

Internet Appendix to:

JOURNAL OF FINANCIAL AND QUANTITATIVE ANALYSIS Vol. 48, No. 6, Dec. 2013, pp. 1663–1692
doi:10.1017/S0022109014000015

Where Have All the IPOs Gone?

Xiaohui Gao, Jay R. Ritter, and Zhongyan Zhu

Appendix: Post-IPO profitability categorized by industry

Given that the industry composition of IPOs changes over time, how robust are the declining small firm profitability patterns that are documented in Table 2? In Appendix Table A-1, we categorize IPOs by the pre-issue sales and time period, and report the fraction of IPO firm fiscal years with negative EPS in the three fiscal years after the IPO. In other words, Appendix Table A-1 sorts recent IPOs by IPO year cohort, whereas Table 2 sorted by fiscal years. As we do throughout the paper, we classify small and large company IPOs using \$50 million in inflation-adjusted (2009 purchasing power) pre-IPO annual revenue as the cutoff, irrespective of how much money was raised in the IPO and irrespective of the equity market capitalization. For each IPO in calendar year t , we then search for the EPS numbers for the first three fiscal years after the IPO, conditional on the first fiscal year ending more than six months after the IPO.¹ We then tabulate the number of fiscal years with either negative or nonnegative EPS.

¹ Our purpose is to show profitability after the IPO, not including fiscal years that had the majority of the months prior to the IPO. For example, an IPO in March 1983 with a fiscal year ending in October 1983 would have fiscal 1983 as the first post-IPO fiscal year, but if the fiscal year ended in September, we would use fiscal 1984 as the first post-IPO fiscal year. More generally, if a company goes public in 1983, the first post-IPO fiscal year could be fiscal 1983, 1984, or 1985, with the latter being the case for a November 1983 IPO with a fiscal year ending in January through April. If the first post-IPO fiscal year is 1985, we use 1985 EPSPX (earnings per share before extraordinary items). If the Compustat EPSPX number for fiscal 1985 is not available, we use the available EPSPX number in 1984, or 1983, or the last 12 months EPS prior to the IPO from Jay Ritter's database, in decreasing order.

In Appendix Table A-1, we report subperiod results for the percentage of fiscal years with negative EPS for the IPOs from each cohort. For example, for the 73 IPOs from 1980, there are theoretically as many as $3 \times 73 = 219$ post-IPO fiscal years, although in practice there are only 200 due to missing Compustat data and early delistings. Panel A reports that of the available fiscal years for the 1980-2000 IPO cohorts, 58% of small company IPOs and 23% of large company IPOs have negative EPS. In 2001-2011, 73% of these post-IPO fiscal years are unprofitable for small companies, whereas only 24% of post-IPO fiscal years are unprofitable for large companies.

Additionally, we separately report the frequency of negative EPS for small and large company IPOs for tech and biotech firms (Panel B of Appendix Table A-1) and for firms in all other industries (Panel C of Appendix Table A-1). Inspection of the panels shows that the increasing unprofitability of small company IPOs is not entirely driven by tech and biotech firms. The non-tech firms in Panel C show a smaller, but still upward, trend in the percentage of firms reporting losses.

Overall, we conclude that small company IPOs exhibit declining profitability for both of these broadly defined industry groupings.

Appendix Table A-1

Number of Post-IPO Fiscal Years with Nonnegative and Negative EPS, by Industry

This table reports operating performance up to 3 fiscal years after the IPO for small and large firms, categorized by (i) all IPOs (Panel A), (ii) tech and biotech IPOs (Panel B), and (iii) IPO firms in other industries (Panel C) We use earnings per share (Compustat variable EPSPX: Basic Earnings Per Share Excluding Extraordinary Items) to classify each fiscal year into nonnegative and negative categories. Small and large IPO firms are identified by the last twelve months (LTM) sales prior to the IPO, with \$50 million in 2009 purchasing power being the cutoff number. We identify the first post-IPO fiscal year as the first fiscal year ending at least six months after the IPO. Consequently, the first post-IPO fiscal year may be a different calendar year than the IPO year (this is always true for IPOs conducted during July-December). To classify firms by industry, we use the SIC code from the Thomson Reuters new issues database showing the industry to which a company belongs at the time of the IPO. All internet-related firms are classified as technology firms. For the 233 IPOs for which Compustat's EPSPX is missing for $t=+1$, we use the LTM EPS. In our calculations, the sum of "EPS \geq 0" and "EPS $<$ 0" is up to three times the number of IPOs. For firms that do not have Compustat-listed EPSPX information for post-IPO fiscal years 2 and/or 3, there are fewer than three observations per firm. For example, the top row of Panel A reports that of 1,087 small company IPOs from 1980-1989, 1,652 of the reported fiscal years in years +1 to +3 had nonnegative EPS, and 1,204 (42%) had negative EPS.

IPO year	Small firm IPOs (sales < \$50m)				Large firm IPOs (sales > \$50m)			
	No.	EPS ≥ 0	EPS < 0	% < 0	No.	EPS ≥ 0	EPS < 0	% < 0
Panel A: All IPO firms								
1980-1989	1,087	1,652	1,204	42%	960	2,034	479	19%
1990-1998	1,784	1,963	2,721	58%	1,831	3,822	1,052	22%
1999-2000	603	158	1,264	89%	255	311	338	52%
2001-2011	316	207	557	73%	777	1,420	448	24%
1980-2000	3,474	3,773	5,189	58%	3,046	6,167	1,869	23%
2001-2011	316	207	557	73%	777	1,420	448	24%
Panel B: Tech and Biotech IPO firms								
1980-1989	506	767	608	44%	170	370	99	21%
1990-1998	1,001	940	1,729	65%	409	759	344	31%
1999-2000	558	128	1,186	90%	139	100	242	71%
2001-2011	234	120	434	78%	264	396	195	33%
Panel C: IPO firms in all other industries								
1980-1989	581	885	596	40%	790	1,664	380	19%
1990-1998	783	1,023	992	49%	1,422	3,063	708	19%
1999-2000	45	30	78	72%	116	211	96	31%
2001-2011	82	87	123	59%	513	1,024	253	20%

Appendix Table A-2

Quarterly Time Series Regressions of Scaled IPO Volume with Market Conditions Variables, 1975 to 2011

This table reports the results of maximum likelihood estimation of the Table 6 regression, with two added variables. *Nasdaq return in (t-1) × Low past IPO volume dummy* is the product of the Nasdaq return in quarter (t-1) and a low past IPO volume dummy. The low past IPO volume dummy is defined as one if the average quarterly IPO volume in quarters [t-8, t-1] is below the sample median, and equals zero otherwise. *VC investment in [t-24, t-13]* is the average annual VC investment in billions, scaled by annual GDP in trillions, in year -3 to year -6 (quarters -13 to -24). For example, in the first quarter in 1997, the average annual GDP-adjusted VC investment of 0.5284) in year 1992 to 1994 is used. The sample average value of lagged VC investment is 1.538. The rest of the variables are defined the same as in Table 6. The correlation of the time trend variable and the lagged VC investment variable is 0.71. The t-statistics are reported in parentheses below the coefficients.

$$\begin{aligned}
 \text{IPO Volume}_t = & \alpha + \beta_1 \times \text{Time trend} + \beta_2 \times \text{SOX dummy} + \beta_3 \times (\text{Nasdaq return}_{t-1} \times \text{Low past IPO volume dummy}) \\
 & + \beta_4 \times \text{VC investment}_{t-24,t-13} + \beta_5 \times \text{Real GDP growth}_{t,t+3} \\
 & + \beta_6 \times \text{Future Nasdaq return}_{t+1,t+4} + \beta_7 \times \text{Closed-end fund discount}_{t-4} \\
 & + \beta_8 \times \text{Log M/B for small firms}_{t-2} + \beta_9 \times \text{Nasdaq return}_{t-1} + \beta_{10} \times \text{IPO initial return}_{t-1} \\
 & + \beta_{11} \times \text{Percentage of small public firms with negative EPS}_{t-1} + \beta_{12} \times \text{Quarter 1 dummy} + \varepsilon_t, \\
 \varepsilon_t = & \rho \times \varepsilon_{t-1} + u_t, \quad u_t \sim N(0, \sigma^2),
 \end{aligned}$$

Panel A: Quarterly time series analysis of IPO volume

	Measures of the dependent variable, IPO volume			
	IPOs/Real GDP	Small firm IPOs/Real GDP	Large firm IPOs/Real GDP	Small firm IPOs/IPOs
	(Model 1)	(Model 2)	(Model 3)	(Model 4)
Time trend	-3.77 (-0.81)	-2.22 (-0.80)	-1.70 (-0.75)	-0.18 (-1.44)
SOX dummy	0.51 (0.27)	0.08 (0.07)	0.39 (0.39)	0.00 (0.05)
Nasdaq return in (t-1)× Low past IPO volume dummy	-0.48 (-0.17)	0.19 (0.14)	0.10 (0.09)	0.02 (0.15)
VC investment in [t-24, t-13]	-0.93 (-1.25)	-0.56 (-1.27)	-0.35 (-0.95)	-0.03 (-1.17)
Real GDP growth (%) in [t, t+3]	0.03 (1.12)	0.02 (1.08)	0.01 (0.97)	0.00 (0.73)
Future Nasdaq return in [t+1, t+4]	-5.10 (-4.30)	-3.07 (-4.43)	-2.00 (-3.34)	0.03 (0.58)
Closed-end fund discount in (t-4)	-0.17 (-1.55)	-0.12 (-1.84)	-0.05 (-0.93)	-0.01 (-1.79)
Log M/B for small firms in (t-2)	2.73 (2.23)	1.73 (2.41)	1.08 (1.64)	0.22 (4.34)
Nasdaq return in [t-2,t-1]	3.79 (2.50)	1.94 (2.19)	1.75 (2.27)	0.02 (0.30)
IPO initial return in (t-1)	-1.73 (-0.70)	-1.77 (-1.23)	-0.13 (-0.10)	0.06 (0.51)
Percentage of small public firms with negative EPS in (t-1)	0.08 (0.63)	0.04 (0.51)	0.04 (0.73)	-0.00 (-0.93)
Quarter 1 dummy	-1.65 (-4.67)	-0.70 (-3.38)	-0.96 (-5.28)	0.02 (1.07)
AR(1) coefficient, ρ	0.50 (6.70)	0.53 (7.22)	0.50 (6.57)	0.31 (3.80)
Constant	6.08 (1.38)	3.64 (1.40)	2.27 (1.04)	0.55 (3.32)
Pseudo R-squared	78.3%	78.4%	74.5%	64.6%
Durbin-Watson	2.07	1.97	2.18	2.02