

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*

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Table 15c (May 22, 2023)**Post-merger Returns on deSPACs, 2012-2022**

This table is an updated version of Table 4 in “SPACs” by Minmo Gahng, Jay R. Ritter, and Donghang Zhang, forthcoming in the *Review of Financial Studies*. reports average equally weighted deSPAC period common share percentage returns based on a buy-and-hold strategy (Equation (3)) in which an investor purchases common shares of a merged company at the close of the first day of trading as a new entity (the deSPAC) and holds them for 1 or 3 years. The year column represents the year of the merger. The sample consists of 447 business combinations consummated between January 2010 and December 2022, after excluding a few deSPACs that were listed OTC rather than on Nasdaq or the NYSE. Returns include dividend yields and capital gains. When the full 1- or 3-year data are not available, we calculate the returns based on available data. For example, if a merged company started to trade in March 2020 and delisted in August 2020, we report the buy-and-hold returns from March 2020 to August 2020 for both one-year and three-year returns (not annualized). Returns end on December 30, 2022, a Friday. The CRSP return is the total return on the CRSP value-weighted market index, matched to each investment period.

For 2022, the returns are for less than 1 year. For 2020 and 2021, the 3-year returns are for less than 3 years.

In 2021, GNRS is not included because this deSPAC was traded OTC. For 2022, MLEC is not included because the deSPAC occurred on the last trading day of the year.

Guilherme Junqueira assisted in the update of this table.

It should be noted that if there is a high redemption rate, the public float after the deSPAC can be quite low until shares that were locked up become available for trading.

Year	Number of IPOs	Average 1-year Return			Average 3-year Buy-and-hold Return		
		deSPACs	Market	Market-adjusted	deSPACs	Market	Market-adjusted
2012	1	-53.2%	20.4%	-73.6%	-98.1%	37.2%	-135.3%
2013	5	-30.1%	17.9%	-48.0%	-41.1%	28.0%	-69.1%
2014	4	-51.6%	5.7%	-57.3%	-89.6%	26.7%	-116.2%
2015	9	-19.5%	0.7%	-20.2%	87.7%	33.1%	54.6%
2016	9	-5.2%	19.0%	-24.2%	-35.1%	40.3%	-75.3%
2017	13	-11.0%	11.7%	-22.6%	-44.5%	30.3%	-74.7%
2018	23	-35.0%	8.8%	-43.8%	-8.1%	51.7%	-59.8%
2019	25	2.0%	8.8%	-6.8%	-25.0%	10.1%	-35.1%
2020	63	-3.0%	32.6%	-35.6%	-54.6%	13.0%	-67.6%
2021	198	-64.2%	-10.3%	-53.9%	-74.2%	-13.8%	-60.4%
2022	101	-58.9%	-5.9%	-53.0%	-58.9%	-5.9%	-53.0%
2012-2022	451	-45.4%	0.6%	-46.0%	-57.3%	0.1%	-57.4%

Table 16 (updated March 8, 2023)**Long-run Returns on IPOs Categorized by the Pre-issue Sales of the Firm, 1980-2021**

All Last Twelve Months (LTM) sales figures for the firms going public have been converted into dollars of January 2022 purchasing power using the Consumer Price Index. 9,089 IPOs from 1980-2021 are used, with returns calculated through the end of December 2022. 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 2022 for IPOs from 2020 and 2021). 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 2022\$)	Number of IPOs	Average First-day Return	Average 3-year Buy-and-hold Return		
			IPOs	Market-adjusted	Style-adjusted
0-9.999 mm	1,766	23.6%	-14.0%	-47.4%	-32.4%
10-19.999 mm	677	27.1%	-1.3%	-38.1%	-17.5%
20-49.999 mm	1,454	24.5%	15.2%	-26.2%	-10.1%
50-99.999 mm	1,405	18.8%	30.5%	-12.1%	-0.6%
100-499.999 mm	2,450	14.5%	39.6%	-0.5%	6.2%
500 mm and up	1,337	10.4%	31.0%	-3.0%	-3.4%
0-99.999 mm	5,302	23.0%	7.4%	-31.1%	-16.0%
100 mm and up	3,787	13.1%	36.6%	-1.4%	2.8%
1980-2021	9,089	18.9%	19.6%	-18.7%	-8.1%

Table 16a (updated March 8, 2023)**Long-run Returns on IPOs Categorized by the Pre-issue Sales of the Firm, 1980-2021**

All Last Twelve Months (LTM) sales figures for the firms going public have been converted into dollars of January 2022 purchasing power using the Consumer Price Index. 9,089 IPOs from 1980-2021 are used, with returns calculated through the end of December, 2022. 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 2022 for IPOs from 2020 and 2021). 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 2021\$)	Number of IPOs	Average First-day Return	Average 3-year Buy-and-hold Return		
			IPOs	Market-adjusted	Style-adjusted
Less than \$1 billion	8,321	19.7%	18.4%	-20.4%	-9.2%
\$1 billion and up	768	9.3%	32.5%	0.2%	3.5%
1980-2021	9,089	18.9%	19.6%	-18.7%	-8.1%

Note: The -18.7% 3-year market-adjusted buy-and-hold return for all IPOs corresponds to an annualized market-adjusted return of -5.0% per year, with an average holding period of 2.8 years, because $1.196/1.383=0.865$ (which is the wealth relative, or public market equivalent), and $0.865^{0.357}=0.950$. The 38.3% buy-and-hold market return is 18.7% above the 19.6% average buy-and-hold return, and 0.357 is equal to $1/2.8$. Alternatively stated, underperformance of 5.0% per year for 2.8 years results in a wealth relative of 0.865.

Table 16b (updated March 8, 2023)

Long-run Returns on IPOs Categorized by the Profitability of the Firm, 1980-2021

All Last Twelve Months (LTM) sales figures for the firms going public have been converted into dollars of January 2022 purchasing power using the Consumer Price Index. 9,089 IPOs (including the 2016 IPO of BATS Global Markets, which listed on BATS) from 1980-2021 are used, with returns calculated through the end of December 31, 2022. 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 2022 for IPOs from 2020 and 2021). 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	3,811	26.6%	-0.3%	-27.8%	-22.3%
Profitable	5,278	13.3%	34.0%	-12.1%	2.1%
Sales less than \$100 million (\$2022)					
Unprofitable	2,866	29.5%	-8.7%	-36.9%	-28.3%
Profitable	2,436	15.4%	26.5%	-24.2%	-1.4%
All less than \$100m	5,302	23.0%	7.4%	-31.1%	-16.0%
Sales more than \$100 million (\$2022)					
Unprofitable	945	17.5%	25.1%	-0.2%	-4.0%
Profitable	2,842	11.6%	40.4%	-1.8%	5.1%
All more than \$100m	3,787	13.1%	36.6%	-1.4%	2.8%
1980-2021	9,089	18.9%	19.6%	-18.7%	-8.1%

Table 16c (updated March 5, 2023)
Long-run Returns Measured from the Offer Price on Tech and non-Tech Stock IPOs
Excluding the Internet Bubble, 1980-2020

Panel A: IPOs from 1980-2021, 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	2,673	19.9%	72.7%	26.9%	45.9%
Non-Tech	5,558	11.3%	32.0%	-11.8%	0.5%
All	8,231	14.1%	45.2%	0.8%	15.2%

Panel B: Categorized by sales and industry (sales in \$2021)

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	1,838	18.8%	70.7%	19.9%	44.4%
Non-Tech	2,927	12.2%	16.4%	-28.5%	-10.7%
Sales > \$100 million					
Tech	835	19.8%	78.5%	43.6%	50.7%
Non-Tech	2,633	9.4%	46.8%	4.1%	10.4%

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	1,010	17.6%	70.6%	15.2%	43.0%
Non-Tech	1,452	11.8%	28.8%	-22.5%	0.2%
Sales > \$100 million					
Tech	467	16.3%	93.6%	50.0%	60.1%
Non-Tech	2,161	9.3%	49.2%	4.7%	12.6%

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	828	22.8%	64.4%	19.2%	39.7%
Non-Tech	1,475	14.5%	4.1%	-34.3%	-21.5%
Sales > \$100 million					
Tech	368	24.4%	63.1%	39.3%	42.4%
Non-Tech	472	9.8%	35.3%	0.8%	-0.5%

Table 16d (updated March 8, 2023)
**Long-run Returns Measured from the First Closing Market Price on Tech and non-Tech
Stock IPOs Excluding the Internet Bubble, 1980-2021**

Panel A: IPOs from 1980-2020, 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	2,673	19.9%	42.1%	-3.8%	15.3%
Non-Tech	5,560	11.3%	20.0%	-23.9%	-11.6%
All	8,233	14.1%	27.1%	-17.3%	-2.9%

Panel B: Categorized by sales and industry (sales in \$2021)

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	1,838	20.0%	36.8%	-14.0%	10.5%
Non-Tech	2,927	13.1%	6.2%	-38.6%	-20.9%
Sales > \$100 million					
Tech	883	19.9%	52.7%	17.2%	24.1%
Non-Tech	2,716	9.4%	34.5%	-8.3%	-1.9%

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	1,010	17.6%	42.4%	-13.0%	14.7%
Non-Tech	1,452	11.8%	18.2%	-33.1%	-10.5%
Sales > \$100 million					
Tech	498	16.3%	65.1%	20.6%	31.2%
Non-Tech	2,237	9.3%	36.6%	-8.0%	0.0%

Panel D: Unprofitable issuers, categorized by sales and industry

LTM Sales	Number of IPOs	Average First-day Return	Average 3-year Buy-and-hold Return		
			IPOs	Market- adjusted	Style- adjusted
Sales < \$100 million					
Tech	828	22.8%	29.9%	-15.2%	5.2%
Non-Tech	1,475	14.5%	-5.6%	-44.1%	-31.2%
Sales > \$100 million					
Tech	385	24.4%	36.7%	13.0%	14.9%
Non-Tech	479	9.8%	24.8%	-9.7%	-10.9%

Table 16e (September 20, 2023)**Distribution of 3-year and 5-year Buy-and-Hold Returns on IPOs, 1975-2019**

8,717 IPOs from 1975-2019 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 17.8%, with an average 3-year buy-and-hold return (BHR) of 25.0%, measured from the first close, and 42.6%, measured from the offer price. In Panel B, the average first-day return is 12.2%, with a subsequent average 3-year buy-and-hold return of 42.9%, 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 8,717 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%	3,225	37.0%	2,943	33.8%
-50%<BHR≤0%	1,882	21.6%	1,825	20.9%
0%<BHR≤50%	1,300	14.9%	1,305	15.0%
50%<BHR≤100%	852	9.8%	894	10.3%
100%<BHR≤200%	749	8.6%	861	9.9%
200%<BHR≤500%	548	6.3%	669	7.7%
500%<BHR≤1,000%	122	1.4%	158	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%
1975-2019	8,717	100.0%	8,717	100.0%

Panel B: 3,619 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%	866	23.9%	775	21.4%
-50%<BHR≤0%	808	22.3%	759	21.0%
0%<BHR≤50%	707	19.5%	685	18.9%
50%<BHR≤100%	493	13.6%	498	13.8%
100%<BHR≤200%	425	11.7%	494	13.7%
200%<BHR≤500%	266	7.4%	334	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%
1975-2019	3,619	100.0%	3,619	100.0%

Table 16e (continued)

The average first-day return in Panel C is 17.8%, with an average 5-year buy-and-hold return (BHR) of 41.1%, measured from the first close, and 60.8%, measured from the offer price. In Panel D, the average first-day return is 12.2%, with a subsequent average 5-year buy-and-hold return of 61.9%, measured from the first close, and 80.7%, 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 2018 and 2019 cohorts, returns are calculated through Friday, Dec. 30, 2022 unless an IPO was delisted earlier. Columns may not add to 100% due to rounding.

Panel C: All 8,717 IPOs from 1975-2019

5-year buy-and-hold return	From the first close		From the offer price	
	Number of IPOs	Percentage	Number of IPOs	Percentage
BHR<-50%	3,606	41.4%	3,362	38.6%
-50%<BHR≤0%	1,568	18.0%	1,516	17.4%
0%<BHR≤50%	1,088	12.5%	1,085	12.4%
50%<BHR≤100%	740	8.5%	781	9.0%
100%<BHR≤200%	799	9.2%	856	9.8%
200%<BHR≤500%	635	7.3%	768	8.8%
500%<BHR≤1,000%	187	2.1%	222	2.5%
1,000%<BHR≤2,000%	71	0.8%	89	1.0%
2,000%<BHR≤3,000%	13	0.1%	25	0.3%
3,000%<BHR	10	0.1%	13	0.1%
1975-2019	8,717	100.0%	8,717	100.0%

Panel D: 3,619 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%	1,024	28.3%	934	25.8%
-50%<BHR≤0%	693	19.1%	675	18.7%
0%<BHR≤50%	569	15.7%	538	14.9%
50%<BHR≤100%	428	11.8%	437	12.1%
100%<BHR≤200%	454	12.5%	478	13.2%
200%<BHR≤500%	334	9.2%	410	11.3%
500%<BHR≤1,000%	79	2.2%	96	2.7%
1,000%<BHR≤2,000%	33	0.9%	40	1.1%
2,000%<BHR≤3,000%	4	0.1%	9	0.2%
3,000%<BHR	1	0.0%	2	0.1%
1975-2019	3,619	100.0%	3,619	100.0%

Table 16f (updated March 8, 2023)**Aftermarket Returns with and without Including the First-day Return**

9,089 IPOs from 1980-2021 are used, with returns calculated through December 30, 2022. 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 2022 for IPOs from 2020 and 2021). 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, 1980-2021**

Sector	Number of IPOs	Average First-day Return	Average 3-year Buy-and-hold Return		
			IPOs	Market-adjusted	Style-adjusted
Tech	3,304	31.3%	49.7%	16.4%	28.0%
Non-Tech	5,785	11.8%	29.5%	-11.8%	-1.7%
All	9,089	18.9%	36.8%	-1.5%	9.1%

Panel B:**Long-run Returns Measured from the First Close on Tech and non-Tech IPOs, 1980-2021**

Sector	Number of IPOs	Average First-day Return	Average 3-year Buy-and-hold Return		
			IPOs	Market-adjusted	Style-adjusted
Tech	3,304	31.3%	21.5%	-11.5%	-0.1%
Non-Tech	5,785	11.8%	18.5%	-22.8%	-12.7%
All	9,089	18.9%	19.6%	-18.7%	-8.1%

Table 17 (updated June 16, 2023)**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 1980-2021 are used, with returns calculated through the end of December 2022. In Panel A, the sample size is 9,089 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 (2022 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 2022 for IPOs from 2021). 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 1980-2021 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	3,659	27.0%	21.6%	-11.5%	-2.8%
NonVC-backed	5,430	13.4%	18.2%	-23.5%	-11.7%
NonVC and nonBuyout	4,200	14.5%	15.1%	-30.5%	-15.1%
1980-2021	9,089	18.9%	19.6%	-18.7%	-8.1%

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 (2022 purchasing power) from 1980-2021 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	1,174	9.5%	29.9%	0.9%	3.1%
NonBuyout-backed	4,018	16.1%	36.4%	-5.8%	1.5%
All	5,192	14.6%	34.9%	-4.3%	1.9%

Table 17a (updated June 16, 2023)**Long-run Returns on IPOs Categorized by VC-, Growth Capital-, or Buyout Fund-backing**

9,089 IPOs from 1980-2021 are used, with returns calculated through the end of December 2021. Buy-and-hold returns are calculated from the first closing price until the earlier of the three-year anniversary or the delisting date (Friday, Dec. 30 of 2022 for IPOs from 2020 and 2021). 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	3,195	28.8%	18.6%	-13.3%	-4.0%
Growth capital-backed	464	14.4%	42.6%	0.6%	5.0%
Buyout-backed	1,230	9.5%	29.0%	0.2%	0.0%
Financial Sponsored	4,889	22.6%	23.5%	-8.6%	-2.1%
Non-Financial Sponsored	4,200	14.5%	15.1%	-30.5%	-15.1%
All	9,089	18.9%	19.6%	-18.7%	-8.1%

Note: The high average 3-year buy-and-hold return for growth capital-backed IPOs is partly attributable, in a mechanical sense, to the six 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 Soletron (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 June 16, 2023)**Long-run Returns on IPOs Categorized by VC-backing, by Subperiod**

The sample is composed of 9,089 IPOs from 1980-2021, with returns calculated through the end of December 2022. 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 2022 for IPOs from 2020 and 2021). 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 1980-2021 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	3,659	27.0%	21.6%	-11.5%	-2.8%
NonVC-backed	5,430	13.4%	18.2%	-23.5%	-11.7%
All	9,089	18.9%	19.6%	-18.7%	-8.1%

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	513	8.6%	31.9%	-14.0%	14.0%
NonVC-backed	1,534	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	1,266	17.3%	60.7%	-1.1%	27.0%
NonVC-backed	2,350	13.5%	28.4%	-31.8%	-14.9%
All	3,616	14.8%	39.7%	-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	525	80.9%	-62.3%	-40.5%	-62.5%
NonVC-backed	331	38.7%	-38.6%	-17.9%	-53.3%
All	856	64.6%	-53.1%	-31.8%	-58.9%

Panel E: IPOs from 2001-2021

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	1,355	22.2%	13.7%	-9.0%	-14.0%
NonVC-backed	1,215	14.6%	12.6%	-6.7%	-6.8%
All	2,570	18.6%	13.1%	-8.0%	-10.6%

Table 18a**Long-run Returns on IPOs Categorized by VC-backing and Real Sales**

The sample is composed of 9,088 IPOs from 1980-2021, with returns calculated through the end of December 2022. 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 in Panels A and B, and from the offer price in Panels C and D, until the earlier of the three-year anniversary or the delisting date (Dec. 30 of 2022 for IPOs from 2020 and 2021). 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. Sales are the trailing twelve month revenues listed in the IPO prospectus, measured in terms of dollars of January 2022 purchasing power using the CPI.

Panel A: IPOs with Sales<\$100 million from 1980-2021 categorized by VC-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	2,710	28.6%	12.4%	-19.9%	-8.1%
NonVC-backed	2,582	17.1%	2.4%	-42.7%	-24.1%
All	5,292	23.0%	7.5%	-31.0%	-15.9%

Panel B: IPOs with Sales>\$100 million from 1980-2021 categorized by VC-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	949	22.5%	48.1%	12.5%	12.2%
NonVC-backed	2,847	10.0%	32.6%	-6.1%	-0.5%
All	3,796	13.1%	36.4%	-1.5%	2.7%

Panel C: IPOs with Sales<\$100 million, with returns measured from the offer price

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	2,710	28.6%	34.9%	2.6%	14.4%
NonVC-backed	2,582	17.1%	15.4%	-29.7%	-11.1%
All	5,292	23.0%	25.4%	-13.2%	2.0%

Panel D: IPOs with Sales>\$100 million, with returns measured from the offer price

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	949	22.5%	78.4%	42.8%	42.5%
NonVC-backed	2,847	10.0%	44.3%	5.6%	11.2%
All	3,796	13.1%	52.8%	14.9%	19.0%

Table 18b

Long-run Returns on VC-backed and other IPOs Segmented by Industry, 1980-2021

This table appears as Table 7 in “Going Public with IPOs and SPAC Mergers” by Rongbing Huang, Jay R. Ritter, and Donghang Zhang, forthcoming in *Research Handbook on the Structure of Private Equity and Venture Capital*. 9,089 IPOs from 1980-2021 are used, with returns calculated through December 30, 2022. 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. 30 of 2022 for IPOs from 2020 and 2021). The captions to Tables 2 and 6 of the book chapter provide industry classification details. Market-adjusted returns use the CRSP value-weighted index. Style adjustments use firms matched by market cap and book-to-market ratio with at least five years of CRSP listing and no follow-on equity issues in the prior five years. The market-adjusted and style-adjusted returns are the average buy-and-hold return on the IPOs minus the average compounded return on the benchmark.

Panel A: Long-run Returns on VC-backed IPOs, by Industry, 1980-2021

Sector	Number of IPOs	Average First-day Return	Average 3-year Buy-and-hold Return		
			IPOs	Market-adjusted	Style-adjusted
Tech	1,991	37.3%	25.8%	-4.0%	5.7%
Life science	776	15.7%	9.2%	-20.2%	-18.4%
Other	892	14.3%	23.1%	-20.7%	-8.3%
All	3,659	27.0%	21.6%	-11.5%	-2.8%

Panel B: Long-run Returns on nonVC-backed IPOs, by Industry, 1980-2021

Sector	Number of IPOs	Average First-day Return	Average 3-year Buy-and-hold Return		
			IPOs	Market-adjusted	Style-adjusted
Tech	1,314	22.2%	14.9%	-22.9%	-9.1%
Life science	195	17.0%	37.4%	5.0%	28.2%
Other	3,921	10.2%	18.4%	-25.2%	-14.6%
All	5,430	13.4%	18.2%	-23.5%	-11.7%

Note: The high life science 3-year buy-and-hold return for the 195 nonVC-backed IPOs in Panel B is partly driven by the 2,444.8% return on the June 1980 IPO of Enzo Biochem and the 1,606.1% return on the August 2003 IPO of New River Pharmaceutical, which used a WR Hambrecht + Co auction to go public. Of the 971 life science IPOs during 1980-2021, these are two of the three top long-run performers, with the VC-backed July 1998 IPO of Abgenix being the third, with a 2,071.1% return. Moderna, a December 2018 VC-backed IPO, produced the fifth-highest return.

Table 18c**Long-run Returns on VC-backed and other IPOs Segmented by Industry, 1999-2021**

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

3,426 IPOs from 1999-2021 are used, with returns calculated through December 30, 2022. See the captions to Tables 2 and 6 in the book chapter above for a description of the sample and industry definitions.

Panel A: Long-run Returns on VC-backed IPOs, by Industry, 1999-2021

Sector	Number of IPOs	Average First-day Return	Average 3-year Buy-and-hold Return		
			IPOs	Market-adjusted	Style-adjusted
Tech	1,029	54.4%	-15.0%	-18.2%	-28.2%
Life science	567	18.0%	2.2%	-17.4%	-24.2%
Other	284	22.3%	0.1%	-17.3%	-31.5%
All	1,880	38.6%	-7.5%	-17.8%	-27.5%

Panel B: Long-run Returns on nonVC-backed IPOs, by Industry, 1999-2021

Sector	Number of IPOs	Average First-day Return	Average 3-year Buy-and-hold Return		
			IPOs	Market-adjusted	Style-adjusted
Tech	453	33.1%	-22.4%	-21.7%	-34.9%
Life science	109	20.8%	5.2%	-8.9%	-8.3%
Other	892	13.4%	12.2%	-3.3%	-9.3%
All	1,546	19.7%	1.6%	-9.1%	-16.7%

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 1980-2021
(Updated March 5, 2023)

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 30, 2022 (a Friday). Buy-and-hold returns for initial public offerings (IPOs) occurring after Dec. 31, 2021 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.

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	113	23.5%	33.0%	12.5%	-25.1%	-24.6%
2020	165	41.6%	9.7%	-47.6%	-63.8%	-67.4%
2021	311	32.1%	-49.2%	-56.4%	-44.3%	-33.1%
1980-1989	2,047	7.2%	3.4%	22.5%	-22.6%	2.2%
1990-1998	3,616	14.8%	14.0%	39.7%	-21.0%	-0.2%
1999-2000	856	64.6%	-11.2%	-53.1%	-31.8%	-58.9%
2001-2010	1,010	11.6%	6.7%	17.1%	2.2%	-7.6%
2011-2021	1,560	23.1%	-0.1%	10.6%	-14.5%	-12.5%
1980-2021	9,089	18.9%	6.0%	19.6%	-18.7%	-8.1%

Table 20
Returns on IPOs during the five years after issuing, for IPOs from 1980-2021

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 2.2% per year on an equally weighted basis. Returns are through Dec. 30, 2022. (updated March 5, 2023)

Table 20-1
Percentage returns on IPOs from 1980-2021 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	5.5%	-0.1%	6.0%	6.4%	12.3%	18.8%	10.5%	10.7%
Size-matched	5.7%	5.3%	11.5%	14.6%	15.6%	17.0%	12.8%	14.3%
Difference	-0.2%	-5.4%	-5.5%	-8.2%	-3.3%	2.8%	-2.3%	-3.6%
IPO firms	5.5%	-0.1%	6.0%	6.4%	12.3%	18.8%	10.5%	10.7%
Size & BM- Matched	4.4%	4.1%	8.7%	12.8%	12.6%	17.4%	13.0%	12.9%
Difference	1.1%	-4.2%	-2.7%	-6.4%	-0.3%	1.4%	-2.5%	-2.2%
No. of IPOs	9,089	9,067	9,089	8,628	7,787	6,839	5,978	

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 first recorded post-issue book value and the post-issue market cap 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 9,089 IPOs from 1980-2021, 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. For IPOs from 1980 and later, 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 30, 2022. 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, 2021, 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%	-0.8%	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%	-4.2%	-3.6%	-7.0%	-4.6%	-5.0%	-2.0%	-4.4%
IPO firms	3.6%	-0.8%	3.4%	9.6%	12.1%	2.3%	8.1%	7.1%
Size & BM- Matched	-0.1%	1.5%	0.9%	14.6%	9.4%	4.4%	11.1%	7.9%
Difference	3.7%	-2.3%	2.5%	-5.0%	2.7%	-2.1%	-3.0%	-0.8%
No. of IPOs	2,047	2,041	2,047	2,013	1,868	1,706	1,558	

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%	14.9%	7.8%	9.2%	25.6%	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%	-0.9%	-10.0%	-7.1%	5.2%	-3.0%	-3.3%
IPO firms	12.9%	3.6%	14.9%	7.8%	9.1%	25.6%	12.9%	13.9%
Size & BM- matched	7.1%	7.4%	14.9%	15.7%	12.2%	24.4%	13.6%	16.1%
Difference	5.8%	-3.8%	0.0%	-7.9%	-3.1%	1.2%	-0.7%	-2.2%
No. of IPOs	4,092	4,087	4,092	4,019	3,640	3,190	2,763	

Table 20-4**Percentage returns on IPOs from 2000-2021 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%	-4.9%	-4.5%	1.9%	17.5%	22.1%	8.8%	8.7%
Size-matched	5.7%	2.2%	8.8%	8.1%	13.7%	19.8%	10.1%	12.0%
Difference	-9.3%	-7.1%	-13.3%	-6.2%	3.8%	2.3%	-1.3%	-3.3%
IPO firms	-3.6%	-4.9%	-4.5%	1.9%	17.5%	22.1%	8.8%	8.7%
Size & BM- matched	3.8%	1.5%	5.5%	7.0%	15.9%	17.4%	13.8%	11.8%
Difference	-7.4%	-6.4%	-10.0%	-5.1%	1.6%	2.7%	-5.0%	-3.1%
No. of IPOs	2,950	2,939	2,950	2,596	2,279	1,943	1,657	

Returns are through December 30, 2022. Thus, the fifth-year returns are only for those IPOs from 2000 to 2017, and the fourth-year returns are only for those IPOs from 2000 to 2018, etc. Note that the fifth-year returns are available only for those IPOs that survived for at least four years.

Table 24 (April 24, 2023)

Long-run Returns on IPOs Categorized by Dual Class Status

9,089 IPOs from 1980-2021 are used, with returns calculated through the end of December 2022. IPOs with an offer price below \$5.00 per share, unit offers, small best efforts offerings, ADRs, REITs, closed-end funds, natural resource limited partnerships (all of which have dual class structures), banks and S&Ls, and IPOs not listed on CRSP within six months of the offer date are excluded. Buy-and-hold returns are calculated from the first close until the earlier of the three-year anniversary or the delisting date (the end December of 2022 for IPOs from 2020 and 2021). 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 1980-2021 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	879	20.3%	29.7%	-1.7%	-0.8%
Single class	8,210	18.7%	18.5%	-20.5%	-8.9%
1980-2020	9,089	18.9%	19.6%	-18.7%	-8.1%

Panel B: IPOs from 1980-2021 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	295	34.1%	41.0%	20.0%	19.4%
Single class	3,009	31.0%	19.6%	-14.6%	-2.1%
All tech stocks	3,304	31.3%	21.5%	-11.5%	-0.1%
Non-tech stocks					
Dual class	584	13.3%	24.1%	-12.7%	-11.0%
Single class	5,201	11.6%	17.9%	-23.9%	-12.9%
All non-tech stocks	5,785	11.8%	18.5%	-22.8%	-12.7%