

Initial Public Offerings: Technology Stock IPOs

Jay R. Ritter
Cordell Professor of Finance
University of Florida
352.846-2837 *voice*

<https://site.warrington.ufl.edu/ritter/>

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Table 4 (updated January 1, 2024)

Median Age and Fraction of IPOs with VC and Buyout Backing, 1980-2023

There are 9,181 IPOs after excluding those with an offer price below \$5.00 per share, unit offers, ADRs, closed-end funds, oil & gas limited partnerships, acquisition companies, REITs, bank and S&L IPOs, and firms not listed on CRSP. Missing numbers 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, the Graeme Howard-Todd Huxster collection of IPO prospectuses for 1975-2006, and the Stanford GSB microfiche collection of registration statements from the 1980s. Tech stocks are defined as internet-related 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. Age is defined as the year of the IPO minus the year of founding. For buyout-backed IPOs, the founding date of the predecessor company is used. For rollups, the founding date of the oldest acquired company is used in most cases. Private equity (PE) or buyout-backed IPOs were restricted to "reverse LBOs" in the 1980s and 1990s. Jerry Cao has assisted with providing information on which IPOs are buyout-backed.

The financial backers of some companies are easy to classify, such as when Sequoia Capital and Kleiner Perkins invested in Google, or when KKR invested in Dollar General. But other situations involve growth capital investing, as when Warburg Pincus finances a company that rolls up some doctors' offices. With just two categories (VC and buyout), there is some arbitrariness in the categorization of IPOs backed by growth capital investors. 467 growth capital-backed IPOs are classified as VC-backed.

The last column gives the percentage of tech stocks that have VC backing.

The definition of technology stocks has been changed from that in Loughran and Ritter (2004 *Financial Management*), with SIC=3559, 3576, and 7389 added to tech. Some 7389 (business services) companies have had their SIC codes changed into non-tech categories, such as consulting and two new SIC codes: 5614 for telemarketing firms and 7388 for non-tech business services such as Sotheby's Auctions.

(table on the next page)

Year	Number of IPOs	Median Age	VC-backed		Buyout-backed		Technology IPOs	
			No.	%	No.	%	No.	% VC-backed
1980	71	6	23	32%	1	1%	22	64%
1981	192	8	53	28%	1	1%	72	40%
1982	77	5	21	27%	2	3%	42	36%
1983	451	7	116	26%	17	4%	173	39%
1984	171	8	45	26%	5	3%	50	52%
1985	186	9	39	21%	18	10%	37	43%
1986	393	8	79	20%	42	11%	77	40%
1987	285	8	66	23%	41	14%	59	66%
1988	105	8	32	30%	9	9%	28	61%
1989	116	8	40	34%	10	9%	35	66%
1990	110	9	42	38%	13	12%	32	75%
1991	286	10	115	40%	73	26%	71	63%
1992	412	10	138	33%	98	24%	115	58%
1993	510	9	172	34%	79	15%	127	69%
1994	402	9	129	32%	22	5%	115	56%
1995	462	8	190	41%	30	6%	205	56%
1996	677	8	266	39%	34	5%	276	56%
1997	474	10	134	28%	38	8%	174	42%
1998	283	9	80	28%	30	11%	113	49%
1999	476	5	280	59%	30	6%	370	68%
2000	380	6	245	64%	32	8%	261	70%
2001	80	12	32	40%	21	26%	24	70%
2002	66	15	23	35%	20	30%	20	65%
2003	63	11	25	40%	21	33%	18	67%
2004	173	8	79	46%	43	25%	61	66%
2005	159	13	45	28%	68	43%	45	49%
2006	157	13	56	36%	66	42%	48	56%
2007	159	9	79	50%	30	19%	76	76%
2008	21	14	9	43%	3	14%	6	67%
2009	41	15	12	29%	19	46%	14	43%
2010	91	10	40	44%	28	31%	33	73%
2011	81	11	46	57%	17	21%	36	83%
2012	93	12	49	53%	28	30%	40	87%
2013	158	12	81	52%	37	23%	45	78%
2014	206	11	132	64%	38	18%	53	75%
2015	118	10	78	65%	20	17%	38	76%
2016	75	10	49	65%	13	17%	21	71%
2017	106	12	64	60%	18	17%	30	80%
2018	134	10	91	68%	15	11%	39	77%
2019	113	10	77	69%	11	10%	37	70%
2020	165	9	113	68%	22	13%	46	73%
2021	311	11	175	56%	67	22%	121	64%
2022	38	8	14	37%	0	0%	6	17%
2023	54	10	23	43%	7	13%	9	44%
1980-2023	9,181	9	3,697	40%	1,237	13%	3,320	60%

1980-1989	2,047	8	514	25%	146	7%	595	47%
1990-1998	3,616	9	1,266	35%	417	12%	1,228	56%
1999-2000	856	5	525	61%	62	7%	631	68%
2001-2023	2,662	11	1,392	52%	612	23%	866	69%
1980-2023	9,181	9	3,697	40%	1,237	13%	3,320	60%

Table 4a (updated December 22, 2023)

Technology Company IPOs, 1980-2023 including Direct Listings

There are 3,320 IPOs and 9 direct listings that are tech stocks, for a total of 3,329 listings, after excluding those with an offer price below \$5.00 per share, unit offers, ADRs, closed-end funds, natural resource limited partnerships (and most other LPs, but not buyout firms such as Carlyle Group), acquisition companies, 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. Tech stocks are defined as internet-related stocks plus other technology stocks including telecom, but not including biotech. Loughran and Ritter (2004) list the SIC codes in their appendix 3 and sources of founding dates in appendix 1. The definition of technology stocks has been changed from that in Loughran and Ritter (2004 *Financial Management*), with SIC=3559, 3576, 3844, and 7389 added to tech. Some 7389 (business services) companies have had their SIC codes changed into non-tech categories, such as consulting and two new SIC codes that I have made up: 5614 for telemarketing firms and 7388 for non-tech business services such as Sotheby's Auctions. I have also added the S.E.C.'s computer communications equipment code of 3576 for 21 companies, including Cisco Systems.

For the column with VC-backed IPOs, there are 3,707 IPOs including both technology and non-technology companies.

Total proceeds are nominal and do not include overallotment shares, and are zero for direct listings. Price-to-sales ratios are computed using both the offer price (OP) and the first closing market price (MP) for computing the market capitalization of equity. Market cap is calculated using the post-issue shares outstanding, with all share classes included in the case of dual-class companies. The undiluted number of shares is used, which in some cases (e.g., Facebook, Twitter, and Castlight Health) understates the market cap due to the existence of substantial amounts of in-the-money employee stock options that are highly likely to be exercised. Sales are the last twelve months (LTM) revenues as reported in the prospectus. The median sales, in millions, is expressed in both nominal dollars and in dollars of 2014 purchasing power using the CPI. The median age, in years, is the number of years since the calendar year of the founding date and the calendar year of 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.

Even concepts like market cap (for the price-to-sales ratios) become ambiguous when you realize that companies like Facebook have many deep in-the-money options outstanding, so whether you use the fully diluted number of shares or the undiluted number can affect the calculations substantially for some companies.

(table on the next page)

Year	Number of Tech IPOs	Proceeds in \$millions		Median Price-to-sales		Median sales, \$mm		Median age	% profitable
		VC-backed	Technology	OP	MP	Nominal	\$2014		
1980	22	388	378	3.4	3.8	16.2	48.8	6.5	91%
1981	72	648	838	3.5	3.6	12.9	34.8	9	88%
1982	42	490	648	4.2	4.5	10.5	26.2	5	83%
1983	173	2,798	3,271	5.9	6.6	8.6	20.6	6	71%
1984	50	614	551	2.4	2.5	9.8	22.4	6.5	80%
1985	37	667	375	2.3	2.4	13.4	29.7	7	84%
1986	77	1,558	1,217	3.4	3.6	13.0	27.8	6	74%
1987	59	1,315	1,330	3.2	3.2	17.8	37.4	5	86%
1988	28	674	888	3.0	3.4	24.0	48.5	5.5	79%
1989	35	869	748	3.4	4.0	31.5	60.9	6	77%
1990	32	1,085	764	3.6	4.0	28.6	52.5	8.5	94%
1991	71	3,887	2,760	3.2	3.6	34.6	60.0	9	75%
1992	115	4,970	5,875	3.5	3.7	22.4	38.0	8	65%
1993	127	5,929	5,715	3.0	3.6	27.0	44.3	8	74%
1994	115	3,691	3,583	3.7	4.2	21.0	33.7	9	70%
1995	205	7,165	9,786	4.6	5.8	21.4	33.3	8	71%
1996	276	11,681	16,256	6.8	8.2	16.7	25.2	7	47%
1997	174	5,016	7,479	5.2	5.7	21.2	31.1	8	50%
1998	113	4,037	8,118	8.8	11.9	22.1	32.0	7	36%
1999	370	22,298	33,512	26.5	43.0	12.1	17.2	4	14%
2000	261	23,598	42,537	31.7	49.5	12.0	16.6	5	14%
2001	24	2,658	5,833	8.1	13.4	24.6	32.9	9	30%
2002	20	1,956	2,587	2.9	3.1	95.2	125.8	9	40%
2003	18	1,824	2,242	3.5	4.0	86.2	111.0	8.5	39%
2004	61	7,183	9,064	6.4	7.1	55.5	70.1	8	44%
2005	45	3,458	6,993	4.5	4.5	68.0	83.5	9	36%
2006	48	4,860	4,873	5.5	6.3	57.6	67.9	9	50%
2007	76	10,566	12,572	6.5	7.8	71.2	79.8	8	30%
2008	6	863	1,194	4.9	5.7	156.7	173.6	14	67%
2009	14	1,697	4,126	3.0	3.6	174.3	193.1	11	71%
2010	33	4,038	4,347	3.4	3.9	119.5	129.0	11	64%
2011	36	8,764	9,412	6.1	6.6	141.3	150.1	10	36%
2012	40	21,096	20,887	4.5	5.0	113.4	117.1	9.5	43%
2013	45	11,935	8,662	5.3	6.1	105.8	107.5	9	27%
2014	53	18,542	9,965	6.1	6.8	90.5	90.5	11	17%
2015	38	9,890	10,087	5.3	6.2	130.8	130.9	11	26%
2016	21	6,181	2,510	4.2	4.3	109.5	108.2	10	29%
2017	30	11,269	7,844	5.0	6.3	188.4	181.5	13	17%
2018	40	16,706	12,246	7.6	11.3	182.1	171.8	12	15%
2019	38	27,534	22,881	8.1	10.6	205.8	191.3	11	29%
2020	48	41,423	29,557	13.6	21.8	211.2	191.7	12	20%
2021	126	72,300	59,375	15.2	17.8	207.7	185.8	12	22%
2022	6	1,681	1,163	5.6	6.0	92.7	77.5	15	33%
2023	9	4,351	1,925	13.6	13.6	6.5	5.1	6	33%
1980-2023	3,329	394,859	396,974	6.1	7.4	24.3	39.4	8	47%

Table 4b (updated January 1, 2024)

Technology and Life Science Company IPOs, 1980-2023

There are 3,320 tech and 1,000 life science IPOs from 1980-2023, after excluding those 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. Life science includes biotech and pharmaceutical firms. Life science is defined as SIC=2830, 2834, 2835, 2836, and 8731. In prior years, I had included 2833 (medical chemicals and botanical products) as well, but I am not including this industry in life science since in recent years it has been mainly cannabis-related companies.

Tech stocks are defined as internet-related stocks plus other technology stocks including telecom, but not including biotech. Loughran and Ritter (2004) list the SIC codes in their appendix 3 and sources of founding dates in appendix 1. The definition of technology stocks has been changed from that in Loughran and Ritter (2004 *Financial Management*), with SIC=3559, 3576, and 7389 added to tech. Some 7389 (business services) companies have had their SIC codes changed into non-tech categories, such as consulting and two new SIC codes that I created: 5614 for telemarketing firms and 7388 for non-tech business services such as Sotheby's Auctions. I have also added the S.E.C.'s computer communications equipment code of 3576 for 21 companies, including Cisco Systems.

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.

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.

(table on the next page)

Year	Number of IPOs			% Profitable			Median sales (\$2022, mm)		
	Tech	Life Sci	Other	Tech	Life Sci	Other	Tech	Life Sci	Other
1980	22	3	46	91%	67%	70%	58.6	20.5	77.3
1981	72	10	110	88%	30%	85%	41.8	4.9	43.3
1982	42	2	33	83%	50%	79%	31.4	4.0	29.9
1983	173	21	257	71%	42%	86%	24.8	7.4	88.8
1984	50	2	119	80%	100%	85%	27.0	136.3	69.5
1985	37	5	144	84%	40%	87%	35.7	12.5	106.3
1986	77	23	293	74%	35%	84%	33.4	10.8	95.2
1987	59	10	216	86%	20%	85%	45.0	7.8	110.9
1988	28	2	75	79%	0%	85%	58.3	9.9	229.7
1989	35	4	77	77%	0%	82%	73.2	2.7	122.2
1990	32	4	74	94%	0%	87%	63.0	4.5	129.0
1991	71	32	183	75%	16%	88%	72.3	7.0	154.8
1992	115	33	264	65%	18%	80%	45.6	2.6	142.0
1993	127	27	356	74%	22%	75%	53.2	3.0	120.2
1994	115	20	267	70%	20%	80%	40.4	3.2	107.1
1995	205	21	236	71%	14%	75%	40.0	5.8	118.8
1996	276	44	357	47%	14%	73%	30.3	4.1	99.4
1997	174	22	278	50%	14%	77%	37.4	9.9	111.7
1998	113	10	160	36%	30%	69%	38.5	13.4	123.8
1999	370	10	96	14%	20%	63%	20.7	10.1	194.1
2000	261	50	69	14%	12%	50%	20.2	6.6	153.2
2001	24	5	51	30%	0%	66%	38.1	0.3	571.2
2002	20	5	41	40%	40%	63%	151.2	228.0	684.8
2003	18	8	37	39%	0%	76%	160.4	0.1	623.8
2004	61	30	82	44%	7%	70%	84.3	5.3	300.6
2005	45	16	98	36%	13%	70%	100.3	18.2	320.0
2006	48	24	85	50%	8%	80%	81.7	4.8	472.6
2007	76	19	64	30%	5%	73%	95.9	1.9	323.0
2008	6	1	14	67%	0%	57%	208.7	0.4	268.7
2009	14	3	24	71%	67%	71%	232.1	50.1	598.8
2010	33	11	47	64%	0%	70%	155.1	0.0	419.0
2011	36	8	37	36%	0%	59%	180.4	4.0	412.6
2012	40	10	43	43%	0%	77%	140.7	0.5	424.6
2013	45	40	73	27%	7%	58%	129.2	11.9	507.1
2014	53	71	82	17%	7%	57%	108.8	0.0	286.2
2015	38	42	38	26%	0%	66%	157.4	0.0	205.8
2016	21	25	29	29%	8%	59%	130.1	1.1	775.6
2017	30	32	44	17%	0%	42%	218.2	0.0	516.2
2018	39	59	36	15%	0%	51%	203.3	0.0	536.2
2019	37	42	27	30%	0%	50%	219.7	0.0	121.5
2020	46	76	43	22%	5%	47%	220.0	0.0	311.5
2021	121	89	101	22%	2%	49%	202.4	0.0	325.4
2022	6	16	16	33%	0%	38%	92.7	0.0	7.2
2023	9	13	32	33%	0%	48%	6.2	0.0	20.4
2001-23	866	645	1,151	32%	4%	62%	134.6	0.0	371.3
1980-23	3,320	1,000	4,861	47%	10%	75%	46.9	1.4	135.2

Table 4e (MV not adjusted for inflation) Tech IPOs, 1980-2023

Year	No. of Tech IPOs	Proceeds, \$millions	Number doubling	Market value, at first market price, \$millions		
				Total	Mean	Median
1980	22	378	0	\$3,054	\$139	\$64
1981	72	838	0	\$4,509	\$63	\$42
1982	42	648	0	\$3,360	\$80	\$30
1983	173	3,271	2	\$17,290	\$100	\$45
1984	50	551	1	\$2,674	\$53	\$30
1985	37	375	0	\$1,595	\$43	\$29
1986	77	1,217	0	\$6,163	\$80	\$45
1987	59	1,330	0	\$7,632	\$129	\$58
1988	28	888	0	\$5,554	\$198	\$102
1989	35	748	0	\$3,660	\$105	\$65
1990	32	764	0	\$3,660	\$114	\$83
1991	71	2,760	0	\$11,912	\$168	\$123
1992	115	5,875	1	\$21,936	\$191	\$102
1993	127	5,715	1	\$30,331	\$239	\$86
1994	115	3,583	1	\$16,653	\$145	\$80
1995	205	9,786	11	\$50,090	\$244	\$139
1996	276	16,256	5	\$98,775	\$358	\$138
1997	174	7,479	2	\$45,962	\$264	\$113
1998	113	8,118	12	\$64,218	\$570	\$234
1999	370	33,512	114	\$448,514	\$1,212	\$493
2000	261	42,538	69	\$518,607	\$1,987	\$702
2001	24	5,833	0	\$27,678	\$1,153	\$367
2002	20	2,587	0	\$12,340	\$617	\$339
2003	18	2,242	0	\$9,340	\$519	\$422
2004	61	9,064	0	\$59,399	\$974	\$325
2005	45	6,994	0	\$26,149	\$581	\$307
2006	48	4,873	0	\$23,820	\$496	\$352
2007	76	12,572	0	\$89,729	\$1,181	\$560
2008	6	1,194	0	\$5,756	\$959	\$813
2009	14	4,126	0	\$16,311	\$1,165	\$646
2010	33	4,347	0	\$24,833	\$753	\$548
2011	36	9,412	1	\$83,415	\$2,317	\$824
2012	40	20,887	1	\$125,817	\$3,145	\$686
2013	45	8,662	1	\$76,923	\$1,709	\$812
2014	53	9,965	2	\$84,160	\$1,588	\$780
2015	38	10,087	0	\$74,811	\$1,969	\$815
2016	21	2,510	1	\$23,056	\$1,098	\$841
2017	30	7,844	0	\$64,715	\$2,157	\$1,129
2018	39	12,246	1	\$103,988	\$2,666	\$1,959
2019	37	22,881	0	\$223,971	\$6,053	\$2,176
2020	46	29,557	12	\$457,789	\$9,952	\$4,319
2021	121	59,375	6	\$745,560	\$6,162	\$3,045
2022	6	1,163	0	\$25,857	\$4,310	\$468
2023	9	1,926	0	\$22,689	\$2,521	\$138
1980-2023	3,320	396,974	244	\$3,774,456	\$1,137	\$214

Table 4f (adjusted for inflation, 2017 \$) IPOs, 1980-2023 (tr is trillions)

Year	No. of IPOs	Proceeds, \$millions			Market value, at first close, \$millions		
		Total	Mean	Median	Total	Mean	Median
1980	71	\$2,826	\$40	\$28	\$18,338	\$258	\$105
1981	192	\$6,433	\$34	\$23	\$29,873	\$156	\$100
1982	77	\$2,571	\$33	\$18	\$13,159	\$171	\$86
1983	451	\$22,070	\$49	\$29	\$102,669	\$228	\$119
1984	171	\$4,815	\$28	\$20	\$20,862	\$122	\$69
1985	186	\$9,414	\$51	\$25	\$34,933	\$188	\$88
1986	393	\$29,683	\$76	\$27	\$103,595	\$264	\$99
1987	285	\$25,507	\$89	\$33	\$99,532	\$349	\$126
1988	105	\$8,145	\$78	\$35	\$45,432	\$433	\$160
1989	116	\$11,645	\$100	\$43	\$44,859	\$387	\$156
1990	110	\$8,145	\$74	\$46	\$33,914	\$308	\$166
1991	286	\$27,756	\$97	\$52	\$97,515	\$341	\$183
1992	412	\$39,896	\$97	\$48	\$130,761	\$317	\$169
1993	510	\$53,526	\$105	\$48	\$214,297	\$420	\$158
1994	402	\$28,523	\$71	\$40	\$105,742	\$263	\$125
1995	462	\$45,152	\$98	\$52	\$205,504	\$445	\$204
1996	677	\$66,117	\$98	\$53	\$377,944	\$499	\$201
1997	474	\$48,460	\$102	\$51	\$215,578	\$455	\$189
1998	283	\$50,590	\$179	\$63	\$246,584	\$871	\$284
1999	476	\$95,547	\$201	\$91	\$962,891	\$2,023	\$702
2000	380	\$93,235	\$245	\$112	\$924,452	\$2,433	\$816
2001	80	\$48,945	\$612	\$162	\$245,564	\$3,070	\$655
2002	66	\$30,188	\$457	\$162	\$114,629	\$1,737	\$714
2003	63	\$12,745	\$202	\$154	\$53,828	\$854	\$499
2004	173	\$40,885	\$236	\$110	\$194,092	\$1,122	\$448
2005	159	\$35,949	\$226	\$147	\$133,221	\$838	\$442
2006	157	\$37,330	\$238	\$128	\$165,163	\$1,052	\$450
2007	159	\$41,442	\$261	\$125	\$246,042	\$1,547	\$581
2008	21	\$26,175	\$1,246	\$166	\$72,691	\$3,461	\$542
2009	41	\$15,150	\$370	\$178	\$68,123	\$1,662	\$792
2010	91	\$33,406	\$367	\$121	\$126,816	\$1,394	\$482
2011	81	\$29,732	\$367	\$167	\$175,925	\$2,172	\$951
2012	93	\$33,341	\$359	\$102	\$193,803	\$2,085	\$641
2013	158	\$40,842	\$260	\$122	\$284,858	\$1,803	\$727
2014	206	\$43,782	\$213	\$97	\$246,739	\$1,198	\$445
2015	118	\$22,849	\$194	\$106	\$155,641	\$1,319	\$556
2016	75	\$12,835	\$171	\$97	\$80,840	\$1,078	\$521
2017	106	\$22,979	\$215	\$120	\$161,650	\$1,525	\$648
2018	134	\$32,766	\$245	\$117	\$211,090	\$1,575	\$613
2019	112	\$37,800	\$337	\$121	\$319,738	\$2,855	\$736
2020	165	\$58,245	\$353	\$188	\$646,252	\$3,917	\$1,038
2021	311	\$111,809	\$356	\$186	\$1,118,222	\$3,596	\$1,325
2022	39	\$5,702	\$146	\$29	\$63,148	\$1,619	\$295
2023	54	\$9,762	\$181	\$16	\$94,233	\$1,745	\$204
80-23	9,181	\$1.467 tr	\$160	\$63	\$9.173 tr	\$999	\$258

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 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 4i (updated January 1, 2024)

VC-backed Tech IPOs, 1980-2023

There are 1,996 Venture Capital-backed tech IPOs, after excluding those with an offer price below \$5.00 per share, unit offers, ADRs, closed-end funds, best effort offers, natural resource limited partnerships (and most other LPs, but not buyout firms such as Carlyle Group), special purpose acquisition companies (SPACs), direct listings, 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. Tech stocks are defined as internet-related stocks plus other technology stocks including telecom, but not including biotech. Loughran and Ritter (2004) list the SIC codes in their appendix 3 and sources of founding dates in appendix 1. The definition of technology stocks has been changed from that in Loughran and Ritter (2004 *Financial Management*), with SIC=3559, 3576, 3844, and 7389 added to tech. Some 7389 (business services) companies have had their SIC codes changed into non-tech categories, such as consulting and two new SIC codes that I have made up: 5614 for telemarketing firms and 7388 for non-tech business services such as Sotheby's Auctions. I have also added the S.E.C.'s computer communications equipment code of 3576 for 21 companies, including Cisco Systems.

Price-to-sales ratios are computed using both the offer price (OP) and the first closing market price (MP) for computing the market capitalization of equity. Market cap is calculated using the post-issue shares outstanding, with all share classes included in the case of dual-class companies. The undiluted number of shares is used, which in some cases (e.g., Facebook, Twitter, and Castlight Health) understates the market cap due to the existence of substantial amounts of in-the-money employee stock options that are highly likely to be exercised. Sales are the last twelve months (LTM) revenues as reported in the prospectus. The median sales, in millions, is expressed in both nominal dollars and in dollars of 2021 purchasing power using the CPI. The median age, in years, is the number of years since the calendar year of the founding date and the calendar year of 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.

Even concepts like market cap (for the price-to-sales ratios) become ambiguous when you realize that companies like Facebook have many deep in-the-money options outstanding, so whether you use the fully diluted number of shares or the undiluted number can affect the calculations substantially for some companies.

(table on the next page)

Year	Number of VC-backed tech IPOs	Median Price-to-sales		Median sales, \$mm		Median age	% profitable
		OP	MP	Nominal	\$2021		
1980	14	3.0	3.4	16.9	56.9	6.5	93%
1981	29	3.8	4.3	11.9	35.8	9	90%
1982	15	6.1	7.6	18.9	52.6	3	67%
1983	67	7.2	8.1	11.7	31.2	5	66%
1984	26	2.3	2.3	21.9	56.1	5	81%
1985	16	3.0	3.3	17.1	42.5	5	81%
1986	31	4.3	4.7	17.0	40.6	5	71%
1987	39	3.2	3.2	22.0	51.7	5	87%
1988	17	2.6	2.7	28.2	63.7	6	94%
1989	23	3.4	3.7	35.5	76.7	7	83%
1990	24	3.9	4.5	28.6	58.6	7.5	100%
1991	45	3.2	3.5	35.9	69.8	9	71%
1992	67	3.9	4.4	22.0	41.7	7	61%
1993	88	3.1	3.6	24.3	44.6	8	72%
1994	64	4.3	5.2	18.9	33.8	8	66%
1995	115	5.5	6.9	19.7	34.3	8	70%
1996	154	9.8	11.3	14.3	24.2	7	35%
1997	73	6.9	8.3	19.3	31.7	6	38%
1998	55	11.6	14.8	18.8	30.4	6	22%
1999	250	30.9	56.6	11.0	17.6	4	9%
2000	183	41.4	65.7	9.3	14.4	5	6%
2001	17	14.9	17.4	22.8	34.1	6	12%
2002	13	3.5	3.9	87.3	128.9	6	31%
2003	12	5.2	6.1	65.0	93.6	7	50%
2004	40	6.9	7.9	41.0	57.9	7	30%
2005	22	6.4	7.2	46.5	63.8	7.5	23%
2006	27	6.2	8.1	51.2	67.6	8	52%
2007	58	7.3	8.3	66.5	83.2	8	26%
2008	4	4.1	4.7	156.7	194.1	12	50%
2009	6	4.6	5.8	105.7	130.9	9.5	50%
2010	23	3.2	3.9	112.9	136.2	10	61%
2011	30	6.8	7.2	117.2	139.2	9.5	37%
2012	35	4.6	5.0	103.7	119.7	9	37%
2013	35	5.8	7.1	104.2	118.3	9	17%
2014	40	6.5	8.2	86.8	97.1	10	18%
2015	29	6.0	7.5	76.6	85.7	10	21%
2016	15	4.5	5.9	101.7	112.3	9	27%
2017	24	5.0	6.9	158.4	170.6	13	13%
2018	30	8.6	12.4	173.6	183.1	12	13%
2019	26	9.8	13.7	146.6	152.4	10.5	15%
2020	33	15.7	27.2	201.3	204.1	11	18%
2021	77	20.3	26.6	136.4	136.4	11	16%
2022	1	20.6	24.0	70.4	65.5	14	0%
2023	4	12.7	13.5	243.8	214.5	8.5	25%
1980-2023	1,996	7.6	9.7	24.0	43.8	7	39%

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 internet-related 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 of IPOs	No. with missing EPS	Percentage Tech Stocks	Percentage of IPOs with EPS<0	Mean First-day Returns	
					EPS<0	EPS≥0
1980-1989	2,047	1	29%	19%	9.2%	6.8%
1990-1998	3,616	0	34%	32%	16.0%	14.3%
1999-2000	856	0	74%	78%	71.1%	41.6%
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%
1980-2023	9,181	3	36%	42%	26.7%	13.3%

(year-by-year on the next page)

Year	Number of IPOs	No. with missing EPS	Percentage Tech Stocks	Percentage of IPOs with EPS<0	Mean First-day Returns	
					EPS<0	EPS≥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 16c (updated April 10, 2024)
Long-run Returns Measured from the Offer Price on Tech and non-Tech Stock IPOs
Excluding the Internet Bubble, 1980-2022

Panel A: IPOs from 1980-2022, excluding 1999-2000, categorized by industry

Industry	Number of IPOs	Average First-day Return	Average 3-year Buy-and-hold Return		
			IPOs	Market-adjusted	Style-adjusted
Tech	2,680	19.9%	73.6%	26.7%	46.3%
Non-Tech	5,591	11.5%	30.6%	-14.0%	-1.6%
All	8,271	14.3%	44.5%	-0.8%	13.9%

Panel B: Categorized by sales and industry (sales in \$2023)

LTM Sales	Number of IPOs	Average First-day Return	Average 3-year Buy-and-hold Return		
			IPOs	Market-adjusted	Style-adjusted
Sales < \$100 million					
Tech	1,789	20.0%	68.2%	16.8%	42.6%
Non-Tech	2,867	13.6%	15.6%	-30.1%	-11.3%
Sales > \$100 million					
Tech	891	19.8%	84.3%	46.4%	53.6%
Non-Tech	2,724	9.4%	46.4%	2.9%	8.7%

Panel C: Profitable issuers, categorized by sales and industry

LTM Sales	Number of IPOs	Average First-day Return	Average 3-year Buy-and-hold Return		
			IPOs	Market-adjusted	Style-adjusted
Sales < \$100 million					
Tech	978	17.6%	71.4%	16.0%	44.2%
Non-Tech	1,376	12.0%	28.9%	-22.8%	0.6%
Sales > \$100 million					
Tech	502	16.4%	94.3%	48.8%	60.0%
Non-Tech	2,244	9.3%	48.8%	3.7%	11.0%

Panel D: Unprofitable issuers, categorized by sales and industry

LTM Sales	Number of IPOs	Average First-day Return	Average 3-year Buy-and-hold Return		
			IPOs	Market-adjusted	Style-adjusted
Sales < \$100 million					
Tech	811	22.9%	64.4%	17.9%	40.6%
Non-Tech	1,491	15.2%	3.4%	-36.8%	-22.4%
Sales > \$100 million					
Tech	389	24.2%	71.3%	43.2%	45.4%
Non-Tech	480	9.7%	35.2%	-1.0%	-2.1%

Table 16d (updated April 10, 2024)

Long-run Returns Measured from the First Closing Market Price on Tech and non-Tech Stock IPOs Excluding the Internet Bubble, 1980-2022

Panel A: IPOs from 1980-2022, excluding 1999-2000, categorized by industry

Industry	Number of IPOs	Average First-day Return	Average 3-year Buy-and-hold Return		
			IPOs	Market-adjusted	Style-adjusted
Tech	2,680	19.9%	42.5%	-4.4%	15.2%
Non-Tech	5,591	11.5%	19.7%	-24.9%	-12.5%
All	8,271	14.3%	27.1%	-18.3%	-3.5%

Panel B: Categorized by sales and industry (sales in \$2023)

LTM Sales	Number of IPOs	Average First-day Return	Average 3-year Buy-and-hold Return		
			IPOs	Market-adjusted	Style-adjusted
Sales < \$100 million					
Tech	1,789	20.0%	36.8%	-14.6%	11.2%
Non-Tech	2,867	13.6%	5.6%	-40.1%	-21.4%
Sales > \$100 million					
Tech	891	19.8%	53.9%	16.0%	23.3%
Non-Tech	2,724	9.4%	34.6%	-8.9%	-3.1%

Panel C: Profitable issuers, categorized by sales and industry

LTM Sales	Number of IPOs	Average First-day Return	Average 3-year Buy-and-hold Return		
			IPOs	Market-adjusted	Style-adjusted
Sales < \$100 million					
Tech	978	17.6%	42.7%	-12.8%	15.5%
Non-Tech	1,376	12.0%	18.3%	-33.5%	-10.0%
Sales > \$100 million					
Tech	502	16.4%	65.1%	19.6%	30.7%
Non-Tech	2,244	9.3%	36.7%	-8.4%	-1.1%

Panel D: Unprofitable issuers, categorized by sales and industry

LTM Sales	Number of IPOs	Average First-day Return	Average 3-year Buy-and-hold Return		
			IPOs	Market-adjusted	Style-adjusted
Sales < \$100 million					
Tech	811	22.9%	29.8%	-16.7%	6.0%
Non-Tech	1,491	15.2%	-6.1%	-46.2%	-31.9%
Sales > \$100 million					
Tech	389	24.2%	39.6%	11.5%	13.7%
Non-Tech	480	9.7%	25.0%	-11.3%	-12.4%

Table 18b (updated April 10, 2024)

Long-run Returns on VC-backed and other IPOs Segmented by Industry, 1980-2022

This table appears as Table 7 in “Going Public with IPOs and SPAC Mergers” by Rongbing Huang, Jay R. Ritter, and Donghang Zhang, forthcoming in *Research Handbook on the Structure of Private Equity and Venture Capital*. 9,127 IPOs from 1980-2022 are used, with returns calculated through December 29, 2023. IPOs with an offer price below \$5.00 per share, unit offers, SPACs, 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. Buy-and-hold returns are calculated from the first closing market price until the earlier of the three-year anniversary or the delisting date (Dec. 29 of 2023 for IPOs from 2021 and 2022). The captions to Tables 2 and 6 provide industry classification details. Market-adjusted returns use the CRSP value-weighted 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. The market-adjusted and style-adjusted returns are the average buy-and-hold return on the IPOs minus the average compounded return on the benchmark. Market capitalization (size) is calculated using the first closing market price after the IPO and the post-issue number of shares outstanding.

Panel A: Long-run Returns on VC-backed IPOs, by Industry, 1980-2022

Sector	Number of IPOs	Average First-day Return	Average 3-year Buy-and-hold Return		
			IPOs	Market-adjusted	Style-adjusted
Tech	1,992	0.4%	26.4%	-4.4%	5.7%
Life science	788	0.2%	9.1%	-22.9%	-19.5%
Other	893	0.1%	23.1%	-21.5%	-9.0%
All	3,673	0.3%	21.9%	-12.5%	-3.3%

Panel B: Long-run Returns on nonVC-backed IPOs, by Industry, 1980-2022

Sector	Number of IPOs	Average First-day Return	Average 3-year Buy-and-hold Return		
			IPOs	Market-adjusted	Style-adjusted
Tech	1,319	0.2%	15.1%	-23.5%	-9.0%
Life science	199	0.2%	35.7%	1.1%	26.0%
Other	3,936	0.1%	18.1%	-25.8%	-15.4%
All	5,454	0.1%	18.0%	-24.2%	-12.4%

Note: The high life science 3-year buy-and-hold return for the 199 nonVC-backed IPOs in Panel B is partly driven by the 2,444.8% return on the June 1980 IPO of Enzo Biochem and the 1,606.1% return on the August 2003 IPO of New River Pharmaceutical, which used a WR Hambrecht + Co auction to go public. Of the 971 life science IPOs during 1980-2021, these are two of the three top long-run performers, with the VC-backed July 1998 IPO of Abgenix being the third, with a 2,071.1% return. Moderna, a December 2018 VC-backed IPO, produced the fifth-highest return.

Table 18c (updated April 10, 2024)**Long-run Returns on VC-backed and other IPOs Segmented by Industry, 1999-2022**

This table appears as Table 8 in “Going Public with IPOs and SPAC Mergers” by Rongbing Huang, Jay R. Ritter, and Donghang Zhang, forthcoming in *Research Handbook on the Structure of Private Equity and Venture Capital*, edited by Brian Broughman and Elisabeth de Fontenay.

3,464 IPOs from 1999-2022 are used, with returns calculated through December 29, 2023. See the captions to Tables 2 and 6 in the book chapter above for a description of the sample and industry definitions.

Panel A: Long-run Returns on VC-backed IPOs, by Industry, 1999-2022

Sector	Number of IPOs	Average First-day Return	Average 3-year Buy-and-hold Return		
			IPOs	Market-adjusted	Style-adjusted
Tech	1,030	54.4%	-13.7%	-18.9%	-28.2%
Life science	579	18.6%	2.2%	-21.2%	-25.5%
Other	285	23.4%	0.0%	-19.8%	-33.6%
All	1,894	38.8%	-6.8%	-19.8%	-28.2%

Panel B: Long-run Returns on nonVC-backed IPOs, by Industry, 1999-2022

Sector	Number of IPOs	Average First-day Return	Average 3-year Buy-and-hold Return		
			IPOs	Market-adjusted	Style-adjusted
Tech	458	32.8%	-21.5%	-23.4%	-34.4%
Life science	113	21.9%	3.5%	-15.1%	-10.7%
Other	999	13.9%	11.3%	-6.2%	-13.0%
All	1,570	20.0%	1.2%	-11.8%	-19.1%

Table 23 (updated April 10, 2024)**Dual Class IPOs**

This table lists the number of IPOs each year that have dual class shares among tech IPOs and among non-tech IPOs. 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).

	Tech IPOs			Non-tech IPOs			All IPOs		
	Dual	Total	%	Dual	Total	%	Dual	Total	%
1980	0	22	0%	1	49	2.0%	1	71	1.4%
1981	2	72	2.8%	4	120	3.3%	6	192	3.1%
1982	0	42	0%	0	35	0.0%	0	77	0.0%
1983	3	173	1.7%	4	278	1.4%	7	451	1.6%
1984	2	50	4.0%	5	121	4.1%	7	171	4.1%
1985	1	37	2.7%	6	149	4.0%	7	186	3.8%
1986	3	77	3.9%	21	316	6.6%	24	393	6.1%
1987	1	59	1.7%	23	226	10.2%	24	285	8.4%
1988	4	28	14.3%	8	77	10.4%	12	105	11.4%
1989	1	35	2.9%	5	81	6.2%	6	116	5.2%
1990	0	32	0%	9	78	11.5%	9	110	8.2%
1991	6	71	8.5%	18	215	8.4%	24	286	8.4%
1992	4	115	3.5%	18	297	6.1%	22	412	4.9%
1993	3	127	2.4%	30	383	7.8%	33	510	6.5%
1994	7	115	6.1%	26	287	9.1%	33	402	8.2%
1995	8	205	3.9%	22	257	8.6%	30	462	6.5%
1996	14	276	5.1%	44	401	11.0%	58	677	8.6%
1997	10	174	5.7%	40	300	13.3%	50	474	10.5%
1998	8	113	7.1%	21	170	12.4%	29	283	10.2%
1999	22	370	5.9%	19	106	17.9%	41	476	8.6%
2000	18	261	6.9%	7	119	5.9%	25	380	6.6%
2001	2	24	8.3%	6	56	10.7%	8	80	10.0%
2002	1	20	5.0%	11	46	23.9%	12	66	18.2%
2003	1	18	5.6%	5	45	11.1%	6	63	9.5%
2004	3	61	4.9%	9	112	8.0%	12	173	6.9%
2005	9	45	20.0%	13	114	11.4%	22	159	13.8%
2006	1	48	2.1%	10	109	9.2%	11	157	7.0%
2007	5	76	6.6%	13	83	15.7%	18	159	11.3%
2008	0	6	0%	3	15	20.0%	3	21	14.3%
2009	2	14	14.3%	3	27	11.1%	5	41	12.2%
2010	2	33	6.1%	7	58	12.1%	9	91	9.9%
2011	5	36	13.9%	8	45	17.8%	13	81	16.0%
2012	6	40	15.0%	9	53	17.0%	15	93	16.1%
2013	5	45	11.1%	23	113	20.4%	28	158	17.7%
2014	3	53	5.7%	18	153	11.8%	21	206	10.2%
2015	14	38	36.8%	8	80	10.0%	22	118	18.6%
2016	5	21	23.8%	4	54	7.4%	9	75	12.0%
2017	13	30	43.3%	17	76	22.4%	30	106	28.3%
2018	14	39	35.9%	13	95	13.7%	27	134	20.1%
2019	13	37	35.1%	13	76	17.1%	26	113	23.0%
2020	19	46	41.3%	14	119	11.8%	33	165	20.0%
2021	55	121	45.5%	46	190	24.2%	101	311	32.5%
2022	3	6	50.0%	5	32	15.6%	8	38	21.1%
2023	4	9	44.4%	10	45	22.2%	14	54	25.9%
1980-23	302	3,320	9.1%	599	5,861	10.2%	901	9,181	9.8%

Table 24 (updated April 11, 2024)

Long-run Returns on IPOs Categorized by Dual Class Status

9,127 IPOs from 1980-2022 are used, with returns calculated through the end of December 2023. IPOs with an offer price below \$5.00 per share, unit offers, small best efforts offerings, ADRs, REITs, closed-end funds, natural resource limited partnerships (all of which have dual class structures), banks and S&Ls, and IPOs not listed on CRSP within six months of the offer date are excluded. Buy-and-hold returns are calculated from the first close until the earlier of the three-year anniversary or the delisting date (the end December of 2023 for IPOs from 2021 and 2022). Market-adjusted returns use the CRSP value-weighted 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. All returns include dividends and capital gains, including the index returns. Firms with three or more classes of shares are classified as dual class. Firms with pre-IPO convertible preferred that converted into common at the time of the IPO are classified based on the *pro forma* (post-conversion) share structure.

Panel A: IPOs from 1980-2022 categorized by dual class status

Dual class or not	Number of IPOs	Average First-day Return	Average 3-year Buy-and-hold Return		
			IPOs	Market-adjusted	Style-adjusted
Dual class	891	20.0%	30.6%	-3.8%	-4.4%
Single class	8,236	18.9%	18.4%	-21.2%	-9.2%
1980-2022	9,127	19.0%	19.6%	-19.5%	-8.7%

Panel B: IPOs from 1980-2022 categorized by dual class and tech status

Buyout-backed or not	Number of IPOs	Average First-day Return	Average 3-year Buy-and-hold Return		
			IPOs	Market-adjusted	Style-adjusted
Tech stocks					
Dual class	298	33.8%	43.1%	17.5%	17.8%
Single class	3,013	31.0%	19.8%	-14.9%	-1.9%
All tech stocks	3,311	31.3%	21.9%	-12.0%	-0.2%
Non-tech stocks					
Dual class	593	13.1%	24.3%	-14.4%	-15.6%
Single class	5,223	11.9%	17.6%	-24.9%	-13.3%
All non-tech stocks	5,816	12.0%	18.3%	-23.8%	-13.6%

Figure 2: See Table 9 for details

Percentage of IPOs with Negative EPS and Percentage of Tech Stocks, 1980-2023

