

Initial Public Offerings: Sales Statistics Through 2020

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Table 2 (updated December 28, 2020)**Mean First-day Returns, Categorized by Sales, for IPOs from 1980-2020**

Sales, measured in millions, are for the last twelve months prior to going public. All sales have been converted into dollars of 2003 purchasing power, using the Consumers Price Index. From 2003 to 2017, the CPI has increased by 33.6%, so \$10 million in 2003 is equivalent to \$13.36 million in 2017. There are 8,608 IPOs, after excluding IPOs with an offer price of less than \$5.00 per share, units, REITs, SPACs, ADRs, closed-end funds, banks and S&Ls, small best efforts offers, firms not listed on CRSP within six months of the offering, and natural resource limited partnerships. Sales are from Thomson Financial's SDC, Dealogic, EDGAR, and the Graeme Howard-Todd Huxster collection of pre-EDGAR prospectuses. The average first-day return is 18.4%.

	1980-1989		1990-1998		1999-2000		2001-2020	
	Return	N	Return	N	Return	N	Return	N
0≤sales<\$10m	10.3%	425	17.4%	742	68.7%	332	13.7%	548
\$10m≤sales<\$20m	8.6%	242	18.5%	393	81.4%	138	15.9%	96
\$20m≤sales<\$50m	7.8%	500	18.8%	789	75.5%	154	20.5%	253
\$50m≤sales<\$100m	6.3%	356	12.8%	590	62.9%	85	22.5%	324
\$100m≤sales<\$200m	5.1%	234	11.8%	454	35.8%	56	21.7%	280
\$200m≤sales	3.4%	290	8.7%	646	25.0%	91	13.3%	757
All	7.2%	2,047	14.8%	3,614	64.6%	856	16.7%	2,258

Table 4a (updated December 28, 2020)

Technology Company IPOs, 1980-2020

There are 3,176 tech stock IPOs, 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 IPOs including both technology and non-technology companies.

For buyout-backed IPOs, the founding date of the predecessor company is used. 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	2,768	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	8	70%
1995	205	7,023	9,786	4.6	5.8	21.4	33.3	8	71%
1996	276	11,623	16,256	6.8	8.2	16.7	25.2	7	47%
1997	174	4,994	7,479	5.2	5.7	21.2	31.1	8	50%
1998	113	3,882	8,118	8.8	11.9	22.1	32.0	7	36%
1999	370	22,012	33,512	26.5	43.0	12.1	17.2	4	14%
2000	260	23,304	42,442	31.7	49.5	12.0	16.6	5	14%
2001	23	2,658	5,773	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	1,789	2,242	4.1	4.6	86.2	111.0	7	39%
2004	61	7,183	9,064	6.4	7.1	55.5	70.1	8	44%
2005	45	3,676	6,994	4.5	4.5	68.0	83.5	9	36%
2006	48	4,662	4,873	5.5	6.3	57.6	67.9	9	50%
2007	76	9,820	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	3,873	4,347	3.4	3.9	119.5	129.0	11	64%
2011	36	8,603	9,412	6.1	6.6	141.3	150.1	10	36%
2012	40	21,031	20,887	4.5	5.0	113.4	117.1	9.5	43%
2013	45	11,553	8,662	5.3	6.1	105.8	107.5	9	27%
2014	51	18,058	9,551	5.4	6.6	88.7	88.7	11	16%
2015	38	9,319	10,087	5.3	6.2	130.8	130.9	11	26%
2016	21	5,945	2,510	4.2	4.3	109.5	108.2	10	29%
2017	30	10,878	7,844	5.0	6.3	188.4	181.5	13	17%
2018	39	16,412	12,246	7.7	11.7	179.2	169.1	12	15%
2019	37	26,693	22,881	7.9	10.4	196.6	182.8	11	30%
2020	42	40,655	28,269	13.4	23.3	201.7	187.5	12.5	19%
1980-2020	3,176	310,012	332,655	5.9	7.0	23.2	37.5	7	48%

Table 4b (updated December 28, 2020)

Technology and Biotechnology (Biopharma) Company IPOs, 1980-2020

There are 3,176 tech and 911 biotech IPOs from 1980-2020, 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. Biotech includes pharmaceutical firms.

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, 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.

Biotech is defined as SIC=2830, 2833, 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 2014 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 (\$2014, millions)		
	Tech	Biotech	Other	Tech	Biotech	Other	Tech	Biotech	Other
1980	22	3	46	91%	67%	70%	48.8	17.1	64.4
1981	72	10	110	88%	30%	85%	34.8	4.1	36.1
1982	42	2	33	83%	50%	79%	26.2	3.3	24.9
1983	173	21	257	71%	43%	86%	20.6	6.1	73.9
1984	50	2	119	80%	100%	85%	22.4	113.4	57.9
1985	37	5	144	84%	40%	87%	29.7	10.4	88.5
1986	77	25	291	74%	32%	84%	27.8	9.0	79.2
1987	59	11	215	86%	18%	85%	37.4	5.9	92.6
1988	28	2	75	79%	0%	85%	48.5	8.2	191.1
1989	35	4	77	77%	0%	82%	60.9	2.2	101.7
1990	32	4	74	94%	0%	87%	52.5	3.8	107.3
1991	71	33	182	75%	15%	88%	60.2	5.7	129.1
1992	115	33	264	65%	18%	80%	38.0	2.2	118.1
1993	127	28	355	74%	21%	75%	44.3	2.6	100.7
1994	115	20	267	70%	20%	80%	33.6	2.6	89.1
1995	205	22	235	71%	14%	75%	33.3	4.2	98.9
1996	276	47	354	47%	17%	73%	25.2	3.9	82.7
1997	174	22	278	50%	14%	77%	31.1	8.2	93.0
1998	113	12	156	36%	42%	69%	32.0	18.9	104.1
1999	370	11	95	14%	27%	63%	17.2	16.9	162.9
2000	260	56	64	14%	11%	50%	16.6	5.5	164.9
2001	23	6	51	30%	0%	66%	32.9	0.2	475.3
2002	20	5	41	40%	40%	63%	125.8	189.7	569.9
2003	18	8	37	39%	0%	76%	111.0	0.1	519.1
2004	61	30	82	44%	7%	70%	70.1	4.4	250.2
2005	45	16	98	36%	13%	70%	83.5	15.2	266.3
2006	48	24	85	50%	8%	80%	67.9	4.0	393.3
2007	76	19	64	30%	5%	73%	79.8	1.6	268.8
2008	6	1	14	67%	0%	57%	173.6	0.3	223.6
2009	14	3	24	71%	67%	71%	193.1	41.7	498.2
2010	33	11	47	64%	0%	70%	129.0	0.0	348.6
2011	36	8	37	36%	0%	59%	150.1	3.3	343.4
2012	40	10	43	43%	0%	77%	117.1	0.5	353.3
2013	45	41	72	27%	10%	58%	107.5	10.9	432.1
2014	51	74	81	16%	7%	57%	88.7	0.0	271.0
2015	38	42	38	26%	0%	66%	130.9	0.0	171.3
2016	21	25	29	29%	8%	59%	108.2	0.9	645.4
2017	30	32	44	17%	0%	42%	181.5	0.0	429.5
2018	39	58	37	15%	0%	51%	169.1	0.0	445.7
2019	37	48	27	30%	2%	50%	182.8	0.0	149.1
2020	42	77	45	19%	5%	47%	187.5	0.0	265.6
2001-20	723	538	996	34%	5%	65%	108.2	0.0	341.5
1980-2020	3,176	911	4,687	49%	12%	76%	37.5	2.6	112.6

Table 4g (updated December 28, 2020)

Biotechnology (Biopharma) Company IPOs, 1980-2020

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 911 biotech IPOs from 1980-2020, 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.

Biotech includes pharmaceutical firms. Biotech is defined as SIC=2830, 2833, 2834, 2835, 2836, and 8731, but .

Sales are the last twelve months (LTM) revenues as reported in the prospectus. The median sales, in millions, are expressed in dollars of 2014 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.

(table on the next page)

Year	Number of IPOs		Biotech	Biotech IPOs		Biotech sales (\$2014, millions)		
	Total	Biotech	IR,%	EPS>0	Age	# zero	% zero	Median
1980	71	3	44.3%	67%	4	0	0.0%	17.1
1981	192	10	14.1%	30%	4.5	2	20.0%	4.1
1982	77	2	16.0%	50%	2	0	0.0%	3.3
1983	451	21	6.2%	43%	3	1	4.8%	6.1
1984	171	2	0.0%	100%	16	0	0.0%	113.4
1985	186	5	2.4%	40%	3	1	20.0%	10.4
1986	393	25	10.1%	32%	5	0	0.0%	9.0
1987	285	11	6.0%	18%	4	0	0.0%	5.9
1988	105	2	-1.6%	0%	9	1	50.0%	8.2
1989	116	4	3.8%	0%	5.5	0	0.0%	2.2
1990	110	4	0.8%	0%	4	2	50.0%	3.8
1991	286	33	12.6%	15%	4	3	9.1%	5.7
1992	412	33	9.9%	18%	5	6	18.2%	2.2
1993	510	28	7.4%	21%	5	3	10.7%	2.6
1994	402	20	3.4%	20%	7.5	3	20.0%	2.6
1995	462	22	6.7%	14%	5	5	22.7%	4.2
1996	677	47	11.4%	17%	4	7	14.9%	3.9
1997	474	22	8.3%	14%	6	3	13.6%	8.2
1998	281	12	7.1%	42%	7	0	0.0%	18.9
1999	476	11	30.5%	27%	8	1	9.1%	16.9
2000	380	56	33.4%	11%	6	11	19.6%	5.5
2001	80	6	9.6%	0%	5	3	50.0%	0.2
2002	66	5	-4.9%	40%	9	0	0.0%	189.7
2003	63	8	2.6%	0%	6	4	62.5%	0.1
2004	173	30	7.8%	7%	7	6	20.0%	4.4
2005	159	16	8.0%	13%	6	1	6.3%	15.2
2006	157	24	4.2%	8%	8	4	16.7%	4.0
2007	159	19	2.2%	5%	8	8	42.1%	1.6
2008	21	1	-5.7%	0%	9	0	0.0%	0.3
2009	41	3	1.3%	67%	14	0	0.0%	41.7
2010	91	11	0.9%	0%	6	6	54.5%	0.0
2011	81	8	6.4%	0%	5.5	3	37.5%	3.3
2012	93	10	7.8%	0%	7	5	50.0%	0.5
2013	158	41	19.5%	10%	10	12	29.3%	10.9
2014	206	74	13.3%	7%	9	40	54.1%	0.0
2015	118	42	22.9%	0%	6.5	26	61.9%	0.0
2016	75	25	7.0%	8%	6	8	32.0%	0.9
2017	106	32	7.0%	0%	6.5	23	71.9%	0.0
2018	134	58	14.2%	0%	4	37	63.8%	0.0
2019	112	48	20.2%	2%	5	33	68.8%	0.0
2020	165	77	36.9%	5%	6	49	63.6%	0.0
2001-20	2,258	538	15.8%	5%	7	268	49.8%	0.1
1980-2020	8,775	911	14.8%	12%	6	317	34.8%	2.2

Table 12 (updated Dec. 28, 2020)

Number of IPOs Categorized by the LTM Sales (in millions of 2005 \$), 1980-2020

LTM is last twelve months. MV is the post-issue market value valued at **the offer price**. Sales and market value are in millions. PSR is the price-to-sales ratio, and is the median ratio, not the ratio of medians.

Year	Number of IPOs		Percentage of IPOs		Medians, \$2005		
	<\$50 mm	>\$50 mm	<\$50 mm	>\$50mm	Sales	MV	PSR
1980	38	33	54%	46%	44	74	2.2
1981	140	52	73%	27%	28	72	2.9
1982	54	23	70%	30%	21	65	3.0
1983	286	165	63%	37%	28	88	2.8
1984	99	72	58%	42%	39	53	1.6
1985	95	91	51%	49%	46	68	1.3
1986	199	194	51%	49%	49	77	1.5
1987	137	148	48%	52%	53	96	1.5
1988	44	61	42%	58%	83	116	1.5
1989	49	67	42%	58%	60	111	2.0
1990	44	66	40%	60%	56	124	2.0
1991	118	168	41%	59%	69	127	1.6
1992	191	221	46%	54%	58	119	1.8
1993	230	280	45%	55%	61	115	1.9
1994	214	188	53%	47%	47	92	1.8
1995	258	204	56%	44%	39	134	3.0
1996	411	266	61%	39%	32	137	3.9
1997	273	201	58%	42%	41	133	3.0
1998	146	135	52%	48%	47	194	3.4
1999	341	135	72%	28%	19	361	18.3
2000	279	101	73%	27%	14	460	30.1
2001	25	54	32%	68%	146	479	2.4
2002	16	50	24%	76%	263	517	2.1
2003	15	48	24%	76%	173	370	2.7
2004	70	103	40%	60%	87	298	3.8
2005	46	113	29%	71%	133	360	2.6
2006	54	103	34%	66%	105	325	3.8
2007	59	100	37%	63%	81	373	6.1
2008	4	17	19%	81%	172	375	4.0
2009	4	37	10%	90%	239	517	1.8
2010	22	69	24%	76%	132	355	2.7
2011	24	57	30%	70%	131	614	4.9
2012	19	74	20%	80%	126	377	3.4
2013	58	100	37%	63%	94	441	5.0
2014	98	108	48%	52%	60	286	7.2
2015	60	58	51%	49%	46	403	9.8
2016	34	41	45%	55%	65	422	5.0
2017	47	59	45%	55%	90	470	6.2
2018	71	63	53%	47%	33	398	12.8
2019	58	54	51%	49%	45	416	14.7
2020	96	69	58%	42%	21	572	23.5
1980-2020	4,526	4,249	51%	49%	47	169	3.1

Table 12a (updated Dec. 28, 2020)

Number of IPOs Categorized by the LTM Sales (in 2005 \$), 1980-2020

MV is the post-issue market value valued at the **first closing price**. Sales and MV are in millions. PSR is the price-to-sales ratio. There has been 36.7% inflation since 2005.

Year	Number of IPOs		Percentage of IPOs		Medians, \$2005		
	<\$50 mm	>\$50 mm	<\$50 mm	>\$50 mm	Sales	MV	PSR
1980	38	33	54%	46%	44	83	2.5
1981	140	52	73%	27%	28	77	3.0
1982	54	23	70%	30%	21	68	3.1
1983	286	165	63%	37%	28	93	3.2
1984	99	73	58%	42%	39	54	1.6
1985	95	92	51%	49%	46	69	1.5
1986	199	194	51%	49%	49	78	1.6
1987	137	148	48%	52%	53	99	1.6
1988	44	60	42%	58%	83	126	1.6
1989	49	67	42%	58%	60	122	2.4
1990	44	66	40%	60%	56	131	2.2
1991	118	168	41%	59%	69	144	1.8
1992	191	221	46%	54%	58	133	2.0
1993	230	280	45%	55%	61	124	2.1
1994	214	188	53%	47%	47	98	2.1
1995	258	204	56%	44%	39	161	3.5
1996	411	266	61%	39%	32	158	4.5
1997	273	201	58%	42%	41	149	3.3
1998	146	135	52%	48%	47	224	3.6
1999	341	135	72%	28%	19	551	30.2
2000	279	101	73%	27%	14	641	40.9
2001	25	54	32%	68%	146	507	2.9
2002	16	50	24%	76%	263	560	2.3
2003	15	48	24%	76%	173	392	2.7
2004	70	103	40%	60%	87	352	4.2
2005	46	113	29%	71%	133	347	2.7
2006	54	103	34%	66%	105	353	3.9
2007	59	100	37%	63%	83	457	6.7
2008	4	17	19%	81%	172	425	3.9
2009	4	37	10%	90%	239	622	2.0
2010	22	69	24%	76%	132	379	2.8
2011	24	57	30%	70%	131	747	5.6
2012	19	74	20%	80%	126	503	4.4
2013	58	100	37%	63%	94	571	5.0
2014	98	108	48%	52%	60	350	8.9
2015	60	58	51%	49%	46	437	12.2
2016	34	41	45%	55%	65	409	6.5
2017	47	59	44%	56%	90	509	7.5
2018	71	63	53%	47%	33	481	17.5
2019	58	54	52%	48%	45	578	19.4
2020	96	69	58%	42%	21	815	38.5
1980-2020	4,526	4,249	52%	48%	47	193	3.6

Table 12b (updated December 28, 2020)
Number of IPOs Categorized by the LTM Sales (in 2011 \$), 1980-2020

Year	Number of IPOs	Number of IPOs		Percentage of IPOs	
		<\$1 billion	>\$1 billion	<\$1 billion	>\$1 billion
1980	71	71	0	100%	0%
1981	193	190	2	99%	1%
1982	77	77	0	100%	0%
1983	451	440	11	98%	2%
1984	171	169	2	99%	1%
1985	186	182	4	98%	2%
1986	393	375	18	95%	5%
1987	285	267	18	94%	6%
1988	105	94	11	90%	10%
1989	116	108	8	93%	7%
1990	110	103	7	94%	6%
1991	286	270	16	94%	6%
1992	412	385	27	93%	7%
1993	509	481	29	94%	6%
1994	402	384	18	96%	4%
1995	462	437	25	95%	5%
1996	677	658	19	97%	3%
1997	474	450	24	95%	5%
1998	281	262	19	93%	7%
1999	476	455	21	96%	4%
2000	380	366	14	96%	4%
2001	79	60	20	75%	25%
2002	66	50	16	76%	24%
2003	63	58	5	92%	8%
2004	173	151	22	87%	13%
2005	159	139	20	87%	13%
2006	157	138	19	88%	12%
2007	159	142	17	89%	11%
2008	21	18	3	86%	14%
2009	41	28	13	68%	32%
2010	91	78	13	86%	14%
2011	81	67	14	83%	17%
2012	93	77	16	83%	17%
2013	158	128	30	81%	19%
2014	206	175	31	85%	15%
2015	118	107	11	91%	9%
2016	75	61	14	81%	19%
2017	106	90	16	85%	15%
2018	134	122	12	91%	9%
2019	112	103	9	92%	8%
2020	165	148	17	90%	10%
1980-2020	8,775	8,164	611	93%	7%

Table 16 (updated March 10, 2020)

Long-run Returns on IPOs Categorized by the Pre-issue Sales of the Firm, 1980-2018

All Last Twelve Months (LTM) sales figures for the firms going public have been converted into dollars of January 2019 purchasing power using the Consumer Price Index. 8,497 IPOs from 1980-2018 are used, with returns calculated through the end of December, 2018. 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. 31 of 2019 for IPOs from 2017 and 2018). 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. For post-issue book value of equity numbers, I use the post-issue common equity numbers from SDC with corrections by checking the prospectus, and for the remaining missing numbers I use the equity book values reported for the nearest quarter after the IPO on COMPUSTAT, and further missing numbers are calculated using the reported pre-IPO equity book values plus the amount of the proceeds (assuming that overallotment option shares and costs of issuing offset each other) times the fraction of the primary shares. For dual-class shares, the post-issue book-to-market ratio is calculated using the larger of the post-issue number of shares reported from SDC (with corrections to account for all share classes) and the total shares outstanding reported from CRSP at end of the IPO date. Market capitalization (size) is calculated using the first closing market price after the IPO and the post-issue number of shares outstanding. All returns include dividends and capital gains, including the index returns.

Sales (in 2019\$)	Number of IPOs	Average First-day Return	Average 3-year Buy-and-hold Return		
			IPOs	Market-adjusted	Style-adjusted
0-9.999 mm	1,640	21.6%	-9.0%	-44.4%	-27.9%
10-19.999 mm	694	28.2%	2.7%	-36.1%	-14.7%
20-49.999 mm	1,478	22.8%	21.7%	-21.2%	-4.1%
50-99.999 mm	1,386	17.7%	26.6%	-16.3%	-7.0%
100-499.999 mm	2,181	13.0%	42.8%	0.5%	7.2%
500 mm and up	1,118	9.2%	36.7%	1.3%	0.3%
0-99.999 mm	5,198	21.8%	10.8%	-29.2%	-13.8%
100 mm and up	3,299	11.7%	40.8%	0.8%	4.8%
1980-2018	8,497	17.9%	22.4%	-17.5%	-6.6%

Table 16a (updated March 10, 2020)**Long-run Returns on IPOs Categorized by the Pre-issue Sales of the Firm, 1980-2018**

All Last Twelve Months (LTM) sales figures for the firms going public have been converted into dollars of January 2019 purchasing power using the Consumer Price Index. 8,497 IPOs from 1980-2018 are used, with returns calculated through the end of December, 31 2019. 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 from the first closing market price until the earlier of the three-year anniversary or the delisting date (Dec. 31 of 2019 for IPOs from 2017 and 2018). 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. For post-issue book value of equity numbers, I use the post-issue common equity numbers from SDC with corrections by checking the prospectus, and for the remaining missing numbers I use the equity book values reported for the nearest quarter after the IPO on COMPUSTAT, and further missing numbers are calculated using the reported pre-IPO equity book values plus the amount of the proceeds (assuming that overallocation option shares and costs of issuing offset each other) times the fraction of the primary shares. For dual-class shares, the post-issue book-to-market ratio is calculated using the larger of the post-issue number of shares reported from SDC (with corrections to account for all share classes) and the total shares outstanding reported from CRSP at end of the IPO date. Market capitalization (size) is calculated using the first closing market price after the IPO and the post-issue number of shares outstanding. All returns include dividends and capital gains, including the index returns.

Sales (in 2019\$)	Number of IPOs	Average First-day Return	Average 3-year Buy-and-hold Return		
			IPOs	Market-adjusted	Style-adjusted
Less than \$1 billion	7,847	18.6%	21.0%	-19.5%	-7.7%
\$1 billion and up	650	8.7%	39.6%	6.0%	7.7%
1980-2017	8,497	17.9%	22.4%	-17.5%	-6.6%

Note: The 6.0% 3-year market-adjusted buy-and-hold return for large companies corresponds to an annualized market-adjusted return of 2.0% per year, with an average holding period of 2.9 years for the large companies, because $1.396/1.336=1.0591$, and $1.0591^{0.345}=1.02$. The 1.336 is 6.0% below the 39.6% average buy-and-hold return, and 0.345 is equal to $1/2.9$. The -19.5% 3-year market-adjusted buy-and-hold return for small (emerging growth) companies corresponds to an annualized market-adjusted return of -5.2% assuming a 2.8 year average holding period.

Table 16b (updated March 10, 2020)**Long-run Returns on IPOs Categorized by the Profitability of the Firm, 1980-2018**

All Last Twelve Months (LTM) sales figures for the firms going public have been converted into dollars of January 2019 purchasing power using the Consumer Price Index. 8,497 IPOs (including the 2016 IPO of BATS Global Markets, which listed on BATS) from 1980-2018 are used, with returns calculated through the end of December 31, 2019. 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. 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. 31 of 2019 for IPOs from 2017 and 2018). 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. For post-issue book value of equity numbers, I use the post-issue common equity numbers from SDC with corrections by checking the prospectus, and for the remaining missing numbers I use the equity book values reported for the nearest quarter after the IPO on COMPUSTAT, and further missing numbers are calculated using the reported pre-IPO equity book values plus the amount of the proceeds (assuming that over-allotment option shares and costs of issuing offset each other) times the fraction of the primary shares. For dual-class shares, the post-issue book-to-market ratio is calculated using the larger of the post-issue number of shares reported from SDC (with corrections to account for all share classes) and the total shares outstanding reported from CRSP at end of the IPO date. Market capitalization (size) is calculated using the first closing market price after the IPO and the post-issue number of shares outstanding. Earnings per share (EPS) is for the pre-IPO last twelve months (LTM). All returns include dividends and capital gains, including the index returns.

Trailing LTM EPS	Number of IPOs	Average First-day Return	Average 3-year Buy-and-hold Return		
			IPOs	Market-adjusted	Style-adjusted
Unprofitable	3,359	25.6%	3.3%	-25.9%	-20.3%
Profitable	5,138	12.8%	34.9%	-12.1%	2.4%
Sales less than \$100 million (\$2019)					
Unprofitable	2,627	28.7%	-4.2%	-33.6%	-24.7%
Profitable	2,571	14.7%	26.1%	-24.7%	-2.6%
All less than \$100m	5,198	21.8%	10.8%	-29.2%	-13.8%
Sales more than \$100 million (\$2019)					
Unprofitable	732	14.4%	30.1%	1.6%	-4.6%
Profitable	2,567	11.0%	43.8%	0.6%	7.5%
All more than \$100m	3,299	11.7%	40.8%	0.8%	4.8%
1980-2018	8,497	17.9%	22.4%	-17.5%	-6.6%

Table 16c (updated March 10, 2020)
Long-run Returns Measured from the Offer Price on Tech and non-Tech Stock IPOs
Excluding the Internet Bubble, 1980-2018

Panel A: IPOs from 1980-2018, 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	2,460	18.4%	77.0%	28.3%	48.2%
Non-Tech	5,181	9.9%	34.6%	-11.4%	1.7%
All	7,641	12.6%	48.2%	1.4%	16.6%

Panel B: 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	1,804	18.9%	70.3%	18.4%	42.9%
Non-Tech	2,715	10.9%	20.9%	-26.5%	-7.3%
Sales > \$100 million					
Tech	656	17.0%	95.5%	55.4%	62.9%
Non-Tech	2,466	8.9%	49.6%	5.3%	11.5%

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	1,012	17.5%	70.8%	15.1%	43.1%
Non-Tech	1,470	10.6%	28.8%	-22.9%	-0.6%
Sales > \$100 million					
Tech	410	15.0%	106.0%	59.4%	71.4%
Non-Tech	2,058	9.0%	51.4%	5.8%	13.7%

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	792	20.7%	69.7%	22.6%	42.5%
Non-Tech	1,245	11.1%	11.6%	-30.8%	-15.2%
Sales > \$100 million					
Tech	246	20.4%	78.1%	48.7%	48.8%
Non-Tech	408	8.0%	40.3%	2.7%	0.2%

Table 16d (updated March 10, 2020)**Long-run Returns Measured from the First Closing Market Price on Tech and non-Tech Stock IPOs Excluding the Internet Bubble, 1980-2018****Panel A: IPOs from 1980-2018, 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	2,460	18.4%	46.1%	-2.7%	17.2%
Non-Tech	5,181	9.9%	23.7%	-22.2%	-9.2%
All	7,641	12.6%	30.9%	-15.9%	-0.7%

Panel B: 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	1,804	18.9%	39.3%	-12.6%	11.9%
Non-Tech	2,715	10.9%	10.9%	-36.5%	-17.3%
Sales > \$100 million					
Tech	656	17.0%	64.6%	24.4%	31.9%
Non-Tech	2,466	8.9%	37.7%	-6.5%	-0.3%

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	1,012	17.5%	42.6%	-13.1%	15.0%
Non-Tech	1,470	10.6%	18.3%	-33.4%	-11.1%
Sales > \$100 million					
Tech	410	15.0%	74.6%	28.0%	40.0%
Non-Tech	2,058	9.0%	39.3%	-6.3%	1.6%

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	792	20.7%	35.1%	-11.9%	7.9%
Non-Tech	1,245	11.1%	2.2%	-40.2%	-24.5%
Sales > \$100 million					
Tech	246	20.4%	47.8%	18.4%	18.4%
Non-Tech	408	8.0%	30.2%	-7.5%	-9.9%