

Initial Public Offerings: VC-backed IPO Statistics Through 2017

Jay R. Ritter
Cordell Professor of Finance
University of Florida
352.846-2837 *voice*
<https://site.warrington.ufl.edu/ritter/>

June 13, 2018

Index

- Table 4: Median Age and Fraction of IPOs with VC and Buyout Backing, 1980-2017
- Table 4a: Proceeds of IPOs with VC Backing and Proceeds of Technology IPOs, 1980-2017
- Table 4b: VC-backed, Growth Capital-backed, and Buyout-backed IPOs, 1980-2017
- Table 4c: The number of VC-, Growth Capital-, and Buyout-backed IPOs, 1980-2017
- Table 4d: VC-backed IPOs, restricted to those headquartered in the U.S., 1980-2017
- Table 17: Long-run Returns on IPOs Categorized by VC-backing or Buyout Fund-backing
- Table 17a: Long-run Returns on IPOs Categorized by VC-, Growth Capital-, or Buyout-backing
- Table 18: Long-run Returns on IPOs Categorized by VC-backing, by Subperiod

Table 4 (updated Dec. 27, 2017)

Median Age and Fraction of IPOs with VC and Buyout Backing, 1980-2017

There are 8,360 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. 387 growth capital-backed IPOs are classified as VC-backed.

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	193	8	53	28%	1	1%	73	40%
1982	77	5	21	27%	2	3%	42	36%
1983	451	7	115	25%	12	3%	173	38%
1984	172	8	45	26%	3	2%	50	52%
1985	186	9	39	21%	18	9%	37	43%
1986	393	8	79	20%	42	11%	77	40%
1987	285	7	66	23%	42	15%	58	66%
1988	105	8	32	31%	9	9%	28	61%
1989	116	8	40	35%	10	9%	35	66%
1990	110	8	42	38%	14	13%	31	74%
1991	286	9	116	41%	72	25%	70	63%
1992	412	10	138	33%	98	24%	113	59%
1993	509	9	172	34%	79	16%	126	70%
1994	402	8	129	32%	22	5%	116	56%
1995	461	7	186	40%	30	7%	204	55%
1996	677	7	264	39%	35	5%	274	55%
1997	474	9	133	28%	38	8%	173	42%
1998	281	8	77	27%	30	11%	113	48%
1999	476	5	275	58%	31	6%	370	66%
2000	380	6	242	64%	32	8%	260	69%
2001	79	12	32	41%	21	27%	23	70%
2002	66	15	23	35%	20	30%	20	65%
2003	63	11	24	38%	21	33%	18	61%
2004	173	8	79	46%	43	25%	61	66%
2005	159	13	46	29%	67	42%	45	49%
2006	157	13	54	34%	68	43%	48	52%
2007	159	9	71	45%	31	19%	75	67%
2008	21	14	9	43%	3	14%	6	67%
2009	41	15	12	29%	19	46%	14	43%
2010	91	10	40	44%	27	30%	33	73%
2011	81	11	44	54%	18	22%	36	81%
2012	93	12	48	52%	28	30%	39	87%
2013	157	12	76	48%	36	23%	43	72%
2014	206	11	129	63%	38	18%	53	72%
2015	115	10	71	62%	21	18%	36	72%
2016	74	10	45	61%	14	19%	21	71%
2017	108	11	63	58%	18	17%	30	77%
1980-1989	2,049	8	513	25%	140	7%	595	46%
1990-1998	3,612	8	1,257	35%	418	12%	1,220	55%
1999-2000	856	5	517	60%	63	7%	630	68%
2001-2017	1,843	11	866	47%	493	27%	601	68%
1980-2017	8,360	8	3,153	38%	1,114	13%	3,046	59%

Table 4a (updated Dec. 28, 2017)

Technology Company IPOs, 1980-2017

There are 3,046 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, 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.

For the column with VC-backed IPOs, there are 3,091 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	73	648	845	3.5	3.6	12.8	34.5	9	88%
1982	42	490	648	4.2	4.5	10.5	26.2	5	83%
1983	173	2,768	3,271	5.7	6.5	8.6	20.6	6	71%
1984	50	614	543	2.4	2.5	9.8	22.5	6.5	80%
1985	37	667	375	2.0	2.4	13.4	29.8	7	84%
1986	77	1,558	1,217	3.4	3.6	13.0	27.8	6	74%
1987	58	1,315	1,324	3.2	3.2	18.3	38.4	5.5	86%
1988	28	674	888	2.8	2.9	24.0	48.6	5.5	79%
1989	35	869	748	3.4	4.0	31.5	61.0	6	77%
1990	31	1,085	747	3.6	3.7	29.1	53.5	9	94%
1991	70	3,887	2,738	3.2	3.7	34.5	60.0	9	74%
1992	113	4,970	5,847	3.4	3.6	22.8	38.7	8	65%
1993	126	5,929	5,415	3.0	3.6	27.0	44.3	8	74%
1994	117	3,726	3,659	3.7	4.2	21.0	33.6	8	70%
1995	204	7,023	9,781	4.6	5.7	21.6	33.6	8	71%
1996	274	11,579	16,185	6.9	8.3	16.7	25.3	7	47%
1997	173	4,993	7,447	5.2	5.7	21.5	31.7	7	50%
1998	113	3,882	8,118	8.8	11.9	22.1	32.0	6	36%
1999	370	22,012	33,792	26.5	42.8	12.1	17.2	4	14%
2000	260	23,304	42,498	31.7	48.9	12.1	16.8	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	125.9	9	40%
2003	18	1,789	2,242	4.1	4.6	86.2	111.1	7	39%
2004	61	7,183	9,064	6.4	7.1	55.5	70.2	8	44%
2005	45	3,676	6,994	4.5	4.5	68.0	83.6	9	36%
2006	48	4,661	4,873	5.5	6.3	57.6	68.0	9	50%
2007	75	9,820	11,371	6.5	8.0	70.0	81.0	8	29%
2008	6	863	1,194	4.9	5.7	156.7	173.8	14	67%
2009	14	1,697	4,125	3.0	3.6	174.3	193.3	11	71%
2010	33	3,873	4,347	3.4	3.9	119.5	129.2	11	64%
2011	36	8,603	9,412	6.1	6.6	141.3	150.3	10	36%
2012	39	21,031	20,250	4.4	4.9	108.1	111.7	9	44%
2013	43	11,553	8,486	5.3	6.1	105.8	107.6	9	28%
2014	53	18,289	9,965	6.1	6.8	90.5	90.5	11	17%
2015	36	9,215	9,834	5.3	6.2	130.8	130.9	10.5	28%
2016	21	5,825	2,510	4.2	4.3	109.5	108.2	10	29%
2017	30	12,418	7,844	5.0	6.3	188.4	184.1	13	17%
1980-2017	3,046	227,472	266,964	5.7	6.8	22.0	36.3	7	49%

Table 4b (updated Dec. 27, 2017)

Technology and Biotechnology Company IPOs, 1980-2017

There are 3,046 tech and 728 biotech IPOs from 1980-2017, 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. 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.

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	73	10	110	88%	30%	85%	34.5	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	120	80%	100%	85%	22.4	113.4	58.4
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	58	11	216	86%	18%	85%	38.4	5.9	92.3
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	31	4	75	94%	0%	87%	53.5	3.8	106.4
1991	70	33	183	74%	15%	88%	59.9	5.7	128.8
1992	113	33	266	65%	18%	80%	38.6	2.2	116.7
1993	126	28	355	74%	21%	75%	44.2	2.6	100.8
1994	116	20	266	70%	20%	80%	33.7	2.6	87.5
1995	204	22	235	71%	14%	75%	33.6	4.2	98.9
1996	274	47	356	47%	17%	73%	25.2	3.9	82.7
1997	173	22	279	50%	14%	77%	31.6	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	50	30%	0%	66%	32.9	0.2	473.9
2002	20	5	41	40%	40%	63%	125.8	189.7	569.9
2003	18	8	37	39%	0%	76%	111.0	0.5	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	75	19	65	29%	5%	74%	78.4	1.6	272.7
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	39	10	44	44%	0%	75%	111.7	0.5	347.1
2013	43	41	73	28%	10%	56%	107.5	10.9	420.3
2014	53	74	79	17%	7%	57%	90.5	0.0	271.0
2015	36	42	37	28%	0%	65%	130.9	0.0	179.6
2016	21	25	28	29%	8%	57%	108.2	0.9	443.0
2017	30	32	46	17%	3%	43%	181.5	0.0	429.5
2001-17	601	355	887	36%	6%	66%	98.9	0.8	332.1
1980-2017	3,046	728	4,586	49%	14%	77%	36.3	3.1	110.9

Table 4c (updated Dec. 27, 2017)

VC-backed, Growth Capital-backed, and Buyout-backed IPOs, 1980-2017

There are 8,360 IPOs after excluding those with an offer price below \$5.00 per share, unit offers, ADRs, closed-end funds, natural resource limited partnerships, special purpose acquisition companies (SPACs), REITs, bank and S&L IPOs, small best efforts offerings, and firms not listed on CRSP within six months of the IPO. Missing numbers in the Thomson Reuters new issues database are found by direct inspection of prospectuses on EDGAR, information from Dealogic for IPOs after 1989, Howard and Co.'s *Going Public: The IPO Reporter* from 1980-1985, and the Graeme Howard-Todd Huxster collection of IPO prospectuses for 1975-1996. Some foreign company IPOs from 1997-2001 that did not use ADRs but did not file electronically, and therefore do not have a prospectus available on EDGAR, were also accessed from the Graeme Howard-Todd Huxster database. Additional information was collected from microfiches at Stanford's GSB library. 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, and I have slightly updated the classifications.

Growth capital-backed IPOs are IPOs with a financial sponsor that, unlike a buyout-sponsored deal, typically owns far less than 90% of the equity prior to the IPO. Furthermore, many growth capital-backed IPOs have debt in their capital structure. The main criteria for classifying a financial sponsor as growth capital rather than venture capital is whether the company is investing in tangible assets (e.g., stores or hospitals) or intangibles (e.g., R&D); this is highly correlated with the industry of the company: restaurants, retail operations such as clothing store chains, healthcare operations (doctors' offices and dental offices), and retirement homes are generally classified as growth capital-backed. Many growth capital-backed IPOs are involved in rollups of a fragmented industry, where the financial sponsor has provided capital to make acquisitions to consolidate a fragmented industry, such as funeral homes. If a company is growing via acquisitions, it would generally be categorized as growth capital-backed rather than venture-backed. Jerry Cao has provided some information on which IPOs are buyout-backed. **396 growth capital-backed IPOs are not classified as VC-backed in this table.** See my article "Growth Capital-backed IPOs" in *The Financial Review* (November 2015) for further details.

(table on the next page)

Year	Number of IPOs	Financial sponsor- backed		VC-backed		Growth capital- backed		Buyout-backed	
		No.	%	No.	%	No.	%	No.	%
1980	71	24	34%	20	28%	3	4%	1	1%
1981	193	54	28%	44	23%	9	5%	1	1%
1982	77	23	30%	19	25%	2	3%	2	3%
1983	451	127	28%	103	23%	12	3%	12	3%
1984	172	48	28%	38	22%	7	4%	3	2%
1985	186	57	30%	28	15%	11	6%	18	10%
1986	393	121	31%	72	18%	7	2%	42	11%
1987	285	108	38%	61	22%	5	2%	42	15%
1988	105	41	40%	25	25%	7	7%	9	9%
1989	116	50	44%	30	27%	10	9%	10	9%
1990	110	56	51%	37	34%	5	5%	14	13%
1991	286	188	66%	97	34%	19	7%	72	25%
1992	412	236	57%	121	29%	17	4%	98	24%
1993	509	251	49%	160	31%	12	2%	79	15%
1994	402	151	38%	113	28%	16	4%	22	5%
1995	461	216	47%	157	34%	29	6%	30	7%
1996	677	299	44%	219	32%	45	7%	35	5%
1997	474	171	36%	102	22%	31	7%	38	8%
1998	281	107	38%	59	21%	18	6%	30	11%
1999	476	306	64%	259	54%	16	3%	31	7%
2000	380	274	72%	239	63%	3	1%	32	8%
2001	79	53	67%	22	28%	10	13%	21	27%
2002	66	43	65%	11	17%	12	18%	20	30%
2003	63	45	71%	20	32%	4	6%	21	33%
2004	173	122	71%	73	42%	6	3%	43	25%
2005	159	113	71%	40	25%	6	4%	67	42%
2006	157	122	78%	52	33%	2	1%	68	43%
2007	159	102	64%	63	40%	8	5%	31	19%
2008	21	12	57%	7	33%	2	10%	3	14%
2009	41	31	76%	12	29%	0	0%	19	46%
2010	91	67	74%	38	42%	2	2%	27	30%
2011	81	62	77%	40	49%	4	5%	18	22%
2012	93	76	82%	45	48%	3	3%	28	30%
2013	157	112	71%	64	41%	12	8%	36	23%
2014	206	167	81%	110	53%	19	9%	38	18%
2015	115	92	80%	67	58%	4	3%	21	18%
2016	74	59	80%	36	49%	9	12%	14	19%
2017	108	81	75%	54	50%	9	8%	18	17%
1980-1989	2,049	653	32%	440	21%	73	4%	140	7%
1990-1998	3,612	1,675	46%	1,065	29%	193	5%	418	12%
1999-2000	856	580	68%	498	58%	19	2%	63	7%
2001-2017	1,843	1,359	74%	754	41%	112	6%	493	27%
1980-2017	8,360	4,267	51%	2,757	33%	396	5%	1,114	13%

Table 4d (updated Jan. 18, 2018)

VC-backed IPOs, U.S.-headquartered Companies Only, 1980-2017

There are 3,040 venture capital-backed IPOs of U.S. headquartered companies, 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. VC-backed includes growth capital-backed IPOs. 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.

The public float is calculated as the shares issued multiplied by the first closing market price, and does not include over-allotment shares. All numbers use the undiluted number of shares outstanding. For dual-class companies such as Facebook, all share classes are included, with the assumption that the price per share is the same for each class.

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.

Example: For 1980, the 23 VC-backed IPOs raised \$388 million, the shares of which had a market cap of \$500 million using the first closing market price. The market cap, using all shares outstanding, was \$3.374 billion in total. Of this, Apple Computer issued 4.6 million shares at \$22 per share (proceeds of \$101.2 million), closing at \$28.75 per share (public float value of \$132.25 million), with 55.136 million shares outstanding (\$1,585 million market cap).

(table on the next page)

Table 17 (updated April 25, 2018)

Long-run Returns on IPOs Categorized by VC-backing or Buyout Fund-backing

All Last Twelve Months (LTM) sales figures for the firms going public have been converted into dollars of 2005 purchasing power using the Consumer Price Index. IPOs from 1980-2016 are used, with returns calculated through the end of December, 2017. In Panel A, the sample size is 8,252 firms. Growth capital-backed IPOs are included in the VC-backed category. 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, banks and S&Ls, and IPOs not listed on CRSP within six months of the offer date are excluded. In Panel B, one additional screen is implemented, reducing the sample size. This additional screen is that the last twelve months (LTM) sales of the issuing firm is at least \$50 million (2005 purchasing power). Buy-and-hold returns are calculated until the earlier of the three-year anniversary or the delisting date (Dec. 29 of 2017 for IPOs from 2015 and 2016). Market-adjusted returns use the CRSP value-weighted index. All returns include dividends and capital gains. 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. Jerry Cao of Sun Yat-sen University has assisted in providing data on the classification of IPOs as buyout-backed. Growth capital-backed IPOs are classified as VC-backed.

Panel A: IPOs from 1980-2016 categorized by venture capital backing

VC-backed or not	Number of IPOs	Average First-day Return	Average 3-year Buy-and-hold Return		
			IPOs	Market-adjusted	Style-adjusted
VC-backed	3,091	26.8%	24.7%	-10.9%	-1.6%
NonVC-backed	5,161	12.6%	20.2%	-23.0%	-11.3%
NonVC and nonBuyout	4,048	13.5%	16.6%	-29.7%	-14.7%
All	8,252	17.9%	21.9%	-18.4%	-7.6%

Note: The nonVC- and nonBuyout-backed IPOs do not include a minimum sales screen, unlike in Panel B.

Panel B: IPOs with at least \$50 million in LTM sales (2005 purchasing power) from 1980-2016 categorized by private equity (buyout fund) backing

Buyout-backed or not	Number of IPOs	Average First-day Return	Average 3-year Buy-and-hold Return		
			IPOs	Market-adjusted	Style-adjusted
Buyout-backed	994	8.9%	35.3%	4.5%	3.1%
NonBuyout-backed	3,004	13.8%	39.7%	-4.1%	2.6%
All	3,998	12.6%	38.6%	-2.0%	2.7%

Table 17a (updated April 25, 2018)

Long-run Returns on IPOs Categorized by VC-, Growth Capital-, or Buyout Fund-backing

8,252 IPOs from 1980-2016 are used, with returns calculated through the end of December, 2017. Buy-and-hold returns are calculated from the first closing price until the earlier of the three-year anniversary or the delisting date (Dec. 29 of 2017 for IPOs from 2015 and 2016). Market-adjusted returns use the CRSP value-weighted index. All returns include dividends and capital gains. 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. This table is an updated version of Table 3 of my “Growth Capital-backed IPOs” published in the 2015 *Financial Review*. Growth capital-backed IPOs are defined to be IPOs with a financial sponsor that is financing investments in tangible assets and/or acquisitions are a major part of its growth strategy. Buyouts involve the financial sponsor taking control by buying out prior shareholders. Corporate venture capital and angel investors are not included as financial sponsors.

	Number of IPOs	Average First-day Return	Average 3-year Buy-and-hold Return		
			IPOs	Market-adjusted	Style-adjusted
VC-backed	2,703	28.6%	20.3%	-14.0%	-3.0%
Growth capital-backed	387	14.3%	55.4%	11.3%	15.5%
Buyout-backed-backed	1,096	9.2%	33.5%	3.0%	0.1%
Financial Sponsored	4,186	22.2%	26.9%	-7.3%	-1.2%
Non-Financial Sponsored	4,066	13.5%	16.6%	-29.9%	-14.3%
All	8,252	17.9%	21.9%	-18.4%	-7.6%

Note: The high average 3-year buy-and-hold return for growth capital-backed IPOs is partly attributable, in a mechanical sense, to the five IPOs with the highest buy-and-hold returns in this subsample: The May 10, 1984 IPO of restaurant chain This Can't Be Yogurt (4,076.6%); the April 10, 1997 IPO of middleware software developer and distributor BEA Systems (2,562.2%); the November 15, 1989 IPO of original equipment manufacturer Solectron (944.0%); the April 24, 1996 IPO of outdoor advertising (billboards) operator Outdoor Systems (935.1%); the February 9, 1983 IPO of health care provider United States Health Care (636.6%); and the September 19, 1989 IPO of health care provider Vencor (635.8%).

Table 18 (updated April 25, 2018)

Long-run Returns on IPOs Categorized by VC-backing, by Subperiod

The sample is composed of 8,252 IPOs from 1980-2016, with returns calculated through the end of December, 2017. Growth capital-backed IPOs are classified as venture capital (VC)-backed in all panels. IPOs with an offer price below \$5.00 per share, unit offers, small best efforts offerings, ADRs, REITs, closed end funds, SPACs, natural resource limited partnerships, 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 closing market price until the earlier of the three-year anniversary or the delisting date (Dec. 29 of 2017 for IPOs from 2015 and 2016). Market-adjusted returns use the CRSP value-weighted index. All returns include dividends and capital gains. 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. Market capitalization (size) is calculated using the first closing market price after the IPO. All returns include dividends and capital gains, including the index returns.

Panel A: IPOs from 1980-2016 categorized by venture capital backing

VC-backed or not	Number of IPOs	Average First-day Return	Average 3-year Buy-and-hold Return		
			IPOs	Market-adjusted	Style-adjusted
VC-backed	3,091	26.8%	24.7%	-10.9%	-1.6%
NonVC-backed	5,161	12.6%	20.2%	-23.0%	-11.3%
All	8,252	17.9%	21.9%	-18.4%	-7.6%