A Hard Look at SPAC Projections

ONLINE APPENDIX

Online Appendix

Table A – Forecast error scaled by target firm assets

Panel A: Forecast accuracy by horizon

				Forecast error (actual revenue minus forecasted revenue) scaled by Assets							
		Percentage	Error/Assets	Percentage below forecast				Percentage above forecast			
	n	meets/beats	mean[median]	< -20%	[-20% to -10%)	[-10% to -2.5%)	[-2.5% to 0%)	[0% to 2.5%)	[2.5% to 10%)	[10% to 20%)	>= 20%
1-year ahead forecasts	102	42%	-13%[0%]	16%	5%	17%	20%	22%	13%	1%	6%
2-year ahead forecasts	39	21%	-22%[-6%]	28%	13%	28%	10%	3%	8%	5%	5%
3-year ahead forecasts	10	10%	-88%[-29%]	60%	30%	0%	0%	0%	0%	10%	0%
4-year ahead forecasts	1	0%	-175%[-175%]	100%	0%	0%	0%	0%	0%	0%	0%
All forecasts	152	35%	-23%[-2%]	22%	8%	18%	17%	16%	11%	3%	5%
Diff = Multi-year – 1-year		–24%***	–26%***								

Panel B: Cumulative Forecast accuracy by horizon

				Cumulative forecast error (actual revenue minus forecasted revenue) scaled by Assets							
		Percentage	Error/Assets	Percentage below forecast				Percentage above forecast			
	n	meets/beats	mean[median]	< -20%	[-20% to -10%)	[-10% to -2.5%)	[-2.5% to 0%)	[0% to 2.5%)	[2.5% to 10%)	[10% to 20%)	>= 20%
1-year ahead forecasts	102	42%	-13%[0%]	16%	5%	17%	20%	22%	13%	1%	6%
2-year ahead forecasts	39	18%	-34%[-8%]	36%	8%	26%	12%	5%	8%	0%	5%
3-year ahead forecasts	10	10%	-124%[-54%]	80%	10%	0%	0%	0%	0%	0%	10%
4-year ahead forecasts	1	0%	-442%[-442%]	100%	0%	0%	0%	0%	0%	0%	0%
All forecasts	152	34%	-31%[-2%]	26%	6%	18%	16%	16%	11%	1%	6%
Diff = Multi-year – 1-year		–26%***	–45%***								

Notes: As referenced in footnote 5 of our paper, this table presents our results from Panels A and B of Table 3 when scaling the forecast errors by the target firm's pre-merger assets rather than its projected revenues. *** denotes two-tailed statistical significance at 1%, ** at 5%, and * at 10%.

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Table B – Forecast accuracy by projected revenue growth

Panel A: Forecast accuracy by projected revenue growth

	n	Percentage meets/beats	Forecast Error mean[median]	Forecast error (actual revenue minus forecasted revenue) scaled by forecasted revenue: Percentage below forecast				Percentage above forecast			
				< -50%	[-50 to -25%)	[-25% to -10%)	[-10% to 0%)	[0% to 10%)	[10% to 25%)	[25% to 50%)	>= 50%
Group 1 (lowest)	38	47%	-5%[-1%]	11%	3%	13%	26%	37%	0%	5%	5%
Group 2	38	34%	-8%[-3%]	5%	11%	13%	37%	24%	5%	5%	0%
Group 3	38	37%	-11%[-4%]	11%	13%	13%	26%	24%	5%	5%	3%
Group 4 (highest)	38	18%	-34%[-20%]	40%	5%	5%	32%	15%	0%	3%	0%
All Forecasts	152	35%	-14%[-4%]	16%	8%	11%	30%	25%	3%	5%	2%
Diff: Group 4 – Group 1		-29%***	-29%***								

Panel B: Cumulative Forecast accuracy by projected revenue growth

	n	Percentage meets/beats	Forecast Error mean[median]	Cumulative forecast error (actual revenue minus forecasted revenue) scaled by forecasted revenue: Percentage below forecast				Percentage above forecast			
				< -50%	[-50 to -25%)	[-25% to -10%)	[-10% to 0%)	[0% to 10%)	[10% to 25%)	[25% to 50%)	>= 50%
Group 1 (lowest)	38	42%	-9%[-2%]	11%	8%	13%	26%	34%	0%	5%	3%
Group 2	38	42%	-6%[-1%]	5%	8%	8%	37%	34%	0%	8%	0%
Group 3	38	32%	-15%[-5%]	13%	18%	8%	29%	24%	3%	5%	0%
Group 4 (highest)	38	18%	-28%[-9%]	29%	11%	8%	34%	15%	0%	3%	0%
All Forecasts	152	34%	-16%[-4%]	15%	11%	9%	31%	27%	1%	5%	1%
Diff: Group 4 – Group 1		-24%**	-19%**								

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Table C – Robustness to the use of entropy balancing

Panel A - SPAC and entropy-weighted matched sample comparison

	SPAC				Matched				Comparison of Means
	n	Mean	S.D.	Mdn	n	Mean	S.D.	Mdn	Diff=(2)-(6)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Assets	212	771	2,320	188	1,986	771	2,320	188	0.00
Revenue	212	349	680	101	1,986	349	680	101	0.00
ROA	212	-0.24	0.99	-0.07	1,986	-0.24	0.99	-0.07	0.00
Profit	212	0.34	0.23	0.00	1,986	0.34	0.23	0.00	0.00
Life Cycle	212	2.17	1.17	2.00	1,986	2.17	1.17	2.00	0.00
Tech	212	0.29	0.46	0.00	1,986	0.29	0.46	0.00	0.00
Leverage	212	1.03	1.53	0.82	1,986	1.03	1.53	0.82	0.00

Panel B - Revenue growth comparison across the SPAC and entropy-weighted matched sample

	SPAC Projected Rev Growth				Matched Actual Rev Growth				Comparison of Means
	n	Mean	S.D.	Mdn	n	Mean	S.D.	Mdn	Diff=(2)-(6)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
All observations	712	1.16	2.51	0.48	7,711	0.48	1.22	0.15	0.68***
1-year ahead	212	1.23	3.21	0.24	1,986	0.61	1.42	0.17	0.62***
2-years ahead	197	1.13	2.79	0.36	1,766	0.38	0.97	0.17	0.75***
3-years ahead	141	1.14	2.12	0.52	1,545	0.33	0.96	0.12	0.81***
4-years ahead	96	1.17	1.65	0.74	1,312	0.17	0.67	0.06	1.00***
5-years ahead	66	1.16	1.21	0.82	1,102	0.06	0.65	0.00	1.10***

Notes: As referenced in footnote 8 of our paper, this table presents our Panels A and B results from Table 4 using entropy balancing from the sample of IPO firms to obtain the matched sample rather than using propensity score matching from the universe of US industrial firms. *** denotes two-tailed statistical significance at 1%, ** at 5%, and * at 10%.

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Table D – Robustness to relaxing the survival requirement for matched firms

	SPAC				Matched				Comparison of Means
	n	Mean	S.D.	Mdn	n	Mean	S.D.	Mdn	Diff=(2)-(6)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
All observations	712	1.16	2.51	0.48	544	0.32	0.91	0.14	0.84***
1-year ahead	212	1.23	3.21	0.24	212	0.40	1.49	0.16	0.83***
2-years ahead	197	1.13	2.79	0.36	150	0.37	1.07	0.14	0.76***
3-years ahead	141	1.14	2.12	0.52	91	0.24	0.54	0.14	0.90***
4-years ahead	96	1.17	1.65	0.74	58	0.20	0.33	0.15	0.97***
5-years ahead	66	1.16	1.21	0.82	33	0.17	0.28	0.15	0.99***

Notes: As referenced in footnote 9 of our paper, this table presents our Panel B results from Table 4 after relaxing the requirement that SPACs match only with firms that survive at least as many years into the future as the SPAC projects revenues. *** denotes two-tailed statistical significance at 1%, ** at 5%, and * at 10%.

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Table E – Revenue growth comparison, assuming an average 9.4% terminal revenue growth rate

	SPAC Projected Rev Growth				IPO Actual Rev Growth				Matched Actual Rev Growth				Comparison of Means	
	n	Mean	S.D.	Mdn	n	Mean	S.D.	Mdn	n	Mean	S.D.	Mdn	Diff=(2)-(6)	Diff=(2)-(10)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
All observations	1060	0.75	1.78	0.18	7,711	0.41	0.65	0.24	712	0.28	1.01	0.11	0.34***	0.47***
1-year ahead	212	1.23	3.21	0.24	1,986	0.60	0.88	0.33	212	0.40	1.49	0.16	0.63***	0.83***
2-years ahead	212	0.98	2.48	0.29	1,766	0.48	0.72	0.28	197	0.31	0.90	0.13	0.50***	0.67***
3-years ahead	212	0.70	1.65	0.19	1,545	0.38	0.59	0.24	141	0.17	0.37	0.10	0.32**	0.53***
4-years ahead	212	0.49	1.00	0.09	1,312	0.32	0.49	0.21	96	0.10	0.23	0.04	0.18**	0.39***
5-years ahead	212	0.36	0.58	0.09	1,102	0.28	0.39	0.20	66	0.09	0.19	0.05	0.09**	0.27***

Notes: As referenced in section 3.3 of our paper, this table presents our Panel B results from Table 4, modified to include the assumption that SPACs that do not provide forecasts of at least five years expect annual revenues to grow at the average revenue growth rate for US public firms for the past five years (9.4%) for the missing years. Section 3.3 provides details about our matching process. Variable definitions are in the Appendix. *** denotes two-tailed statistical significance at 1%, ** at 5%, and * at 10%.

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Table F – Comparison of pre-revenue SPACs and pre-revenue IPO firms

	SPAC - Zero Revenue				IPO - Zero Revenue				Comparison of Means
	n	Mean	S.D.	Mdn	n	Mean	S.D.	Mdn	Diff=(2)-(6)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
All observations	167	785	2,179	152	1,567	26	148	0	759***
1-year ahead	35	96	311	2	429	6	50	0	90***
2-years ahead	33	145	338	24	406	25	191	0	120***
3-years ahead	33	437	798	152	322	37	193	0	400***
4-years ahead	33	988	1,881	282	234	41	141	0	947***
5-years ahead	33	2,085	4,019	931	176	43	133	1	2,042***

Notes: As referenced in footnote 13 of our paper, this table presents results from comparing the projected revenue levels for pre-revenue SPACs to the actual future revenue levels of pre-revenue IPO firms. *** denotes two-tailed statistical significance at 1%, ** at 5%, and * at 10%.