

THE EFFECTS OF INFORMATION ACQUISITION IN M&As: EVIDENCE FROM SEC EDGAR WEB TRAFFIC

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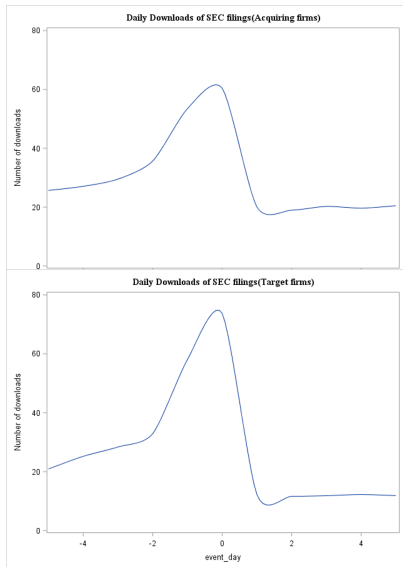
Georgia State University

2022 AFA Annual Conference

MOTIVATION

- The market reactions around corporate events
 - In the literature, short-term stock reactions around corporate event reflects value creation.
 - Market is assumed to be fully-informed
 - Since the difficulty in quantifying the information acquisition, the assumption is seldomly been questioned.
- MAs deal announcements
 - Unlike routine announcements (e.g., earnings announcements), MAs provide new information and trigger information demand at the same time.
 - For market investors, MAs performance is had to evaluate upon deal announcements. Hence, stock return became a timely indication of deal quality.

MOTIVATION



The frequency of total filings in different types issued (top 20 ranks)

<i>Form Type</i>	<i>Issuance Frequency</i>
425	5065
8-K	4316
4	4218
DEFA14A	1725
SC TO-C	495
SC14D9C	364
10-Q	308
SC 13D/A	289
SC 13G/A	288
DFAN14A	276
4/A	136
3	132
SC 13G	123
8-K/A	115
FWP	93
10-K	91
UPLOAD	90
424B2	89
CORRESP	80
SC 14D9	77

THIS PAPER...

- This paper studies the effects of information acquisition in mergers and acquisitions (MAs)
- Key findings:
 - Information acquisition, proxied by SEC EDGAR searching volume (ESV), about merging firms improves investors' understanding of deal synergies.
 - Information acquisition about rivals and supply-chain firms also improves investors' understanding of deal synergies.
 - The market react based on new (vs. stale) information about the merger.
 - Information acquisition improves market informativeness about
 - production synergies
 - financial synergies
- Identification:
 - IV-2SLS
 - SEC XBRL adoption

DATA AND SAMPLE

- Samples
 - Deal-level event-based sample (M&A deals from 2003 to 2016)
- Data
 - SEC EDGAR Log File Dataset
 - Information acquisition: SEC filing downloads in [-5, 5] days around deal announcements
 - SDC merger and acquisition database
 - Compustat/CRSP merged database

INFORMATION ACQUISITION AND STOCK MARKET REACTIONS

- Information acquisition about merging firms improves market informativeness about post-merger performance.

Variables	(1)	(2)	(3)
Window (Year)	T+3	T+2	T+1
<i>ROA* Deal ESV</i>	4.3132** (1.526)	3.1267** (1.389)	4.0741** (1.722)
<i>ROA</i>	-0.0011 (0.002)	-0.0013* (0.001)	-0.0018** (0.001)
<i>Deal ESV</i>	5.3581 (3.374)	5.9677* (3.207)	6.6096* (3.061)
Control	Yes	Yes	Yes
Observations	838	901	971
R-squared	0.361	0.350	0.354
Acquiring industry FE	Yes	Yes	Yes
Target industry FE	Yes	Yes	Yes
Year FE	Yes	Yes	Yes

INFORMATION ACQUISITION AND STOCK MARKET REACTIONS

- Information acquisition about rival firms and supply-chain firms improves market informativeness about post-merger performance.

Variables	(1)	(2)	(3)	(4)
	<i>Combined CAR</i>			
Download measure (X)	<i>Rival ESV</i>	<i>Rival ESV (Restricted)</i>	<i>Supply-chain ESV</i>	<i>Supply-chain ESV (Restricted)</i>
<i>ROA*X</i>	0.8054** (0.366)	1.0530** (0.452)	22.8090** (9.784)	25.0591*** (7.766)
Control	Yes	Yes	Yes	Yes
Observations	950	838	838	516
R-squared	0.185	0.358	0.350	0.287
Acquiring industry FE	Yes	Yes	Yes	Yes
Target industry FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes

NEW VS. STALE INFORMATION

- New information acquired about merging firms improves market informativeness about post-merger performance.

Variables	(1)	(2)	(3)	(4)	(5)	(6)
	<i>Combined CAR</i>					
	Information for targets		Information for acquirers		Information for deals	
Sample	New	Stale	New	Stale	New	Stale
Download measure (X)	<i>Deal ESV</i>		<i>Acquirer ESV</i>		<i>Deal ESV</i>	
<i>ROA*X</i>	41.3212** (16.375)	3.5413 (2.991)	205.7474** (77.951)	1.3532 (4.816)	160.2388* (79.206)	4.4868 (2.664)
Control	Yes	Yes	Yes	Yes	Yes	Yes
Observations	156	599	117	629	71	689
R-squared	0.799	0.228	0.830	0.266	0.878	0.288
Acquiring industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Target industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes

PRODUCTION SYNERGIES OF MERGERS

- Information acquisition about merging firms improves market informativeness about post-merger production synergies.

Variables	(1)	(2)	(3)	(4)
	<i>Combined CAR</i>			
Synergy Measure (X)	<i>ROE</i>	<i>Operating margin</i>	<i>Price markup</i>	<i>Operating cash flow</i>
<i>X*ESV</i>	1.1074* (0.599)	26.2429* (13.131)	5.7767* (2.996)	18.4462** (7.775)
Control	Yes	Yes	Yes	Yes
Observations	433	438	439	337
R-squared	0.411	0.419	0.407	0.400
Acquiring industry FE	Yes	Yes	Yes	Yes
Target industry FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes

FINANCIAL SYNERGIES OF MERGERS

- Information acquisition about merging firms improves market informativeness about post-merger financial synergies.

Variables	(1)	(2)	(3)
		<i>Combined CAR</i>	
Window (Quarter)	[-4, +4]	[-4, +8]	[-4, +12]
<i>Chg_Adj_ICC*ESV</i>	-1.8904*** (0.424)	-1.7760*** (0.292)	-1.8821*** (0.311)
Control	Yes	Yes	Yes
Observations	229	238	241
R-squared	0.440	0.427	0.419
Acquiring industry FE	Yes	Yes	Yes
Target industry FE	Yes	Yes	Yes
Year FE	Yes	Yes	Yes

DEMAND SIDE VARIATION - THE XBRL ADOPTION

- Background:
 - From 2009 to 2011, SEC mandated firms to report filings in the XBRL format. The XBRL adoption exogenously reduce investors information acquisition costs.
- Empirical design: Difference-in-differences analysis
 - Post = deals announced after firms adopted XBRL
 - Treat = merging firms that adopted XBRL

Variables	(1)	(2)	(3)
		<i>Combined CAR</i>	
Window (Year)	[-3, +3]	[-2, +2]	[-1, +1]
<i>Treat*Post*ROA</i>	0.0537*** (0.020)	0.0501** (0.022)	0.0572** (0.026)
Control	Yes	Yes	Yes
Observations	512	377	224
R-squared	0.205	0.217	0.232

SUPPLY SIDE VARIATION: FIRM INFORMATION DISCLOSURE

- Empirical design: 2SLS
 - 1st stage: Use firm amendments issued in the past three years to predict information acquisition
 - 2nd stage: Examine information acquisition effects on market informativeness about deal synergies

Variables	(1)	(2)	(3)	(4)	(5)	(6)
	2SLS-2nd Stage		2SLS-2nd Stage		2SLS-2nd Stage	
	<i>Deal ESV</i>		<i>Acquirer ESV</i>		<i>Target ESV</i>	
<i>Ln (Amendments) t, t-3</i>	6.4136*** (2.020)		4.2566*** (0.819)		2.3700 (1.395)	
<i>X*ROA</i>		19.1130** (7.138)		27.2893** (12.502)		22.6072* (10.833)
Control	No	Yes	No	Yes	No	Yes
Observations	1,558	838	1,558	838	1,558	838
R-squared	0.103	-0.140	0.104	-0.193	0.073	-0.329
Acquiring industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Target industry FE	No	Yes	No	Yes	No	Yes
Year FE	No	Yes	No	Yes	No	Yes
Cluster	Year	Year	Year	Year	Year	Year

CONCLUSION

- Information acquisition activities around MAs announcements improve the efficiency of market valuation in mergers.
- Studies about value-creation in mergers should consider the informativeness of the market investors.
- Information can be shared across economically linked firms.
- By acquiring information about corporate filings, investors could identify both production and financial synergies gained by the merger.

CONCLUSION

- Thank you !
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