006, third | 0 | 2016, third | 1 (Nutanix) |
| 2006, fourth | (Nymex Holdings) 1 | 2016, fourth | 0 |

## Table 5 (continued)

Number of U. S. IPOs (excluding ADRs) with an offer price of greater than \$5.00 that doubled (offer to close) in price on the first day of trading, 1997-2023

The count does not include ADRs, penny stocks, and units.

| 2017, first | 0 |
| :--- | ---: |
| 2017, second | 0 |
| 2017, third | 0 |
| 2017, fourth | (Reto Eco-Solutions) 1 |
| 2018, first | (Zscalar) 1 |
| 2018, second | 0 |
| 2018, third | 0 |
| 2018, fourth | 0 |
| 2019, first | 0 |
| 2019, second | (Beyond Meat, ADPT) 2 |
| 2019, third | 0 |
| 2019, fourth | (Monopar Therapeutics)1 |
| 2020, first | 1 |
| 2020, second | 2 |
| 2020, third | 10 |
| 2020, fourth | 9 |
| 2021, first | 5 |
| 2021, second | 5 |
| 2021, third | 4 |
| 2021, fourth | 4 |
| 2022, first | (Blue Water Vaccines) 1 |
| 2022, second | (Genius Group, ZYFG) 2 |
| 2022, third | (Virax Biolabs Group) 1 |
| 2022, fourth | 0 |
| 2023, first | 0 |
| 2023, second | (U Power Ltd) 1 |
| 2023, third | 0 |
| 2023, fourth | 0 |

Table 6 (updated January 1, 2024)
Number of Initial Public Offerings, First-Day Return, and Revisions from the File Price Range by Cohort Year, 1990-2023

| Cohort Year | Number of IPOs | Percentage First-day Return | Percentage of IPOs with $\mathrm{OP}<\mathrm{Lo}$ | Percentage of IPOs in the Middle | Percentage of IPOs with $\mathrm{OP}>\mathrm{Hi}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1990 | 97 | 9.4 | 24.7 | 52.6 | 22.7 |
| 1991 | 262 | 11.2 | 19.8 | 55.3 | 24.4 |
| 1992 | 363 | 9.9 | 38.0 | 40.5 | 21.5 |
| 1993 | 461 | 11.6 | 21.3 | 54.0 | 24.7 |
| 1994 | 334 | 8.4 | 37.7 | 49.7 | 12.6 |
| 1995 | 390 | 19.9 | 19.7 | 45.4 | 34.9 |
| 1996 | 600 | 15.9 | 25.0 | 50.2 | 24.8 |
| 1997 | 421 | 13.8 | 29.9 | 45.8 | 24.2 |
| 1998 | 284 | 21.4 | 27.5 | 50.0 | 22.5 |
| 1999 | 465 | 70.5 | 14.8 | 37.2 | 48.0 |
| 2000 | 371 | 57.1 | 22.1 | 39.4 | 38.5 |
| 2001 | 78 | 14.2 | 25.6 | 56.4 | 18.0 |
| 2002 | 67 | 8.7 | 32.8 | 53.7 | 13.4 |
| 2003 | 65 | 12.4 | 15.4 | 55.4 | 29.2 |
| 2004 | 172 | 12.3 | 37.2 | 41.9 | 20.9 |
| 2005 | 161 | 10.1 | 34.2 | 42.9 | 23.0 |
| 2006 | 155 | 11.7 | 39.4 | 40.6 | 20.0 |
| 2007 | 155 | 14.5 | 32.3 | 41.3 | 26.5 |
| 2008 | 21 | 5.7 | 47.6 | 38.1 | 14.3 |
| 2009 | 42 | 10.8 | 33.3 | 40.5 | 26.2 |
| 2010 | 97 | 9.4 | 48.5 | 39.2 | 12.4 |
| 2011 | 81 | 14.1 | 37.0 | 30.9 | 32.1 |
| 2012 | 100 | 17.6 | 42.0 | 33.0 | 25.0 |
| 2013 | 161 | 20.5 | 29.8 | 42.2 | 28.0 |
| 2014 | 218 | 14.3 | 44.0 | 39.0 | 17.0 |
| 2015 | 123 | 18.9 | 35.8 | 38.2 | 26.0 |
| 2016 | 75 | 14.4 | 33.3 | 57.3 | 9.3 |
| 2017 | 111 | 11.8 | 23.4 | 60.4 | 16.2 |
| 2018 | 136 | 18.4 | 16.9 | 61.8 | 21.3 |
| 2019 | 113 | 23.3 | 15.9 | 57.5 | 26.5 |
| 2020 | 153 | 42.4 | 7.2 | 50.3 | 42.5 |
| 2021 | 293 | 24.6 | 18.1 | 56.3 | 25.6 |
| 2022 | 27 | 33.8 | 25.9 | 66.7 | 7.4 |
| 2023 | 31 | 6.9 | 32.2 | 48.4 | 19.4 |
| 1990-2023 | 6,683 | 21.6 | 27.0 | 46.8 | 26.2 |

Banks and S\&Ls are included in this table, which excludes IPOs with a midpoint of the original file price range of less than $\$ 8.00$, as well as unit offers, small best efforts offers, ADRs, closed-end funds, REITs, partnerships, SPACs, and stocks not listed on CRSP (CRSP includes firms listed on the NYSE, Amex (now NYSE MKT) and NYSE Arca, and NASDAQ). If a $\$ 5.00$ offer price screen was used instead of the $\$ 8.00$ midpoint screen, the sample size would increase by, for example, 20 IPOs in 1999 and 22 in 2023. Lo and Hi are the minimum and maximum of the original file price range. Because the average first-day return is different on the firms that are retained or added than on those that are deleted, the $6.9 \%$ average first-day return in 2023 is less than the $11.9 \%$ reported in other tables, such as Table 1.

Table 7 (updated December 30, 2023)
Percentage of IPOs relative to file price range:

|  | Below | Within | Above |
| :--- | :--- | :--- | :--- |
| $\mathbf{1 9 8 0 - 1 9 8 9}$ | $\mathbf{3 0 \%}$ | $\mathbf{5 7 \%}$ | $\mathbf{1 3 \%}$ |
| $\mathbf{1 9 9 0 - 1 9 9 8}$ | $\mathbf{2 7 \%}$ | $\mathbf{4 9 \%}$ | $24 \%$ |
| $\mathbf{1 9 9 9 - 2 0 0 0}$ | $\mathbf{1 8 \%}$ | $\mathbf{3 8 \%}$ | $\mathbf{4 4 \%}$ |
| $\mathbf{2 0 0 1 - 2 0 1 9}$ | $\mathbf{3 3 \%}$ | $\mathbf{4 5 \%}$ | $\mathbf{2 2 \%}$ |
| $\mathbf{2 0 2 0 - 2 0 2 3}$ | $\mathbf{1 6 \%}$ | $\mathbf{5 5 \%}$ | $\mathbf{2 9 \%}$ |
|  |  |  |  |
| $1980-2023$ | $\mathbf{2 8 \%}$ | $\mathbf{4 9 \%}$ | $\mathbf{2 3 \%}$ |

Average first-day returns relative to file price range:

|  | Below | Within | Above |
| :---: | :---: | :--- | :--- |
| $1980-1989$ | $\mathbf{- 1 \%}$ | $2 \%$ | $19 \%$ |
| $1990-1998$ | $\mathbf{1 \%}$ | $\mathbf{4 \%}$ | $26 \%$ |
| $1999-2000$ | $-2 \%$ | $\mathbf{6 \%}$ | $95 \%$ |
| $2001-2019$ | $\mathbf{- 1 \%}$ | $\mathbf{4 \%}$ | $\mathbf{3 0 \%}$ |
| $2020-2023$ | $\mathbf{- 8 \%}$ | $\mathbf{4 \%}$ | $\mathbf{5 0 \%}$ |
|  |  |  |  |
| $1980-2023$ | $\mathbf{- 1 \%}$ | $\mathbf{3 \%}$ | $\mathbf{3 8 \%}$ |

The sample used in this table is described in Table 6.

Table 8 (updated January 1, 2024) Number of Offerings, Average First-day Returns, and Gross Proceeds of Initial Public Offerings in 1960-2023

Data from 1960-1974 is taken from Table 1 of Roger Ibbotson, Jody Sindelar, and Jay R. Ritter's 1994 Journal of Applied Corporate Finance article "The Market's Problems with the Pricing of Initial Public Offerings" Vol. 7, No. 1 (Spring 1994), pp. 66-74. Data from 1975-2021 are compiled by Jay R. Ritter using Thomson Financial, Dealogic, IPOScoop.com, and other sources. The 1975-1993 numbers are different from those reported in the 1994 JACF article because the published article included IPOs that did not qualify for listing on Nasdaq, the Amex, or NYSE (mainly penny stocks). Unlike other tables, bank and S\&L IPOs are included in the counts in this table.

| Year | Number of <br> Offerings | Average <br> First-day Return ${ }^{2}$ | Gross Proceeds, <br> \$ Millions |
| :--- | :---: | :---: | :---: |
| 1960 | 269 | $17.8 \%$ | 553 |
| 1961 | 435 | $34.1 \%$ | 1,243 |
| 1962 | 298 | $-1.6 \%$ | 431 |
| 1963 | 83 | $3.9 \%$ | 246 |
| 1964 | 97 | $5.3 \%$ | 380 |
| 1965 | 146 | $12.7 \%$ | 409 |
| 1966 | 85 | $7.1 \%$ | 275 |
| 1967 | 100 | $37.7 \%$ | 641 |
| 1968 | 368 | $55.9 \%$ | 1,205 |
| 1969 | 780 | $12.5 \%$ | 2,605 |
| 1970 | 358 | $-0.7 \%$ | 780 |
| 1971 | 391 | $21.2 \%$ | 1,655 |
| 1972 | 562 | $7.5 \%$ | 2,724 |
| 1973 | 105 | $-17.8 \%$ | 330 |
| 1974 | 9 | $-7.0 \%$ | 51 |
| 1975 | 12 | $-0.2 \%$ | 261 |
| 1976 | 26 | $1.9 \%$ | 215 |
| 1977 | 15 | $3.6 \%$ | 128 |
| 1978 | 19 | $13.3 \%$ | 197 |
| 1979 | 39 | $8.9 \%$ | 309 |
| 1980 | 71 | $14.3 \%$ | 905 |
| 1981 | 192 | $5.9 \%$ | 2,306 |
| 1982 | 79 | $10.7 \%$ | 1,012 |
| 1983 | 521 | $9.0 \%$ | 11,306 |
| 1984 | 213 | $3.0 \%$ | 2,566 |
| 1985 | 217 | $6.6 \%$ | 4,749 |
| 1986 | 478 | $6.1 \%$ | 15,489 |
| 1987 | 337 | $5.7 \%$ | 12,568 |
| 1988 | 132 | $5.3 \%$ | 4,089 |
| 1989 | 124 | $7.7 \%$ | 5,886 |
| 1990 | 116 | $10.4 \%$ | 4,334 |
| 1991 | 293 | $11.8 \%$ | 16,464 |
| 1992 | 416 | $10.2 \%$ | 22,750 |
| 1993 | 527 | $12.7 \%$ | 31,654 |
| 1994 | 410 | $9.6 \%$ | 17,418 |
|  |  |  |  |


| 1995 | 465 | $21.3 \%$ | 27,993 |
| :--- | ---: | ---: | ---: |
| 1996 | 689 | $17.1 \%$ | 42,428 |
| 1997 | 485 | $14.0 \%$ | 32,547 |
| 1998 | 310 | $20.6 \%$ | 34,416 |
| 1999 | 484 | $70.0 \%$ | 64,809 |
| 2000 | 382 | $56.1 \%$ | 64,931 |
| 2001 | 80 | $14.0 \%$ | 35,288 |
| 2002 | 70 | $8.6 \%$ | 22,136 |
| 2003 | 68 | $11.9 \%$ | 10,075 |
| 2004 | 181 | $12.4 \%$ | 31,663 |
| 2005 | 167 | $10.0 \%$ | 28,578 |
| 2006 | 162 | $12.0 \%$ | 30,648 |
| 2007 | 160 | $14.0 \%$ | 35,704 |
| 2008 | 21 | $5.7 \%$ | 22,762 |
| 2009 | 42 | $10.8 \%$ | 13,296 |
| 2010 | 98 | $9.3 \%$ | 30,624 |
| 2011 | 82 | $13.8 \%$ | 27,750 |
| 2012 | 101 | $17.3 \%$ | 31,973 |
| 2013 | 163 | $20.6 \%$ | 41,909 |
| 2014 | 222 | $14.9 \%$ | 46,852 |
| 2015 | 125 | $18.7 \%$ | 22,296 |
| 2016 | 79 | $14.0 \%$ | 13,234 |
| 2017 | 117 | $12.3 \%$ | 24,032 |
| 2018 | 143 | $17.8 \%$ | 34,043 |
| 2019 | 120 | $22.4 \%$ | 39,725 |
| 2020 | 165 | $41.6 \%$ | 61,860 |
| 2021 | 315 | $31.9 \%$ | 119,632 |
| 2022 | 39 | $47.7 \%$ | 7,004 |
| 2023 | 54 | $11.9 \%$ | 11,916 |
| $1960-69$ | 2,661 | $21.2 \%$ | 7,988 |
| $1970-79$ | 1,536 | $7.1 \%$ | 6,663 |
| $1980-89$ | 2,364 | $6.9 \%$ | 60,874 |
| $1990-99$ | 4,195 | $21.1 \%$ | 807,914 |
| $2000-23$ | 3,156 | $23.0 \%$ | $\mathbf{1 7 . 6 \%}$ |
| $\mathbf{1 9 6 0 - 2 0 2 3}$ | $\mathbf{1 3 , 9 1 2}$ |  |  |
|  |  |  |  |

[^0]Table 9 (updated January 1, 2024)

## Fraction of IPOs with Negative Earnings, 1980-2023

IPOs with an offer price below $\$ 5.00$ per share, unit offers, ADRs, closed-end funds, partnerships, acquisition companies, REITs, bank and S\&L IPOs, and firms not listed on CRSP within six months of the offer date are excluded. When available, I use the earnings per share for the most recent twelve months (commonly known as LTM for last twelve months) prior to going public. When a merger is involved, we use the pro forma numbers (as if the merger had already occurred). I am not completely consistent in the use of earnings before or after extraordinary items. Some extraordinary items are associated with the IPO, including gains or losses on conversion of convertible securities at the time of the IPO, or writeups or writedowns associated with mergers. I usually use the before extraordinary items EPS if the one-time charges are associated with the IPO. When the trailing twelve months EPS number is unavailable, I use the most recent fiscal year EPS number. Missing numbers are supplemented by direct inspection of prospectuses on EDGAR, EPS information from Dealogic for IPOs after 1991, and Howard and Co.'s Going Public: The IPO Reporter from 1980-1995. Remaining missing numbers have been found in the Graeme Howard-Todd Huxster collection of IPO prospectuses and the Stanford Business School microfiche collection of prospectuses from the 1980s. Don Patton of UC-Davis has tracked down a couple of remaining missing numbers. Tech stocks are defined as internetrelated stocks plus other technology stocks, not including biotech. Loughran and Ritter (2004) list the SIC codes in their appendix 3 and sources of founding dates in appendix 1.

| Year | Number <br> of IPOs | No. with <br> missing EPS | Percentage <br> Tech Stocks | Percentage of <br> IPOs with EPS $<0$ | Mean First-day Returns |  |
| :---: | ---: | :---: | :---: | :---: | :---: | :---: |
| $1980-1989$ | 2,047 | 1 | $29 \%$ | $19 \%$ | EPS $<0$ | EPS $\geq 0$ |
| $1990-1998$ | 3,616 | 0 | $34 \%$ | $32 \%$ | $16.2 \%$ | $6.8 \%$ |
| $1999-2000$ | 856 | 0 | $74 \%$ | $78 \%$ | $71.1 \%$ | $14.3 \%$ |
| $2001-2023$ | 2,662 | 2 | $33 \%$ | $62 \%$ | $20.4 \%$ | $16.4 \%$ |
|  |  |  |  |  |  |  |
| $2001-2010$ | 1,010 | 0 | $34 \%$ | $46 \%$ | $10.1 \%$ | $12.9 \%$ |
| $2011-2023$ | 1,652 | 2 | $32 \%$ | $71 \%$ | $24.5 \%$ | $20.5 \%$ |
| $\mathbf{1 9 8 0 - 2 0 2 3}$ | $\mathbf{9 , 1 8 1}$ | $\mathbf{3}$ | $\mathbf{3 6 \%}$ | $\mathbf{4 2 \%}$ | $\mathbf{2 6 . 7 \%}$ | $\mathbf{1 3 . 3 \%}$ |

(year-by-year on the next page)

| Year | Number of IPOs | $\begin{aligned} & \text { No. with } \\ & \text { missing EPS } \end{aligned}$ | Percentage Tech Stocks | Percentage of IPOs with EPS<0 | Mean First-day Returns |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | EPS<0 | EPS $\geq 0$ |
| 1980 | 71 | 0 | 31\% | 24\% | 7.1\% | 16.5\% |
| 1981 | 192 | 0 | 38\% | 17\% | 8.0\% | 5.4\% |
| 1982 | 77 | 0 | 55\% | 19\% | 6.4\% | 12.1\% |
| 1983 | 451 | 0 | 38\% | 22\% | 14.0\% | 8.8\% |
| 1984 | 171 | 0 | 29\% | 16\% | 11.1\% | 2.2\% |
| 1985 | 186 | 0 | 20\% | 15\% | 5.2\% | 6.6\% |
| 1986 | 393 | 1 | 20\% | 21\% | 8.8\% | 5.4\% |
| 1987 | 285 | 0 | 20\% | 17\% | 5.1\% | 5.8\% |
| 1988 | 105 | 0 | 27\% | 18\% | 6.0\% | 5.3\% |
| 1989 | 116 | 0 | 30\% | 22\% | 8.3\% | 7.9\% |
| 1990 | 110 | 0 | 28\% | 15\% | 9.5\% | 11.0\% |
| 1991 | 286 | 0 | 24\% | 24\% | 9.4\% | 12.7\% |
| 1992 | 412 | 0 | 28\% | 29\% | 10.2\% | 10.3\% |
| 1993 | 510 | 0 | 25\% | 28\% | 12.6\% | 12.8\% |
| 1994 | 402 | 0 | 29\% | 26\% | 8.0\% | 10.2\% |
| 1995 | 462 | 0 | 44\% | 30\% | 22.5\% | 21.0\% |
| 1996 | 677 | 0 | 40\% | 41\% | 16.7\% | 17.6\% |
| 1997 | 474 | 0 | 36\% | 36\% | 12.6\% | 14.9\% |
| 1998 | 283 | 0 | 40\% | 46\% | 32.1\% | 13.1\% |
| 1999 | 476 | 0 | 78\% | 76\% | 81.0\% | 40.2\% |
| 2000 | 380 | 0 | 68\% | 81\% | 59.4\% | 43.8\% |
| 2001 | 80 | 0 | 29\% | 49\% | 15.3\% | 12.8\% |
| 2002 | 66 | 0 | 30\% | 45\% | 5.6\% | 12.0\% |
| 2003 | 63 | 0 | 29\% | 44\% | 10.0\% | 13.2\% |
| 2004 | 173 | 0 | 35\% | 50\% | 11.9\% | 12.7\% |
| 2005 | 159 | 0 | 28\% | 45\% | 7.3\% | 12.8\% |
| 2006 | 157 | 0 | 31\% | 40\% | 7.3\% | 15.4\% |
| 2007 | 159 | 0 | 48\% | 55\% | 13.8\% | 14.3\% |
| 2008 | 21 | 0 | 29\% | 43\% | 1.8\% | 8.7\% |
| 2009 | 41 | 0 | 34\% | 29\% | 12.8\% | 8.6\% |
| 2010 | 91 | 0 | 36\% | 41\% | 6.9\% | 11.1\% |
| 2011 | 81 | 0 | 44\% | 57\% | 11.0\% | 17.7\% |
| 2012 | 93 | 0 | 43\% | 46\% | 22.4\% | 13.7\% |
| 2013 | 158 | 0 | 29\% | 63\% | 20.2\% | 21.9\% |
| 2014 | 206 | 0 | 25\% | 71\% | 17.1\% | 11.4\% |
| 2015 | 118 | 0 | 32\% | 70\% | 19.1\% | 19.6\% |
| 2016 | 75 | 0 | 28\% | 67\% | 13.2\% | 17.0\% |
| 2017 | 106 | 0 | 28\% | 77\% | 12.4\% | 14.8\% |
| 2018 | 134 | 0 | 29\% | 81\% | 20.4\% | 10.5\% |
| 2019 | 113 | 0 | 32\% | 77\% | 25.2\% | 17.9\% |
| 2020 | 165 | 1 | 25\% | 80\% | 45.3\% | 26.9\% |
| 2021 | 311 | 0 | 38\% | 75\% | 30.0\% | 38.6\% |
| 2022 | 38 | 2 | 16\% | 79\% | 53.2\% | 32.9\% |
| 2023 | 54 | 0 | 17\% | 63\% | 14.3\% | 7.7\% |
| 1980-2023 | 9,181 | 3 | 36\% | 42\% | 26.7\% | 13.3\% |

Table 11a (January 17, 2024)

## First-day and Long-run Returns on IPOs by Lead-left Underwriter, 2012-2021

1,479 operating company IPOs from 2012-2021 are used, with returns calculated through the end of December 2022. IPOs are categorized by the underwriter listed in the top left of the managing underwriters on the first page of the IPO prospectus (S.E.C. Form 424). The 11 underwriters with the highest number of operating company IPOs are listed, with other underwriters grouped into two other categories. Others (regionals) include Wm. Blair, Piper-Jaffray, Raymond James, RBC Capital Markets, UBS, Wells Fargo and other underwriters not otherwise named below with an underwriter rank of 6.0 or higher on a 1-to- 9 scale. Others (lower tier) include Aegis, Boustead, EF Hutton, Maxim Group and others with an underwriter rank of below 6.0. IPOs with an offer price below $\$ 5.00$ per share, unit offers, ADRs, REITs, closed end funds, natural resource partnerships, banks and S\&Ls, small best efforts offers, and IPOs not listed on CRSP within six months of the offer date are excluded. mm is millions of dollars. Buy-and-hold returns are calculated until the earlier of the three-year anniversary or the delisting date (no later than Dec. 30 of 2022 for IPOs from 2020 and 2021). Market-adjusted returns use the CRSP valueweighted index. Style adjustments use firms matched by market cap and book-to-market ratio with at least five years of CRSP listing and no follow-on equity issues in the prior five years. Specifically, the firm with the closest book-to-market ratio within the size decile of the IPO is used for the matching firm. For companies with dual-class shares, the post-issue book-to-market ratio is calculated using the post-issue total shares outstanding for all share classes. Market capitalization (size) is calculated using the first closing market price after the IPO and the postissue basic number of shares outstanding, a procedure that assumes that nontraded share classes would have the same price as traded shares, and that outstanding stock options have zero value. If a matching firm is delisted before the IPO, it is assumed that the proceeds of the delisted firm are then invested in the next-best matching firm at the time of the IPO. All returns include dividends and capital gains, including the index returns.

| Underwriter | Number of IPOs | Average First-day Return | Average 3-year Buy-and-hold Return |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | IPOs | Market-adjusted | Style-adjusted |
| Goldman Sachs | 272 | 27.6\% | 4.4\% | -17.0\% | -20.8\% |
| JPM | 224 | 25.7\% | 18.1\% | -4.1\% | 5.1\% |
| Morgan Stanley | 218 | 26.9\% | 28.5\% | 7.0\% | 5.5\% |
| BOA-Merrill | 133 | 24.5\% | 13.6\% | -11.4\% | -7.8\% |
| Jefferies | 91 | 24.3\% | 0.8\% | -24.2\% | -32.1\% |
| Citigroup | 82 | 8.0\% | 21.7\% | -8.1\% | -25.0\% |
| Credit-Suisse | 74 | 11.8\% | 25.9\% | -6.5\% | -0.8\% |
| Barclays | 46 | 16.7\% | 28.1\% | 3.7\% | 11.7\% |
| Cowen | 29 | 26.1\% | -39.7\% | -63.8\% | -94.7\% |
| Deutsche Bank | 19 | 11.7\% | 44.4\% | 12.7\% | -1.8\% |
| Stifel | 18 | 12.3\% | 32.5\% | 2.6\% | 15.7\% |
| Others (regionals) | 133 | 10.6\% | 3.1\% | -29.1\% | -25.4\% |
| Others (lower tier) | 140 | 38.2\% | -39.9\% | -55.8\% | -27.7\% |
| 2012-2021 | 1,479 | 23.6\% | 9.1\% | -14.8\% | -12.6\% |

Table 14 (updated January 19, 2024)

## The Market Share of Foreign Companies among U.S. IPOs, 1980-2023

This table includes American Depositary Receipts (ADRs) as well as other IPOs, and so has a higher total number of U.S. IPOs. I continue to exclude IPOs with an offer price below $\$ 5.00$ per share, unit offers, SPACs, REITs, closed-end funds, natural resource limited partnerships, small best efforts IPOs, banks and S\&Ls, and IPOs not listed on CRSP (this last screen limits the sample to NASDAQ, Amex, and NYSE-listed issues) within six months of the offer date. Bermuda-domiciled companies are included as foreign, irrespective of the main country of operations. Bermuda, Canada, China, Greece, Israel, the Netherlands, and the United Kingdom are the most common countries for IPOs that list in the U.S. Dealogic is the main source of information on foreign IPOs, because Thomson Financial frequently classifies a follow-on offering that simultaneously includes a U.S. listing as an IPO, as does the NYSE. I have deleted these listings (a list of more than 110 of them can be found in "SDC Corrections" on my IPO Data page) from the IPO counts when I have been able to identify them. The count for Chinese IPOs does not include those from Hong Kong and excludes "reverse mergers" and best efforts IPOs. There are six bank IPOs of ADRs that are counted (1 in 1988, 1 in 1993, 2 in 1994, and 2 in 2009). There were 4 additional foreign issues in 1981, but they did not get listed on CRSP until more than six months after the IPO.

For the column "Mean IR\%" (Mean percentage initial return, measured from the offer price to the first-day close), market prices are missing for 11 of the 583 ADRs.

In addition to the IPOs listed in this table, there have been more than thirty Chinese IPOs with an offer price of below $\$ 5.00$ per share, plus some unit offers. Some of these deals were best efforts offerings. Those with an offer price below $\$ 5$ per share include the following (these deals raised a median of only $\$ 8.6$ million):

| Year | IPOs including ADRs |  | Domestic | Foreign |  | \% <br> Foreign | Chinese |  | \% <br> Chinese |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Number | Mean IR \% |  | Total | ADRs |  | Total | ADRs |  |
| 1980 | 71 | 14.3\% | 70 | 1 | 0 | 1.4\% | 0 | 0 | 0\% |
| 1981 | 193 | 5.9\% | 192 | 1 | 0 | 0.5\% | 0 | 0 | 0\% |
| 1982 | 78 | 10.9\% | 76 | 2 | 1 | 2.6\% | 0 | 0 | 0\% |
| 1983 | 453 | 9.9\% | 446 | 7 | 2 | 1.5\% | 0 | 0 | 0\% |
| 1984 | 175 | 3.8\% | 168 | 7 | 5 | 4.0\% | 0 | 0 | 0\% |
| 1985 | 186 | 6.4\% | 183 | 3 | 0 | 1.6\% | 0 | 0 | 0\% |
| 1986 | 394 | 6.1\% | 392 | 2 | 1 | 0.5\% | 0 | 0 | 0\% |
| 1987 | 285 | 5.6\% | 281 | 4 | 0 | 1.4\% | 0 | 0 | 0\% |
| 1988 | 109 | 5.4\% | 100 | 9 | 5 | 8.3\% | 0 | 0 | 0\% |
| 1989 | 119 | 8.0\% | 110 | 9 | 3 | 7.6\% | 0 | 0 | 0\% |
| 1990 | 111 | 10.7\% | 107 | 4 | 1 | 3.6\% | 0 | 0 | 0\% |
| 1991 | 288 | 11.9\% | 278 | 10 | 2 | 3.5\% | 0 | 0 | 0\% |
| 1992 | 416 | 10.2\% | 393 | 23 | 4 | 5.5\% | 0 | 0 | 0\% |
| 1993 | 527 | 12.5\% | 487 | 39 | 19 | 7.6\% | 1 | 1 | 0.2\% |
| 1994 | 420 | 9.5\% | 385 | 33 | 22 | 8.3\% | 3 | 2 | 0.7\% |
| 1995 | 477 | 20.9\% | 436 | 41 | 16 | 8.6\% | 1 | 1 | 0.2\% |
| 1996 | 710 | 16.9\% | 646 | 64 | 33 | 9.0\% | 1 | 1 | 0.1\% |
| 1997 | 504 | 13.7\% | 430 | 74 | 34 | 14.7\% | 4 | 3 | 0.8\% |
| 1998 | 294 | 21.7\% | 256 | 38 | 13 | 12.9\% | 2 | 1 | 0.7\% |
| 1999 | 501 | 69.7\% | 450 | 51 | 26 | 10.2\% | 1 | 0 | 0.2\% |
| 2000 | 418 | 55.4\% | 336 | 82 | 40 | 19.6\% | 7 | 4 | 1.7\% |
| 2001 | 83 | 13.8\% | 74 | 9 | 4 | 10.8\% | 2 | 2 | 2.4\% |
| 2002 | 68 | 9.0\% | 63 | 5 | 2 | 7.4\% | 1 | 1 | 1.5\% |
| 2003 | 66 | 13.0\% | 60 | 6 | 3 | 9.1\% | 2 | 2 | 3.0\% |
| 2004 | 189 | 11.9\% | 160 | 28 | 16 | 15.3\% | 9 | 9 | 4.8\% |
| 2005 | 172 | 11.7\% | 142 | 30 | 13 | 17.4\% | 8 | 8 | 4.7\% |
| 2006 | 172 | 12.5\% | 138 | 34 | 15 | 19.8\% | 9 | 7 | 5.2\% |
| 2007 | 190 | 14.4\% | 138 | 52 | 31 | 27.4\% | 29 | 27 | 15.3\% |
| 2008 | 24 | 4.3\% | 18 | 6 | 3 | 25.0\% | 3 | 3 | 16.7\% |
| 2009 | 49 | 8.8\% | 38 | 11 | 8 | 22.4\% | 10 | 7 | 20.4\% |
| 2010 | 125 | 12.2\% | 80 | 45 | 34 | 36.0\% | 33 | 32 | 26.4\% |
| 2011 | 93 | 13.3\% | 70 | 23 | 12 | 24.7\% | 13 | 11 | 14.0\% |
| 2012 | 97 | 17.2\% | 85 | 12 | 4 | 12.4\% | 2 | 2 | 2.1\% |
| 2013 | 168 | 22.3\% | 140 | 28 | 10 | 16.8\% | 8 | 6 | 4.8\% |
| 2014 | 225 | 14.8\% | 176 | 49 | 19 | 21.8\% | 14 | 14 | 6.2\% |
| 2015 | 126 | 18.7\% | 104 | 22 | 8 | 17.5\% | 5 | 4 | 4.0\% |
| 2016 | 83 | 14.1\% | 68 | 15 | 9 | 18.1\% | 6 | 6 | 7.2\% |
| 2017 | 125 | 13.6\% | 94 | 31 | 20 | 24.8\% | 16 | 15 | 12.8\% |
| 2018 | 166 | 17.1\% | 119 | 47 | 32 | 28.3\% | 28 | 27 | 16.9\% |
| 2019 | 138 | 19.8\% | 100 | 38 | 27 | 27.5\% | 23 | 20 | 16.7\% |
| 2020 | 198 | 38.3\% | 147 | 50 | 32 | 25.8\% | 29 | 25 | 15.2\% |
| 2021 | 347 | 31.0\% | 263 | 84 | 36 | 24.2\% | 30 | 21 | 8.6\% |
| 2022 | 43 | 54.5\% | 27 | 16 | 5 | 37.2\% | 5 | 4 | 11.6\% |
| 2023 | 67 | 9.8\% | 39 | 28 | 13 | 41.8\% | 13 | 8 | 19.4\% |
| 1980-2023 | 9,743 | 18.8\% | 8,565 | 1,173 | 583 | 12.0\% | 318 | 274 | 3.3\% |

Table 15a (updated January 1, 2024)

## IPO Volume and Average First-day Returns with Banks, LPs, and ADRs Included

In the last two columns of the table, the net number of IPOs is expanded to include LPs, banks and S\&Ls, and ADRs. Only CRSP-listed IPOs that have first-day return information are included, and therefore the number of IPOs added is slightly less for many years than if the "net" IPO count is added to the LP count, the bank and S\&L count, and the ADR count. CRSP covers IPOs that are listed on Nasdaq, NYSE, and NYSE Market (formerly Amex). If a stock takes more than six months before CRSP-listing, it is not included in the count. The sample size of 15,959 IPOs from 1980-2023 includes the 9,180 IPOs from 1980-2023 used in most tables, plus 566 ADRs with a first-day return, 228 natural resource industry limited partnerships, and 577 bank and S\&L IPOs ( 6 of which are ADRs). There are also 14 ADRs with a missing first-day close ( 1 in 1986, 2 in 1988, 2 in 1989, 2 in 1992, 2 in 1993, 3 in 1994, 1 in 1995, 1 in 1997).

As with Table 15, the net number of IPOs in the first column excludes Special Purpose Acquisition Companies (SPACs), closed-end funds (not including interval funds), Real Estate Investment Trusts (REITs), unit offers (typically composed of a share plus a warrant to buy a share), IPOs with an offer price of less than $\$ 5.00$, commercial banks and savings and loans, companies not promptly listed on the Amex, NYSE, or Nasdaq, natural resource master limited partnerships, small best efforts offers (included in the other exclusions column), and foreign companies issuing American Depositary Receipts (6 of which are banks). SPACs that are unit offers are classified as SPACs rather than units.

Table 15a also differs from Table 15 in that the category of SPACs, closed-end funds, and REITs in Table 15 is decomposed into the three component parts. Blind pool offerings from the pre-2004 era were previously not included as SPACs, but I have recently added those from 1988-1997. These blind-pool offers are almost always screened out of the net number of offerings because they are either unit offers, penny stocks (offer price below $\$ 5$ per share), small best efforts deals, or were not CRSP-listed. The remaining blind pool offers are excluded in the "other reasons" category. A typical blind pool offering raised a few million dollars and investors never received anything in return.

The average first-day return on 580 bank and S\&L IPOs is $6.1 \%$, with a range of $-20 \%$ to $+57.5 \%$. In most of my tables, I exclude Bank and S\&L IPOs because, among other reasons, it is not always clear how many shares are sold to the general public versus sold to depositors and employees, since most of these offerings are demutualizations. Many bank demutualizations use best efforts offerings, and in most years I exclude these $200+$ IPOs. The same can be said of some insurance IPOs, which I include.

The average first-day return on 566 ADR IPOs with a closing market price, including banks, is $16.5 \%$, with a range of $-37.2 \%$ to $414.3 \%$, with the 2000 internet company Crayfish Co. Ltd IPO having the highest return, at $414.3 \%$. In most of my tables, I exclude ADRs because, among other reasons, the accounting data is not always reliable (SDC sometimes makes translation mistakes) and the U.S. tranche may be a small part of a larger offering, especially in the home country of the company.

The average first-day return on 228 limited partnerships is $3.7 \%$, with a range of $-6.8 \%$ to $+33.3 \%$. In most of my tables, I exclude natural resource company limited partnerships because it if frequently difficult to discern the founding date of the underlying business, since most of these IPOs are spinoffs partly motivated by tax minimization strategies. Also, most of these LPs are created at the time of the IPO, and identifying whether the LP is profitable, what its trailing sales are, and what its assets are, is sometimes problematic. The same can be said of rollups, which I include. I also include newly created reinsurance companies.

Table 15a

| Year | Number of IPOs |  | CEFs, SPACs, and REITs | $\begin{gathered} \text { Closed } \\ \text {-end } \\ \text { funds } \end{gathered}$ | REITs | SPACs |  | LPs | Banks and S\&Ls | Including LPs, Banks, \& ADRs |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Non- |  |  |  |  |  |  |  |
|  | Gross | Net |  |  |  | unit | Unit |  |  | No. | Mean IR |
| 1980 | 234 | 71 |  | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 71 | 14.3\% |
| 1981 | 439 | 192 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 192 | 5.9\% |
| 1982 | 198 | 77 | 1 | 0 | 1 | 0 | 0 | 0 | 3 | 80 | 10.5\% |
| 1983 | 850 | 451 | 1 | 0 | 1 | 0 | 0 | 0 | 75 | 523 | 8.9\% |
| 1984 | 518 | 171 | 4 | 0 | 4 | 0 | 0 | 1 | 47 | 220 | 3.1\% |
| 1985 | 326 | 186 | 16 | 1 | 15 | 0 | 0 | 6 | 43 | 223 | 6.4\% |
| 1986 | 710 | 393 | 28 | 25 | 3 | 0 | 0 | 20 | 100 | 497 | 5.9\% |
| 1987 | 531 | 285 | 36 | 32 | 4 | 0 | 0 | 15 | 57 | 349 | 5.5\% |
| 1988 | 293 | 105 | 74 | 65 | 8 | 0 | 1 | 3 | 30 | 136 | 5.3\% |
| 1989 | 254 | 116 | 46 | 46 | 0 | 0 | 0 | 2 | 11 | 128 | 7.7\% |
| 1990 | 213 | 110 | 43 | 42 | 0 | 0 | 1 | 1 | 7 | 118 | 10.3\% |
| 1991 | 408 | 286 | 45 | 42 | 2 | 0 | 1 | 2 | 7 | 295 | 11.8\% |
| 1992 | 602 | 412 | 105 | 98 | 5 | 0 | 2 | 1 | 4 | 420 | 10.1\% |
| 1993 | 772 | 510 | 175 | 121 | 46 | 0 | 8 | 3 | 17 | 546 | 12.4\% |
| 1994 | 594 | 402 | 84 | 37 | 41 | 0 | 7 | 3 | 10 | 432 | 9.4\% |
| 1995 | 574 | 462 | 11 | 2 | 7 | 0 | 2 | 2 | 3 | 483 | 20.8\% |
| 1996 | 845 | 677 | 15 | 5 | 6 | 0 | 4 | 5 | 15 | 727 | 16.7\% |
| 1997 | 601 | 474 | 30 | 7 | 22 | 0 | 1 | 1 | 15 | 517 | 13.6\% |
| 1998 | 379 | 283 | 39 | 24 | 15 | 0 | 0 | 2 | 33 | 323 | 20.6\% |
| 1999 | 565 | 476 | 37 | 35 | 2 | 0 | 0 | 3 | 12 | 512 | 68.3\% |
| 2000 | 431 | 380 | 2 | 2 | 0 | 0 | 0 | 0 | 4 | 420 | 55.1\% |
| 2001 | 130 | 80 | 38 | 38 | 0 | 0 | 0 | 4 | 0 | 86 | 13.6\% |
| 2002 | 157 | 66 | 81 | 77 | 4 | 0 | 0 | 6 | 4 | 77 | 7.8\% |
| 2003 | 131 | 63 | 57 | 49 | 7 | 0 | 1 | 0 | 5 | 71 | 13.1\% |
| 2004 | 304 | 173 | 95 | 55 | 28 | 0 | 12 | 5 | 8 | 201 | 11.9\% |
| 2005 | 283 | 159 | 88 | 50 | 11 | 4 | 24 | 9 | 8 | 189 | 11.5\% |
| 2006 | 261 | 157 | 62 | 22 | 5 | 0 | 35 | 18 | 5 | 195 | 11.4\% |
| 2007 | 326 | 159 | 116 | 47 | 4 | 0 | 65 | 14 | 1 | 205 | 14.0\% |
| 2008 | 53 | 21 | 22 | 3 | 2 | 0 | 17 | 4 | 0 | 28 | 4.1\% |
| 2009 | 80 | 41 | 22 | 13 | 9 | 0 | 0 | 0 | 2 | 50 | 9.6\% |
| 2010 | 198 | 91 | 37 | 22 | 8 | 0 | 7 | 7 | 11 | 139 | 11.5\% |
| 2011 | 178 | 81 | 50 | 25 | 9 | 0 | 16 | 18 | 12 | 112 | 11.6\% |
| 2012 | 175 | 93 | 46 | 28 | 9 | 1 | 8 | 16 | 11 | 122 | 15.8\% |
| 2013 | 255 | 158 | 58 | 28 | 20 | 3 | 7 | 19 | 5 | 192 | 20.1\% |
| 2014 | 305 | 206 | 30 | 13 | 6 | 0 | 11 | 20 | 19 | 261 | 14.2\% |
| 2015 | 183 | 118 | 35 | 8 | 7 | 1 | 19 | 9 | 7 | 142 | 17.4\% |
| 2016 | 113 | 75 | 18 | 2 | 3 | 0 | 13 | 1 | 4 | 89 | 13.6\% |
| 2017 | 202 | 106 | 52 | 9 | 9 | 0 | 34 | 5 | 11 | 141 | 12.7\% |
| 2018 | 243 | 134 | 52 | 1 | 5 | 0 | 46 | 1 | 9 | 176 | 16.4\% |
| 2019 | 228 | 113 | 67 | 6 | 2 | 0 | 59 | 1 | 7 | 146 | 19.0\% |
| 2020 | 465 | 165 | 257 | 5 | 4 | 11 | 237 | 0 | 0 | 197 | 38.3\% |
| 2021 | 1,026 | 311 | 628 | 10 | 5 | 33 | 580 | 0 | 11 | 349 | 30.7\% |
| 2022 | 175 | 38 | 91 | 4 | 1 | 0 | 86 | 0 | 3 | 46 | 50.1\% |
| 2023 | 153 | 54 | 31 | 0 | 0 | 0 | 31 | 1 | 3 | 71 | 9.7\% |
| Total | 15,961 | 9,181 | 2,796 | 1,099 | 341 | 53 | 1,334 | 227 | 639 | 10,497 | 17.9\% |

Figure 4: See Table 1 for details.

Average First Day Return and Aggregate Money Left on the Table, 1990-2023

$\rightarrow$ Aggregate Money Left of the Table (Left y-Axis, in \$billions) $\sim$ Average First Day Return (Right y-Axis, in Equal-weighted)

Figure 5: The number of IPOs and average first-day returns per year, 1980-2023


The number of IPOs (bars) and equally weighted average first-day return, by year, for 1980-2023 for operating companies going public with traditional IPOs on major U.S. exchanges (ADRs, penny stocks, etc. are excluded. See Table 1 for details.)


[^0]:    ${ }^{1}$ Beginning in 1975, the number of offerings excludes IPOs with an offer price of less than $\$ 5.00$, ADRs, small best efforts offers, units, Regulation A offers (small issues, raising less than $\$ 1.5$ million during the 1980 s and $\$ 5$ million until 2012), real estate investment trusts (REITs), SPACs, natural resource limited partnerships, and closed-end funds. Banks and S\&L IPOs are included. From 2012 and later, Regulation A offerings (issues raising up to \$50 million are eligible) are included.
    ${ }^{2}$ First-day returns are computed as the percentage return from the offering price to the first closing market price.
    ${ }^{3}$ Gross proceeds exclude overallotment options but include the international tranche, if any. No adjustments for inflation have been made.

