

Initial Public Offerings: Updated Statistics on Long-run Returns

Jay R. Ritter
Cordell Eminent Scholar
Warrington College of Business, University of Florida
352.846-2837 *voice*

May 27, 2022

Table 16: Long-run Returns on IPOs Categorized by the Pre-issue Sales of the Firm, 1980-2020

Table 16a: Long-run Returns on IPOs Categorized by \$1 Billion Sales of the Firm, 1980-2020

Table 16b: Long-run Returns on IPOs Categorized by the Profitability of the Firm, 1980-2020

Table 16c: Long-run Returns Measured from the Offer Price on Tech and non-Tech Stock IPOs
Excluding the Internet Bubble, 1980-2019

Table 16d: Long-run Returns Measured from the First Closing Market Price on Tech and non-
Tech Stock IPOs Excluding the Internet Bubble, 1980-2019

Table 16e: Distribution of 3-year and 5-year Buy-and-Hold Returns on IPOs, 1975-2015

Table 16f: Aftermarket Returns with and without Including the First-day Return, 1980-2020

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 Fund-
backing

Table 18: Long-run Returns on IPOs Categorized by VC-backing, by Subperiod

Table 19: Table I of Ritter and Welch 2002 *Journal of Finance* article: Number of IPOs, First-
day Returns, and Long Run Performance, 1980 to 2019 (returns through Dec. 31, 2021)

Table 20: Returns by Event Year for the First Five Years after the IPO for IPOs from 1980-2020

Table 24: Long-run Returns for Dual Class and Single Class IPOs, 1980-2020

Table 16 (updated February 15, 2022)**Long-run Returns on IPOs Categorized by the Pre-issue Sales of the Firm, 1980-2020**

All Last Twelve Months (LTM) sales figures for the firms going public have been converted into dollars of January 2021 purchasing power using the Consumer Price Index. 8,775 IPOs from 1980-2020 are used, with returns calculated through the end of December 2021. 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 2021 for IPOs from 2019 and 2020). 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 2021\$)	Number of IPOs	Average First-day Return	Average 3-year Buy-and-hold Return		
			IPOs	Market-adjusted	Style-adjusted
0-9.999 mm	1,714	21.8%	-7.5%	-45.5%	-30.3%
10-19.999 mm	692	27.9%	-0.9%	-39.3%	-18.0%
20-49.999 mm	1,488	24.1%	19.5%	-23.3%	-7.9%
50-99.999 mm	1,392	18.0%	30.7%	-13.1%	-3.0%
100-499.999 mm	2,290	14.0%	45.9%	3.2%	9.0%
500 mm and up	1,199	9.8%	37.5%	0.3%	0.0%
0-99.999 mm	5,286	22.2%	11.0%	-29.9%	-15.2%
100 mm and up	3,489	12.6%	43.0%	2.2%	5.9%
1980-2020	8,775	18.4%	23.7%	-17.1%	-6.8%

Table 16a (updated February 15, 2022)

Long-run Returns on IPOs Categorized by the Pre-issue Sales of the Firm, 1980-2020

All Last Twelve Months (LTM) sales figures for the firms going public have been converted into dollars of January 2021 purchasing power using the Consumer Price Index. 8,775 IPOs from 1980-2020 are used, with returns calculated through December 31, 2021. 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 2021 for IPOs from 2019 and 2020). 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 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 2021\$)	Number of IPOs	Average First-day Return	Average 3-year Buy-and-hold Return		
			IPOs	Market-adjusted	Style-adjusted
Less than \$1 billion	8,078	19.2%	22.5%	-18.9%	-7.9%
\$1 billion and up	697	9.2%	38.2%	3.2%	6.2%
1980-2020	8,775	18.4%	23.7%	-17.1%	-6.8%

Note: The 3.2% 3-year market-adjusted buy-and-hold return for large companies corresponds to an annualized market-adjusted return of 0.9% per year, with an average holding period of 2.9 years for the large companies, because $1.382/1.350=1.0237$, and $1.0237^{0.345}=1.009$. The 1.350 is 3.2% below the 38.2% average buy-and-hold return, and 0.345 is equal to $1/2.9$. The -17.1% 3-year market-adjusted buy-and-hold return for small (emerging growth) companies corresponds to an annualized market-adjusted return of -6.5% assuming a 2.8 year average holding period.

Table 16b (updated February 15, 2022)

Long-run Returns on IPOs Categorized by the Profitability of the Firm, 1980-2020

All Last Twelve Months (LTM) sales figures for the firms going public have been converted into dollars of January 2021 purchasing power using the Consumer Price Index. 8,775 IPOs (including the 2016 IPO of BATS Global Markets, which listed on BATS) from 1980-2020 are used, with returns calculated through the end of December 31, 2021. 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 2021 for IPOs from 2019 and 2020). 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. 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	3,575	26.3%	6.5%	-25.2%	-20.5%
Profitable	5,200	12.9%	35.6%	-11.6%	2.6%
Sales less than \$100 million (\$2021)					
Unprofitable	2,755	29.1%	-3.5%	-35.0%	-27.3%
Profitable	2,531	14.7%	26.8%	-24.4%	-2.1%
All less than \$100m	5,286	22.2%	11.0%	-29.9%	-15.2%
Sales more than \$100 million (\$2021)					
Unprofitable	820	16.8%	39.8%	8.0%	2.3%
Profitable	2,669	11.3%	44.0%	0.4%	7.0%
All more than \$100m	3,489	12.6%	43.0%	2.2%	5.9%
1980-2020	8,775	18.4%	23.7%	-17.1%	-6.8%

Table 16c (updated March 4, 2021)
Long-run Returns Measured from the Offer Price on Tech and non-Tech Stock IPOs
Excluding the Internet Bubble, 1980-2019

Panel A: IPOs from 1980-2019, 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	2,504	18.6%	82.0%	33.1%	52.2%
Non-Tech	5,250	10.1%	36.4%	-9.7%	3.0%
All	7,754	12.8%	51.1%	4.1%	18.9%

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	1,821	18.9%	72.5%	20.6%	44.2%
Non-Tech	2,764	11.1%	24.1%	-23.6%	-5.1%
Sales > \$100 million					
Tech	683	17.6%	107.4%	66.6%	72.0%
Non-Tech	2,486	8.9%	50.1%	5.8%	12.1%

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	1,019	17.4%	71.1%	15.5%	43.2%
Non-Tech	1,469	10.6%	29.7%	-22.0%	0.3%
Sales > \$100 million					
Tech	420	15.0%	108.8%	62.0%	71.9%
Non-Tech	2,070	9.1%	51.4%	5.7%	13.6%

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	802	20.8%	74.3%	27.1%	46.7%
Non-Tech	1,295	11.6%	17.6%	-25.4%	-11.3%
Sales > \$100 million					
Tech	263	21.6%	105.2%	73.8%	72.2%
Non-Tech	416	7.9%	43.9%	6.0%	4.6%

Table 16d (updated March 10, 2021)
**Long-run Returns Measured from the First Closing Market Price on Tech and non-Tech
Stock IPOs Excluding the Internet Bubble, 1980-2019**

Panel A: IPOs from 1980-2019, 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	2,504	18.6%	49.5%	0.6%	19.7%
Non-Tech	5,250	10.1%	25.1%	-21.0%	-8.3%
All	7,754	12.8%	32.9%	-14.0%	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	1,821	18.9%	41.0%	-10.9%	13.3%
Non-Tech	2,764	11.1%	13.2%	-34.4%	-16.0%
Sales > \$100 million					
Tech	683	17.6%	72.2%	31.3%	36.8%
Non-Tech	2,486	8.9%	38.2%	-6.1%	0.2%

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	1,019	17.4%	43.0%	-12.6%	15.2%
Non-Tech	1,469	10.6%	19.0%	-32.7%	-10.4%
Sales > \$100 million					
Tech	420	15.0%	76.7%	29.9%	39.9%
Non-Tech	2,070	9.1%	39.1%	-6.5%	1.3%

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	802	20.8%	38.3%	-8.8%	10.8%
Non-Tech	1,295	11.6%	6.7%	-36.3%	-22.3%
Sales > \$100 million					
Tech	263	21.6%	64.9%	33.5%	31.9%
Non-Tech	416	7.9%	33.8%	-4.1%	-5.4%

Table 16e (May 25, 2022)**Distribution of 3-year and 5-year Buy-and-Hold Returns on IPOs, 1975-2018**

8,603 IPOs from 1975-2018 are used, with buy-and-hold returns calculated until the earlier of the 3-year or 5-year anniversary or the delisting date. All returns include dividends and capital gains. IPOs with an offer price below \$5.00 per share, unit offers, ADRs, REITs, closed end funds, SPACs, 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. The average first-day return in Panel A is 17.7%, with an average 3-year buy-and-hold return (BHR) of 25.2%, measured from the first close, and 42.6%, measured from the offer price. In Panel B, the average first-day return is 12.0%, with a subsequent average 3-year buy-and-hold return of 43.1%, measured from the first close, and 59.5%, measured from the offer price. Sales is inflation-adjusted sales for the last twelve months (LTM) prior to the IPO, in dollars of January 2022 purchasing power using the CPI.

Panel A: All 8,603 IPOs

3-year buy-and-hold return	From the first close		From the offer price	
	Number of IPOs	Percentage	Number of IPOs	Percentage
BHR<-50%	3,178	36.9%	2,904	33.8%
-50%<BHR≤0%	1,858	21.6%	1,805	21.0%
0%<BHR≤50%	1,288	15.0%	1,290	15.0%
50%<BHR≤100%	838	9.7%	874	10.2%
100%<BHR≤200%	743	8.6%	856	9.9%
200%<BHR≤500%	538	6.3%	658	7.6%
500%<BHR≤1,000%	121	1.4%	154	1.8%
1,000%<BHR≤2,000%	27	0.3%	45	0.5%
2,000%<BHR≤3,000%	6	0.1%	10	0.1%
3,000%<BHR	6	0.1%	7	0.1%
1975-2015	8,603	100.0%	8,603	100.0%

Panel B: 3,564 IPOs with LTM Sales of \$100 million or more (\$2022)

3-year buy-and-hold return	From the first close		From the offer price	
	Number of IPOs	Percentage	Number of IPOs	Percentage
BHR<-50%	853	23.9%	765	21.5%
-50%<BHR≤0%	792	22.2%	747	21.0%
0%<BHR≤50%	700	19.6%	675	18.9%
50%<BHR≤100%	483	13.6%	487	13.7%
100%<BHR≤200%	420	11.8%	490	13.7%
200%<BHR≤500%	262	7.5%	326	9.2%
500%<BHR≤1,000%	44	1.2%	55	1.5%
1,000%<BHR≤2,000%	8	0.2%	14	0.4%
2,000%<BHR≤3,000%	1	0.0%	4	0.1%
3,000%<BHR	1	0.0%	1	0.0%
1975-2018	3,564	100.0%	3,564	100.0%

Table 16e (continued)

The average first-day return in Panel C is 17.7%, with an average 5-year buy-and-hold return (BHR) of 43.1%, measured from the first close, and 63.0%, measured from the offer price. In Panel D, the average first-day return is 12.0%, with a subsequent average 5-year buy-and-hold return of 65.1%, measured from the first close, and 84.5%, measured from the offer price. Sales is inflation-adjusted sales for the last twelve months (LTM) prior to the IPO, in dollars of January 2022 purchasing power using the CPI. For the 2017 and 2018 cohorts, returns are calculated through Dec. 31, 2021 unless an IPO was delisted earlier.

Panel C: All 8,603 IPOs from 1975-2018

5-year buy-and-hold return	From the first close		From the offer price	
	Number of IPOs	Percentage	Number of IPOs	Percentage
BHR<-50%	3,534	41.1%	3,290	38.2%
-50%<BHR≤0%	1,547	18.0%	1,499	17.4%
0%<BHR≤50%	1,079	12.5%	1,081	12.6%
50%<BHR≤100%	734	8.5%	767	8.9%
100%<BHR≤200%	785	9.1%	853	9.9%
200%<BHR≤500%	636	7.4%	758	8.8%
500%<BHR≤1,000%	190	2.2%	222	2.6%
1,000%<BHR≤2,000%	75	0.9%	94	1.1%
2,000%<BHR≤3,000%	13	0.2%	26	0.3%
3,000%<BHR	10	0.1%	13	0.2%
1975-2018	8,603	100.0%	8,603	100.0%

Panel D: 3,564 IPOs with LTM Sales of \$100 million or more (\$2022)

5-year buy-and-hold return	From the first close		From the offer price	
	Number of IPOs	Percentage	Number of IPOs	Percentage
BHR<-50%	997	28.0%	911	25.5%
-50%<BHR≤0%	676	19.0%	659	18.5%
0%<BHR≤50%	566	15.9%	535	15.0%
50%<BHR≤100%	422	11.8%	426	11.9%
100%<BHR≤200%	445	12.5%	474	13.3%
200%<BHR≤500%	336	9.4%	407	11.4%
500%<BHR≤1,000%	81	2.3%	95	2.7%
1,000%<BHR≤2,000%	36	1.0%	45	1.3%
2,000%<BHR≤3,000%	4	0.1%	10	0.3%
3,000%<BHR	1	0.0%	2	0.1%
1975-2018	3,564	100.0%	3,564	100.0%

Table 16f (updated February 15, 2022)**Aftermarket Returns with and without Including the First-day Return**

8,775 IPOs from 1980-2020 are used, with returns calculated through December 31, 2021. 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. 31 of 2021 for IPOs from 2019 and 2020). 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. Further details are reported in the captions to Tables 16a and 16b. Market capitalization (size) is calculated using the first closing market price after the IPO and the post-issue number of shares outstanding.

Tables 16c and 16d report similar numbers, but those tables exclude IPOs from the internet bubble years of 1999-2000

Panel A:**Long-run Returns Measured from the Offer Price on Tech and non-Tech IPOs, 1980-2020**

Sector	Number of IPOs	Average First-day Return	Average 3-year Buy-and-hold Return		
			IPOs	Market-adjusted	Style-adjusted
Tech	3,180	31.2%	56.4%	21.0%	31.9%
Non-Tech	5,595	11.1%	33.5%	-10.5%	-0.5%
All	8,775	18.4%	41.8%	0.9%	11.2%

Panel B:**Long-run Returns Measured from the First Close on Tech and non-Tech IPOs, 1980-2020**

Sector	Number of IPOs	Average First-day Return	Average 3-year Buy-and-hold Return		
			IPOs	Market-adjusted	Style-adjusted
Tech	3,180	31.2%	26.6%	-8.8%	2.1%
Non-Tech	5,595	11.1%	22.1%	-21.9%	-11.9%
All	8,775	18.4%	23.7%	-17.1%	-6.8%

Table 17 (updated February 14, 2022)**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 January 2021 purchasing power using the Consumer Price Index. IPOs from 1980-2020 are used, with returns calculated through the end of December 2021. In Panel A, the sample size is 8,775 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 (2021 purchasing power). Buy-and-hold returns are calculated from the first close until the earlier of the three-year anniversary or the delisting date (Dec. 31 of 2021 for IPOs from 2020). 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. 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 1980-2020 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	3,487	27.2%	28.7%	-8.1%	1.0%
NonVC-backed	5,288	12.6%	20.4%	-23.1%	-12.1%
NonVC and nonBuyout	4,137	13.6%	16.9%	-29.9%	-15.2%
1980-2020	8,775	18.4%	23.7%	-17.1%	-6.8%

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 (2021 purchasing power) from 1980-2020 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	1,090	9.1%	34.5%	2.6%	2.3%
NonBuyout-backed	3,791	15.6%	40.9%	-3.5%	3.7%
All	4,881	14.1%	39.5%	-2.1%	3.4%

Table 17a (updated February 15, 2022)**Long-run Returns on IPOs Categorized by VC-, Growth Capital-, or Buyout Fund-backing**

8,775 IPOs from 1980-2020 are used, with returns calculated through the end of December 2020. Buy-and-hold returns are calculated from the first closing price until the earlier of the three-year anniversary or the delisting date (Dec. 31 of 2021 for IPOs from 2019 and 2020). 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	3,057	29.0%	25.8%	-10.0%	-1.4%
Growth capital-backed	430	14.3%	49.5%	5.0%	10.7%
Buyout-backed	1,153	9.1%	33.0%	1.3%	0.0%
Financial Sponsored	4,638	22.7%	29.8%	-5.8%	0.1%
Non-Financial Sponsored	4,137	13.6%	16.9%	-29.9%	-14.5%
All	8,775	18.4%	23.7%	-17.1%	-6.8%

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 February 15, 2022)**Long-run Returns on IPOs Categorized by VC-backing, by Subperiod**

The sample is composed of 8,775 IPOs from 1980-2020, with returns calculated through the end of December 2021. 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. 31 of 2021 for IPOs from 2019 and 2020). 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 1980-2020 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	3,487	27.2%	28.7%	-8.1%	0.4%
NonVC-backed	5,288	12.6%	20.4%	-23.1%	-11.3%
All	8,775	18.4%	23.7%	-17.1%	-6.8%

Panel B: IPOs from 1980-1989

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	514	8.6%	31.9%	-13.9%	14.0%
NonVC-backed	1,533	6.8%	19.3%	-25.5%	-1.8%
All	2,047	7.2%	22.5%	-22.6%	2.2%

Panel C: IPOs from 1990-1998

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	1,267	17.3%	60.9%	-0.9%	27.1%
NonVC-backed	2,347	13.5%	28.3%	-31.8%	-15.0%
All	3,614	14.8%	39.8%	-21.0%	-0.2%

Panel D: IPOs from 1999-2000

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	526	80.8%	-62.3%	-40.5%	-62.6%
NonVC-backed	330	38.8%	-38.5%	-17.8%	-53.1%
All	856	64.6%	-53.1%	-31.8%	-58.9%

Panel E: IPOs from 2001-2020

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	1,180	22.0%	33.4%	1.1%	-7.2%
NonVC-backed	1,078	10.9%	22.9%	-2.2%	-4.0%
All	2,258	16.7%	28.4%	-0.5%	-5.7%

Table 19: Updated Table I of Ritter and Welch 2002 *Journal of Finance* article

Number of IPOs, First-day Returns, and Long Run Performance, IPOs from 1980-2020

(Updated May 27, 2022)

The equally weighted (EW) average first-day return is measured from the offer price to the first CRSP-listed closing price. EW average three-year buy-and-hold percentage returns (capital gains plus dividends) are calculated from the first closing market price to the earlier of the three-year anniversary price, the delisting price, or December 31, 2021. Buy-and-hold returns for initial public offerings (IPOs) occurring after Dec. 31, 2020 are not calculated. Market-adjusted returns are calculated as the buy-and-hold return on an IPO minus the compounded daily return on the CRSP value-weighted index of Amex, Nasdaq, and NYSE firms. Style-adjusted buy-and-hold returns are calculated as the difference between the return on an IPO and a style-matched firm. For each IPO, a non-IPO matching firm that has been CRSP-listed for at least five years with the closest market capitalization (size) and book-to-market ratio as the IPO is used. Market capitalization is calculated using the first closing market price after the IPO. If this stock is delisted prior to the IPO return's ending date, or if it conducts a follow-on stock offering, a replacement matching firm is spliced in on a point-forward basis. IPOs with an offer price below \$5.00 per share, unit offers, small best efforts offers, natural resource limited partnerships, REITs, closed-end funds, banks and S&Ls, ADRs, and IPOs not listed on CRSP within six months of issuing have been excluded. Data is from Thomson Financial Securities Data, with supplements from Dealogic and other sources, and corrections by the authors. The number of IPOs per year is much lower for the early 1980s than in the 1995 *Journal of Finance* article "The New Issues Puzzle" by Loughran and Ritter because that paper used a \$1.00 offer price screen. The number is larger than in the 2002 *Journal of Finance* article "A Review of IPO Activity, Pricing, and Allocations" due to various data corrections and the back-filling of Nasdaq-listed foreign issuers by CRSP.

The 1998 sample size of 283 IPOs is higher than in other tables because of corrections for two IPOs that previously screened out.

Year	Number of IPOs	Average First-day Return	Average One-year Return	Average 3-year Buy-and-hold Return		
				IPOs	Market-adjusted	Style-adjusted
1980	71	14.3%	28.7%	89.8%	37.0%	18.5%
1981	192	5.9%	-10.5%	12.3%	-27.0%	11.0%
1982	77	11.0%	101.8%	37.5%	-31.5%	-12.0%
1983	451	9.9%	-19.2%	15.9%	-37.7%	-4.4%
1984	171	3.7%	20.0%	50.2%	-28.5%	29.0%
1985	186	6.4%	23.6%	5.6%	-41.3%	-12.3%
1986	393	6.2%	9.5%	16.9%	-22.6%	-1.3%
1987	285	5.6%	-21.5%	-2.6%	-19.1%	-11.2%
1988	105	5.5%	28.7%	58.0%	9.7%	38.7%
1989	116	8.0%	-5.5%	48.1%	13.2%	7.2%
1990	110	10.8%	4.0%	9.7%	-35.9%	-38.4%
1991	286	11.9%	10.5%	31.2%	-1.8%	5.8%
1992	412	10.3%	20.5%	37.4%	-0.2%	11.1%
1993	510	12.7%	3.0%	44.1%	-8.7%	-9.5%
1994	402	9.6%	27.8%	78.0%	-5.7%	-0.9%
1995	462	21.4%	26.5%	28.6%	-58.0%	-24.7%
1996	677	17.2%	7.1%	25.2%	-56.8%	7.0%
1997	474	14.0%	8.0%	58.3%	-2.0%	22.0%
1998	283	21.8%	18.4%	22.9%	5.1%	-4.9%
1999	476	71.2%	22.1%	-47.6%	-32.5%	-60.6%
2000	380	56.4%	-52.9%	-60.1%	-30.9%	-56.9%
2001	80	14.0%	-14.3%	18.0%	14.6%	-27.8%
2002	66	9.1%	3.1%	68.6%	39.0%	-0.4%
2003	63	11.7%	25.7%	34.0%	-7.7%	-11.2%
2004	173	12.3%	17.8%	51.4%	6.9%	-7.0%
2005	159	10.3%	19.0%	14.6%	3.1%	-2.5%
2006	157	12.1%	21.4%	-28.8%	-11.1%	-4.5%
2007	159	14.0%	-28.4%	-16.5%	-0.4%	0.5%
2008	21	5.7%	-34.4%	11.4%	8.1%	5.1%
2009	41	9.8%	11.5%	37.0%	-5.1%	-18.3%
2010	91	9.4%	15.7%	36.4%	-9.6%	-18.5%
2011	81	13.9%	-12.2%	38.6%	-8.7%	-11.6%
2012	93	17.7%	35.7%	81.9%	31.8%	33.4%
2013	158	20.9%	12.8%	12.1%	-14.1%	-16.1%
2014	206	15.5%	20.1%	17.1%	-9.7%	-12.3%
2015	118	19.2%	-23.8%	24.5%	-9.9%	-26.3%
2016	75	14.5%	23.3%	70.5%	29.5%	27.0%
2017	106	12.9%	32.4%	52.8%	22.6%	37.1%
2018	134	18.6%	-6.8%	79.1%	23.4%	36.7%
2019	112	23.5%	34.1%	71.2%	9.8%	6.6%
2020	165	41.6%	9.7%	-10.2%	-54.0%	-65.4%
1980-1989	2,047	7.2%	3.4%	22.5%	-22.6%	2.2%
1990-1994	1,720	11.2%	14.3%	46.1%	-6.6%	-1.9%
1995-1998	1,896	18.1%	13.7%	33.9%	-34.2%	1.3%
1999-2000	856	64.6%	-11.2%	-53.1%	-31.8%	-58.9%
2001-2020	2,258	16.7%	9.8%	28.4%	-0.5%	-5.7%
1980-2020	8,777	18.4%	8.0%	23.7%	-17.2%	-6.8%

Table 20
Returns on IPOs during the five years after issuing, for IPOs from 1980-2019

These tables show that IPOs have underperformed other firms of the same size (market cap) by an average of 2.4% per year during the five years after issuing, not including the first-day return. The underperformance relative to other firms of the same size and book-to-market ratio has averaged 1.6% per year. Returns are through Dec. 31, 2020. (updated March 4, 2021)

Table 20-1
Percentage returns on IPOs from 1980-2019 during the first five years after issuing

	First six months	Second six months	First Year	Second year	Third year	Fourth year	Fifth Year	Geometric Mean years 1-5
IPO firms	6.5%	1.1%	8.0%	7.4%	12.9%	19.7%	10.9%	11.7%
Size-matched	5.3%	5.7%	11.4%	14.6%	15.3%	16.4%	12.7%	14.1%
Difference	1.2%	-4.6%	-3.4%	-7.2%	-2.4%	3.3%	-2.2%	-2.4%
IPO firms	6.5%	1.1%	8.0%	7.4%	12.9%	19.7%	10.9%	11.7%
Size & BM- Matched	3.9%	4.7%	8.8%	13.2%	12.5%	17.6%	12.8%	12.9%
Difference	2.6%	-3.6%	-0.8%	-5.8%	0.4%	2.1%	-1.9%	-1.2%
No. of IPOs	8,610	8,588	8,610	8,461	7,676	6,716	5,883	

All returns are equally weighted average returns for all IPOs that are traded on Nasdaq, the Amex (now NYSE MKT), or the NYSE at the start of a period. For the first and third columns, the returns are measured from the closing market price on the first day of CRSP-reported trading until the sixth-month or one-year anniversary. For years 2-5, each year the portfolios are rebalanced to equal weights. If an issuing firm is delisted within a year, its return for that year is calculated by compounding the CRSP value-weighted market index for the rest of the year. For the size-matched returns, each IPO is matched with the nonissuing firm having the same or next higher market capitalization (using the closing market price on the first day of trading for the IPO, and the market capitalization at the end of the previous month for the matching firms). For the size & BM-matched returns, each IPO with a book-to-market ratio higher than zero is matched with a nonissuing firm in the same size decile (using NYSE firms only for determining the decile breakpoints) having the closest book-to-market ratio. Each IPO with a zero or smaller book-to-market ratio is matched with a nonissuing firm of a book-to-market ratio of zero or smaller having the closest market capitalization. For the IPOs, book-to-market ratios are calculated using the closing market price on the first CRSP-listed day of trading. For nonissuing firms, the Compustat-listed book value of equity for the most recent fiscal year ending at least four months prior to the IPO date is used, along with the market cap at the close of trading at month-end prior to the month of the IPO with which it is matched. Nonissuing firms are those that have been listed on the Amex-Nasdaq-NYSE for at least five years, without issuing equity for cash during that time. If a nonissuer subsequently issues equity, it is still used as the matching firm. If a nonissuer gets delisted prior to the delisting (or the fifth anniversary), the second-closest matching firm on the original IPO date is substituted, on a point-forward basis. For firms with multiple classes of stock outstanding, market cap is calculated using the offer price and the total number of shares outstanding across all classes of stock as reported in Compustat. Firms with multiple classes of stock are excluded as potential matching candidates. The sample size is 8,610 IPOs from 1980-2019, excluding IPOs with an offer price of less than \$5.00, ADRs, REITs, acquisition funds, closed-end funds, banks and S&Ls, unit offers, small best efforts deals, and oil & gas limited partnerships. IPOs that are not listed on CRSP within six months of the IPO are excluded. If book value numbers are missing so that no style-matched firm is available as a benchmark, the value-weighted market return is used for the matching firm return. Returns are measured through December 31, 2020. For partial event-years that end on this date, the last partial year is deleted from the computations. For example, for an IPO on March 15, 2019, its first-year return is included, but not the second-year return.

Table 20-2**Percentage returns on IPOs from 1980-1989 during the first five years after issuing**

	First six months	Second six months	First year	Second year	Third Year	Fourth year	Fifth year	Geometric mean years 1-5
IPO firms	3.6%	-0.9%	3.4%	9.6%	12.1%	2.3%	8.1%	7.1%
Size-matched	3.7%	3.4%	7.0%	16.6%	16.7%	7.3%	10.1%	11.5%
Difference	-0.1%	-4.1%	-3.6%	-7.0%	-4.6%	-5.0%	-2.0%	-4.4%
IPO firms	3.6%	-0.9%	3.4%	9.6%	12.1%	2.3%	8.1%	7.1%
Size & BM- Matched	-0.1%	1.4%	0.9%	14.6%	9.4%	4.4%	11.2%	7.9%
Difference	3.7%	-2.3%	2.5%	-5.0%	2.7%	-2.1%	-3.1%	-0.8%
No. of IPOs	2,048	2,039	2,047	2,013	1,868	1,706	1,557	

Table 20-3**Percentage returns on IPOs from 1990-1999 during the first five years after issuing**

	First six months	Second six months	First year	Second year	Third Year	Fourth year	Fifth year	Geometric mean years 1-5
IPO firms	12.9%	3.6%	15.0%	7.8%	9.2%	25.5%	12.9%	13.9%
Size-matched	6.6%	8.6%	15.8%	17.8%	16.3%	20.4%	15.9%	17.2%
Difference	6.3%	-5.0%	-0.8%	-10.0%	-7.1%	5.2%	-3.0%	-3.3%
IPO firms	12.9%	3.6%	15.0%	7.8%	9.1%	25.5%	12.9%	13.9%
Size & BM- matched	7.2%	7.4%	14.9%	15.7%	12.3%	24.2%	13.5%	16.1%
Difference	5.7%	-3.8%	0.1%	-7.9%	-3.2%	1.3%	-0.6%	-2.2%
No. of IPOs	4,090	4,084	4,090	4,017	3,638	3,188	2,760	

Table 20-4
Percentage returns on IPOs from 2000-2019 during the first five years after issuing

	First six months	Second six months	First year	Second year	Third year	Fourth year	Fifth year	Geometric mean years 1-5
IPO firms	-1.9%	-1.4%	0.2%	4.8%	19.8%	25.6%	10.1%	11.7%
Size-matched	4.3%	2.9%	7.8%	7.5%	12.4%	17.9%	9.5%	11.0%
Difference	-6.2%	-4.3%	-7.6%	-2.7%	7.4%	7.7%	0.6%	0.7%
IPO firms	-1.9%	-1.4%	0.2%	4.8%	19.8%	25.6%	10.1%	11.7%
Size & BM- matched	1.8%	2.9%	5.2%	7.7%	15.7%	18.2%	13.3%	11.9%
Difference	-3.7%	-4.3%	-5.0%	-2.9%	4.1%	7.4%	-3.2%	-0.2%
No. of IPOs	2,475	2,462	2,473	2,431	2,170	1,822	1,566	

Returns are through December 31, 2020. Thus, the fifth-year returns are only for those IPOs from 2000 to 2015, and the fourth-year returns are only for those IPOs from 2000 to 2016, etc. Note that the fifth-year returns are available only for those IPOs that survived for at least four years.

Table 24 (May 18, 2022)**Long-run Returns on IPOs Categorized by Dual Class Status**

8,775 IPOs from 1980-2020 are used, with returns calculated through the end of December 2021. 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 (Dec. 31 of 2021 for IPOs from 2019 and 2020). 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 1980-2020 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	777	17.7%	45.0%	6.0%	3.8%
Single class	7,998	18.5%	21.6%	-19.4%	-7.9%
1980-2020	8,775	18.4%	23.7%	-17.2%	-6.8%

Panel B: IPOs from 1980-2020 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	240	33.7%	73.7%	41.9%	34.1%
Single class	2,941	31.0%	22.8%	-13.0%	-0.6%
All tech stocks	3,181	31.2%	26.6%	-8.8%	2.1%
Non-tech stocks					
Dual class	537	10.5%	32.2%	-10.1%	-9.7%
Single class	5,057	11.2%	21.0%	-23.2%	-12.1%
All non-tech stocks	5,594	11.1%	22.0%	-22.0%	-11.9%