

The New Game in Town— Competitive Effects of IPOs

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Motivation

- An extensive literature studies the performance of IPO firms
- How does the effect of new and large IPOs affect the performance of competing firms in the same industry?
- What are the factors that make large IPOs better or worse competitors?

Main Results I

- Industry competitors experience declining performance after the IPO events:
 - Negative abnormal stock returns around the announcement dates of the IPO events. (filing dates)
 - Positive stock returns when IPOs are withdrawn
 - Negative stock returns when those IPOs are completed
 - Significant deterioration in operating performance

Main Results II

- Factors that affect the cross-sectional underperformance of industry competitors:
 - Leverage and access to public debt financing
 - Certification by investment banks and venture capitalists
 - Knowledge capital (Research intensity)

These factors impact both the operating performance and the survival of industry competitors after the large IPO events

Presentation Outline

- Background & Motivation
- Data & Sample Selection
- Short-Term Results/Event Studies
 - IPO Completions
 - IPO Withdraws
 - IPO Filings
- Time-series Regressions
- Cross-Sectional Regressions
 - Leverage
 - Certification
 - Knowledge Capital
- Survival Regressions
- Robustness

What do we know about IPOs?

Abnormal Returns

- Ibbotson & Jaffe (1975)
- Ritter (1991)
- Loughran & Ritter (1995)

Operating Performance

- Jain & Kini (1994), Loughran & Ritter (1997)
- Mikkelson, Partch, Shah (1997)
- Pastor, Taylor & Veronesi (2007)

Underwriting/VC Backing Effect

- Carter & Manaster (1990), Carter, Dark & Singh (1998)
- Barry, Muscarella, Peavy and Vetsuypens (1990), Megginson & Weiss (1991)
- Jain & Kini (1995)
- Ljungqvist & Wilhelm (2003)

Competitive Effects

Competitive Effects

Slovin, Sushka, Ferraro (1995) Equity Carve Outs

Slovin, Sushka, Plonchek (1992) Banks

Slovin, Sushka, Bendeck (1991) Buyouts

Chen, Ho & Ik (2005)

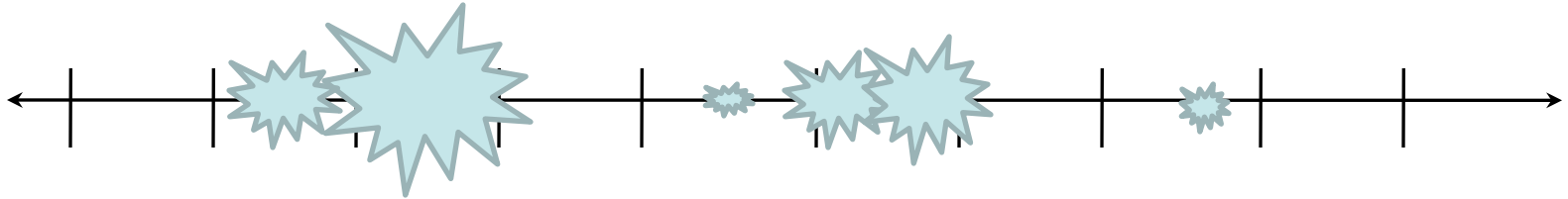
Lang & Stulz (1992)

In IPOs

Akhigbe, Borde, and Whyte (2003)

Braun and Larrain (2007)

Sample Selection



Selection of the IPO Events

1. Identify the IPO with the largest proceeds of the year in a given 2-digit SIC industry.
2. Choose the largest IPO that is the local maximum in a time-series sense
IPOs that are not preceded or followed by a larger IPO in the same 2-digit SIC industry in a 3-year window before and after the IPO date.

Selection of the IPO Events

Disadvantages

- Events correlated with some measures of hot IPO markets
- Events not distributed evenly across industries.
- Small Sample

Advantages

- Uncontaminated sample
- Maximum use of data
- No arbitrarily defined date ranges
- Relatively smooth distribution of events in time

Data

Data on IPO Firms

- SDC New Issues Database; also identified with both CRSP and Compustat
- 4,188 non-financial firms that went public from 1980 to 2001 in 62 2-digit SIC industries
- 134 completed IPO events
- 37 withdrawn IPO events based on the selection criteria

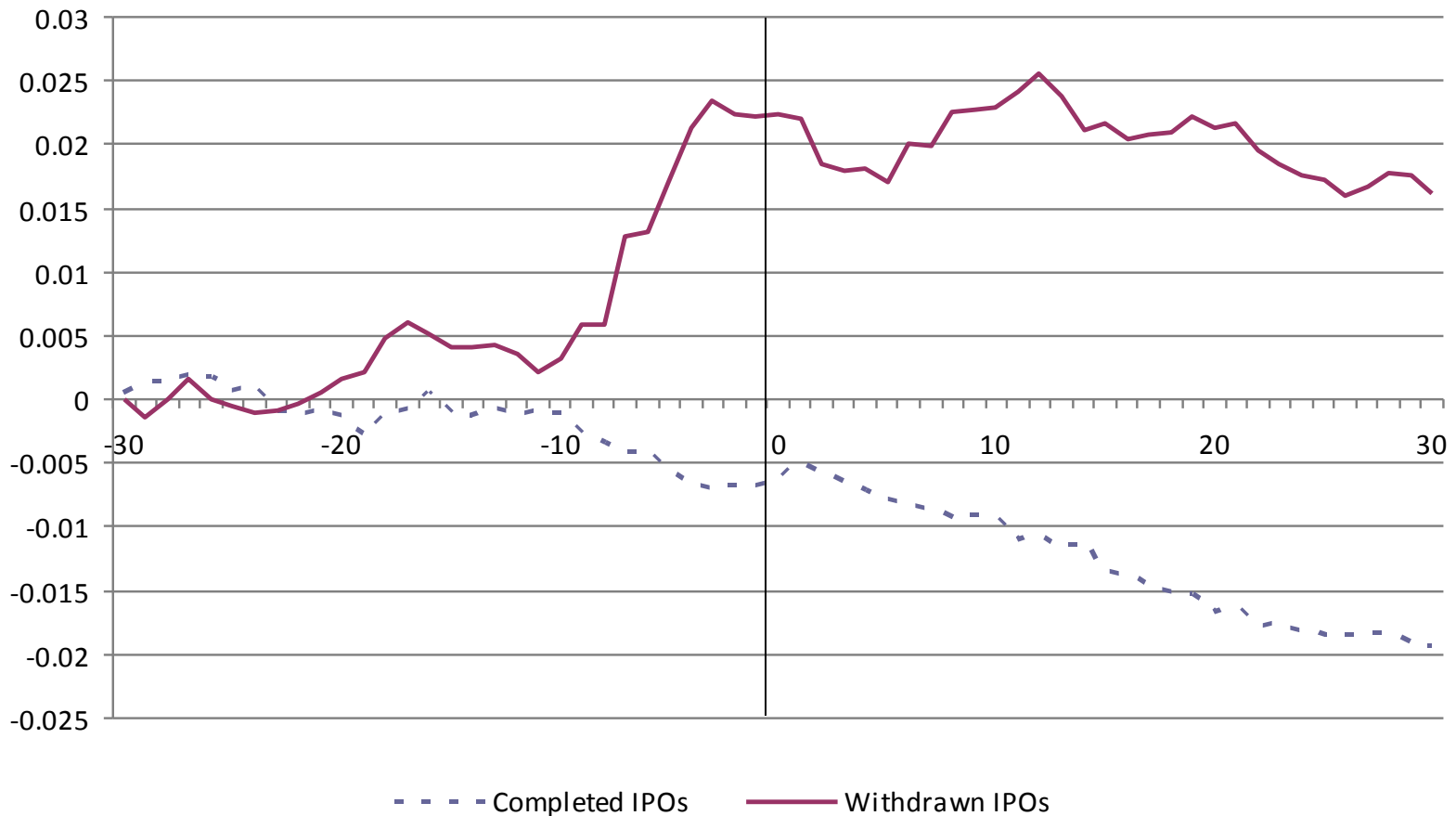
Data on Incumbent Firms

- Identify incumbent firms associated with the IPO event in the same 2-digit SIC industry
- 9,494 firms associated with 134 IPO events
- Firms' accounting information from Compustat; Stock returns data from CRSP

Descriptive Statistics

	IPO firms (N=134)	Incumbent Firms (N=9,494)	Significance
	Mean (Median)	Mean (Median)	
Assets (\$MM)	1,536.08 (112.51)	946.53 (80.84)	
Sales (\$MM)	1,292.78 (74.21)	772.85 (72.70)	*
Underwriter Ranking	7.53 (8.10)	6.84 (8.00)	***
Market Capitalization (\$MM)	1,745.00 (101.90)	1000.70 (95.55)	
Firm Age since Trading (Years)	0.00	6.85 (3.39)	***
Firm Age Since Founding (Years)	23.41 (8.00)	26.00 (14.00)	***
VC Backing (%)	0.24	0.31	

Industry competitors' Cumulative Abnormal Returns around the IPO Events



Abnormal Returns around IPO Completion Dates

Days	Individual Firms			Portfolio Based on IPO Events		
	Mean CAR	<i>Patell Z</i>	P-Value	Mean CAR	<i>Patell Z</i>	P-Value
(-10,1)	-0.40%	-2.22	0.0264	-0.68%	-1.38	0.1676
(-10,5)	-0.69%	-3.32	0.0009	-0.84%	-1.98	0.0477
(-10,7)	-0.77%	-4.42	<0.0001	-0.88%	-2.02	0.0434
(-10,10)	-0.82%	-5.22	<0.0001	-1.00%	-2.33	0.0198
(-10,15)	-1.26%	-6.78	<0.0001	-1.61%	-3.52	0.0004
(-10,20)	-1.58%	-7.56	<0.0001	-1.87%	-3.78	0.0002
(-5,1)	-0.07%	-0.66	0.5093	-0.31%	-0.75	0.4533
(-5,5)	-0.36%	-2.21	0.0271	-0.47%	-1.54	0.1236

Abnormal Returns around Withdrawals

Days	Individual Firms			Portfolio Based on IPO Events		
	Mean CAR	<i>Patell Z</i>	P-Value	Mean CAR	<i>Patell Z</i>	P-Value
(-10,1)	1.97%	4.45	<0.0001	1.36%	2.64	0.0083
(-10,5)	1.48%	2.74	0.0061	1.02%	1.56	0.1188
(-10,7)	1.77%	4.38	<0.0001	0.83%	1.50	0.1336
(-10,10)	2.06%	5.96	<0.0001	1.35%	1.97	0.0488
(-10,15)	1.93%	4.01	<0.0001	0.71%	1.17	0.2420
(-10,20)	1.89%	3.50	0.0005	0.62%	0.99	0.3222
(-5,1)	0.88%	3.44	0.0006	1.18%	2.11	0.0349
(-5,5)	0.17%	1.40	0.1615	0.83%	0.81	0.4179

Abnormal Returns around Filing Dates

Days	Individual Firms			Portfolio Based on IPO Events		
	Mean CAR	<i>Patell Z</i>	P-Value	Mean CAR	<i>Patell Z</i>	P-Value
(-10,1)	-0.59%	-4.60	<0.0001	-0.24%	-2.24	0.0251
(-10,5)	-0.78%	-4.42	<0.0001	-0.24%	-2.00	0.0455
(-10,7)	-0.58%	-2.62	0.0088	-0.12%	-1.38	0.1676
(-10,10)	-0.75%	-3.50	0.0005	0.00%	-1.63	0.1031
(-10,15)	-0.95%	-3.20	0.0014	-0.30%	-2.05	0.0404
(-10,20)	-1.19%	-3.55	0.0004	-0.45%	-2.05	0.0404
(-5,1)	-0.42%	-4.68	<0.0001	-0.25%	-2.27	0.0232
(-5,5)	-0.60%	-4.25	<0.0001	-0.25%	-1.90	0.0574

Operating Performance: Univariate Results

Performance and Financial Soundness Measures for Incumbent Firms							
Period	ROA1	ROA2	Sales Growth	Asset Growth	Interest Coverage Ratio	Leverage Ratio	K-Z financial constraint index
4-Year Average Before the IPO	3.18%	11.61%	14.01%	18.02%	2.92	0.12	-1.21
4-Year Average After the IPO	0.73%	8.87%	10.76%	9.59%	2.04	0.13	-0.55
Wilcoxon Test Significance	***	***	***	***	***	***	***

ROA1=Net Income/Total Assets ; ROA2=Operating Income/Total Assets

Operating Performance and Survival

Surviving Firms							
Period	ROA1	ROA2	Sales Growth	Asset Growth	Interest Coverage Ratio	Leverage Ratio	K-Z financial constraint index
<i>4-Year Average Before the IPO</i>	4.17%	12.90%	13.07%	16.10%	3.60	0.12	-1.42
<i>4-Year Average After the IPO</i>	2.28%	10.56%	11.27%	11.13%	2.91	0.12	-0.94
<i>Wilcoxon Test Significance</i>	***	***	***	***	***	***	***
Non-Surviving Firms							
Period	ROA1	ROA2	Sales Growth	Asset Growth	Interest Coverage Ratio	Leverage Ratio	K-Z financial constraint index
<i>4-Year Average Before the IPO</i>	-7.21%	0.10%	22.42%	34.04%	-0.87	0.10	-0.19
<i>4-Year Average After the IPO</i>	-22.44%	-8.43%	6.96%	-2.32%	-3.65	0.18	1.43
<i>Wilcoxon Test Significance</i>	***	***	***	***	***	***	***

ROA1=Net Income/Total Assets ; ROA2=Operating Income/Total Assets

Can we add controls?

Yes: *Panel Regressions*

Dependent Variable:	Sales Growth	Capex Growth	Operating Income Growth	Abnormal Stock Return
	(1)	(2)	(3)	(4)
<i>IPO Dummy</i>	-0.033*** (-4.52)	-0.106*** (-4.37)	-0.029*** (-5.36)	-0.042** (-2.63)
<i>Lagged Dependent Variable</i>	0.042* (1.67)	-0.196*** (-29.12)	-0.194*** (-17.79)	-0.021*** (-3.64)
<i>Annual Underpricing (market wide)</i>	0.059* (1.81)	0.011 (0.20)	-0.012 (-0.44)	0.305*** (4.42)
<i>Industry M/B ratio</i>	0.070*** (4.65)	0.234*** (7.46)	0.072*** (6.39)	0.020*** (2.45)
<i>Intercept</i>	0.148*** (5.57)	-0.087** (-2.07)	0.137*** (6.38)	-0.075*** (-2.64)
<i>N</i>	100635	97733	71925	83932
<i>R²</i>	0.0300	0.0390	0.0403	0.006

Other control variables: Firm age and log(assets); IPO Fixed Effects and clustered standard errors.

Why Would IPOs Have Competitive Effects?

Leverage: IPOs result in relatively low leverage for the issuing firm.

- Chevalier (1995a)
- Chevalier (1995b)
- Phillips (1995)

Certification: IPOs are recently underwritten by investment banks

- Chemmanur and Fulghieri (1994)
- Boot & Thakor (1997)
- Carter & Manaster (1990)

Knowledge: IPO firms are likely to have a non-financial advantage.

- Stoughton, Wong and Zechner (2001)
- Cockburn & Griliches (1988)

Do specific competitive pressures explain the cross section of performance?

	Sales Growth		Open Inc Cr
	(1)	(2)	(3)
<i>Leverage Ratio</i>	-0.732*** (-5.81)	-0.821*** (-8.59)	-0.282** (-2.26)
<i>Bondrank yes</i>	0.240*** (6.24)	0.246*** (6.56)	0.330*** (7.34)
<i>IPO Events Fixed Effect?</i>	Yes	Yes	Yes
<i>N</i>	4376	6866	3101
<i>R²</i>	0.1534	0.1517	0.0496

Other control variables: Size, Firm Age, Industry Underpricing and Industry M/B ratio, Constant, Fixed Effects & clustered standard errors.

Do specific competitive pressures explain survival?

Explanatory Variable	Model									
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
<i>Leverage ratio</i>	-0.261*** (-9.50)								-0.203*** (-7.25)	-0.224*** (-8.70)
<i>Bondrankyes</i>		0.140*** (5.83)							0.137*** (3.88)	0.133*** (5.07)
<i>Good bondrank</i>			0.186*** (3.15)							
<i>VC backing</i>				0.049*** (6.35)					0.024*** (3.60)	
<i>High UW ranking</i>					0.048*** (3.57)					0.018 (1.49)
<i>Hightech</i>						0.048*** (3.59)			0.025** (2.14)	0.028** (2.29)
<i>High research intensity</i>							0.049*** (5.07)		0.007 (0.53)	0.013 (1.08)
<i>High HH</i>								-0.030 (-1.62)	-0.020 (-1.55)	-0.017 (-1.32)
Pseudo R²	0.1258	0.0923	0.0867	0.0896	0.0864	0.0891	0.0867	0.0843	0.1531	0.1392
N	7143	8559	8559	5630	8559	8559	8559	8559	4514	7143

Other control variables: Size, Firm age, Log(assets), Industry underpricing, Industry M/B ratio, Industry ROA , constant, Fixed Effects & clustered standard errors.

Robustness: Alternative Samples

Other Event Selection Mechanisms

- IPO Size in Top 10% of Industry Incumbents
- IPO Size in Top 10% of Industry IPOs

Other Contamination Windows

- 8-Year Rolling Window
- 4-Year Rolling Window

A Few More Samples

- Excluding Low-tech & Heavy Industries
- Ritter Universe

Conclusion

This paper:

- Documents the competitive effects of large and new IPOs on their industry competitors.
 - Negative stock price reactions to completed IPOs
 - Positive stock price reactions to withdrawn IPOs
 - Deterioration in operating performance after the IPOs
- Investigates the causes of underperformance of industry competitors after the IPOs.
 - Leverage and access to public debt financing
 - Certification by financial intermediaries
 - Knowledge capital
- Has implications for investors in assessing the risk and return in industries with potential new IPO entrants.

NEW TO THE MARKET

Public Offerings of Stock IPOs in the U.S. market

Initial public offerings of stock expected this week; might include some offerings, U.S. and foreign, open to institutional investors only via the Rule 144a market; deal amounts are for the U.S. market only

Expected pricing date	Filed	Issuer/business	Symbol/ primary exchange	Shares (millions)	PRICING RANGE(\$) Low/High	Bookrunner(s)
Dec. 04	Aug 17	Titan Machinery Agricultural & construction equip	TITN Nq	6.1	7.50/ 9.50	Craig-Hallum Grp, Robert W Baird
Dec. 05	Jul 27	Entropic Comm Home entertainment sys sol	ENTR Nq	11.5	9.00/ 11.00	Credit Suisse, Lehman Bros
Dec. 05	Nov 9	VisionChina Media Home advertising ntwrk co	VISN Nq	15.5	9.50/ 11.50	Credit Suisse, Merrill Lynch
Dec. 05	Nov 13	WSP Hldgs Oil and natl gas explr	WH N	28.8	10.50/ 12.50	CIBC World Mkts, JP Morgan
Dec. 06	Sep 7	Cardtronics Automated teller mach & svc	CATM Nq	19.2	14.00/ 16.00	Deutsche Bk, W Blair, Banc of America
Dec. 06	Apr 27	Triple-S Management Managed care company	GTS N	16.1	16.00/ 18.00	Credit Suisse, UBS
Dec. 07	Feb 13	Bioheart Biotechnology company	BHRT Nq	4.8	6.00/ 8.00	Merriman Curhan Ford & Co
Dec. 07	Aug 3	BG Medicine Life sciences company	BGMD Nq	4.5	14.00/ 16.00	Cowen
Dec. 07	Aug 9	Iggys House Online real estate company	IGGY Nq	1.6	5.00/ 6.00	Northland Sec, Bathgate Cptl Prtnr