Quality of investment decisions and disclosure timing

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discussion plan

background – what we know and don't known

prediction and tests

data and method – main features

key results – central message

take-home messages

details: data sources and sample criteria

empirical methodology

key empirical results

background – known (1 of 2)

well established . .. (e.g., Miller 2002; Sengupta 2004; Kothari et al 2009; Ge & Lennox 2011)

Firms strategically release good news to investors early and delay bad news [*good news early and bad news late*]

What kind of news ???

Financial news/information, e.g., management forecasts and earnings

What is in for managers to engage in such strategic disclosure timing ???

Good news early $\Rightarrow$ rise in security price at no cost (Lang & Sul 2014)

Bad news late $\Rightarrow$ buy time and "bury" it due to career-related concerns

Any importance to financial reporting convention ???

This disclosure behavior "*contrasts conservative recognition rules and outcomes in financial reports*" (Kothari et al 2009)

background – unknown (2 of 2)

also known

Firms also very commonly disclose *non-financial information*

Non-financial information ≠ financial information (also Healy & Palepu 2001)

unknown

When it comes to investment decisions . ..

Do firms strategically withhold bad news about their capital budgeting decisions but release good news early ???

That is .. .

Does the existing insight from financial info. disclosure generalize to disclosure of investment decisions ???

what we argue and our tests (1 of 2)

our prediction

Firms may not strategically disclose good-quality investment decisions early and poor-quality decisions late

intuition for our prediction

Revealing an investment plan early comes with *significant proprietary cost*

- $\Rightarrow$ leakage of proprietary information
- $\Rightarrow$ loss of first-mover advantage, possibly killing the deal altogether

$\therefore$ Benefit (security price increase) possibly not worth the proprietary cost

Instead, firms may time disclosure of investment decisions in response to . ..

Litigation risk exposure, expected proprietary cost, expected disclosure credibility, or economic significance of the plan

what we argue and our tests (2 of 2)

test 1 – timing

lead_time = f [quality; litigation; prop_cost; credibility; econ_sig; control]

Strategic timing predicts (+) effect of quality

test 2 – amount of released info *holding constant timing*

amount = f [lead_time; quality; controls]

Strategic timing predicts (+) effect of quality: no prediction for lead_time

test 3 – costly to disclose good-quality decisions early ?

mkt_react = f [lead_time; quality; controls]

Proprietary cost assumption predicts (–) effect for both lead_time and quality

data and method – summary (1 of 2)

data (key features)

Domestic acquisitions of unlisted targets in UK announced between 1990-2009

Unlisted target $\Rightarrow$ no mandatory bid announcement before completion

$\Rightarrow$ must announce only for deal to be legally effective

Listed target $\Rightarrow$ must announce bid before completion

UK $\Rightarrow$ uniform regulatory environment across economy (i.e., Companies Act)

US $\Rightarrow$ unnecessary complications due to State laws which vary across states

Final sample: a total of 6,364 deals $\rightarrow$ 1,858 (29%) announced **before** completion

$\rightarrow$ 4,506 (71%) announced **at** completion

On average, $\mathrm{mkt\_react} = 1.27\%$ (sig)

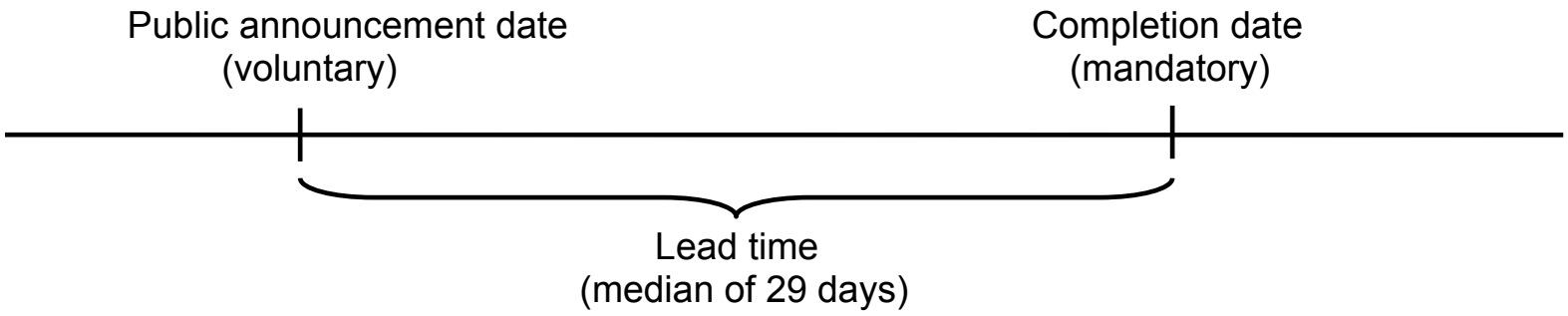
Similar to prior M&A studies (e.g., Ekkayokkaya & Paudyal 2014 for US; Ekkayokkaya et al 2009 for Europe)

Thus, bid announcements are credible, and synergy is generally expected

data and method – summary (2 of 2)

empirical design

MEASURE OF TIMING (lead_time ; early01)



MEASURE OF ACQUISITION QUALITY

Three-year post-acquisition abnormal return to acquirer (Jensen alpha)

- Focus on CAPM as common among corporate executives (e.g. Bernardo et al 2007)
- Also, Fama-French 3-factor and 4-factor models: similar results

key results – summary (1 of 3)

test 1 (do firms disclose good news early and bad news late?)

Strategic timing predicts effect (+) of quality

lead_time = f [**quality**; litigation; prop_cost; credibility; econ_sig; control]

expected	(+)	(+)	(-)	(+)	(+)
results	(insig)	(✓)	(✓)	(✓)	(✓)

No strategic disclosure timing

Firms time disclosure of investment decisions by trading off between benefits and costs of meeting demand for prompt disclosure

These results not driven by firm-specific conditions (see key empirical results below)

key results – summary (2 of 3)

test 2 (do firms say less at public announcements when announcing poor-quality deals?)

Strategic timing predicts effect (+) of quality, holding constant timing

$$\text{amount} = f[\text{lead\_time}; \mathbf{quality}; \text{controls}]$$

expected	(−/+)	(+)
results	(+)	(−)

Sharp contrast to idea of strategic timing

Holding constant timing, firms say *less* when announcing a *good*-quality deal

Together with results from TEST 1, firms disclose their investment decisions *conservatively* – in line with existence of material proprietary cost

key results – summary (3 of 3)

test 3 (costly to reveal good news about investment plans early?)

Result from TESTS 1 & 2 consistent with underlying assumption of proprietary cost

∴ Is it costly to announce good-quality deals early ???

$$\text{mkt\_react} = f[\text{lead\_time}; \text{quality}; \text{controls}]$$

expected	(−)	(−)
results	(✓)	(✓)

Given $\text{mkt\_react} > 0$ on average:

It is costly to reveal a lucrative plan or do it early

Investors do take note of leakage of proprietary information

Rationale for conservative disclosure behavior from TESTS 1 & 2

take-home messages (1 of 1)

Firms unlikely to withhold from investors bad news about their investment plan

- "Good news early bad news late" unlikely to generalize to investment decisions

Firms disclose their investment plan *conservatively* – due to proprietary cost

- cf: practically no proprietary cost for financial info. disclosure

Conservatism in recognition of expected future cash flows, which essentially become reported financial results

- This conservatism arises before, and possibly independently of, conservatism in financial reporting

Investors understand and identify leakage of proprietary information, and value firms accordingly

data sources and sample criteria (1 of 1)

SDC: transaction details; e.g., initial announcement dates, transaction value, SICs

Worldscope: firms' characteristics; e.g., total assets and revenue

Datastream: share price data – daily and monthly

sample criteria:

Domestic deals in UK only with transaction value (excl. fees and expenses)

Pre-announcement holdings in target < 49.9%

Acquirers have: share price 1 month before announcement; at least 12 monthly returns post-acquisition; total assets recorded on Worldscope

Excluded: privatized deals and JV deals; deals with acquirer having BE ≤ 0 (i.e., insolvent acquirers)

empirical methodology (1 of 2)

For each deal i, $\hat{\alpha}_i$ (average monthly abnormal return to acquirer) is estimated:

(1) $$R_{i,t} - R_{f,t} = \alpha_i + \beta_i\left(R_{m,t} - R_{f,t}\right) + \varepsilon_{i,t}$$

(2) $$R_{i,t} - R_{f,t} = \alpha_i + \beta_i\left(R_{m,t} - R_{f,t}\right) + SMB_t + HML_t + \varepsilon_{i,t}$$

(3) $$R_{i,t} - R_{f,t} = \alpha_i + \beta_i\left(R_{m,t} - R_{f,t}\right) + SMB_t + HML_t + WML_t + \varepsilon_{i,t}$$

Estimation window: 36 months post-acquisition (min. 12 months required)

For each deal i, amount of info. released at announcement is estimated:

$$\text{amount} \equiv |\text{mkt\_react}|$$ (Kothari et al 2009)

$$\text{mkt\_react} = r_i - r_m$$ (e.g., Fuller et al 2002)

Estimation window: (-2, +2) (e.g., Fuller et al 2002; Masulis et al 2007)

empirical methodology (2 of 2)

proxies for determinants of announcement timing

Litigation risk exposure (Kim & Skinner 2012)

Member of industries identified in Francis et al 1994 and Field et al 2005; firm size; recent sales growth; recent return volatility

Proprietary cost of disclosure

Target industry liquidity / M&As activities (Schlingemann et al 2002 index)

Expected credibility of disclosure (Lennox & Park 2006)

Market-to-book equity (Rau & Vermaelen 1998)

Economic significance of deal to acquirer

Relative deal size

Subsequent deal (Asquith et al 1983)

1 if acquirer made a prior deal during preceding 3-year period

key empirical results (1 of 8)

test 1: models (1) through (3) – random effects Tobit models left-censored at 0; models (4) through (5) – random effects probit models; dependent variables are lead_time and early01; *p*-value based on bootstrapped standard errors

Explanatory variables	(1)	(2)	(3)	(4)	(5)	(6)
Alpha	0.068	0.022	0.019	0.017	0.005	0.005
	(0.018)	(0.329)	(0.449)	(0.015)	(0.508)	(0.603)
1 if FPS industries		0.118	0.002		0.038	0.002
		(0.552)	(0.992)		(0.576)	(0.979)
Firm size		0.779	0.715		0.246	0.230
		(0.000)	(0.000)		(0.000)	(0.000)
Recent sales growth		0.081			0.016	
		(0.557)			(0.720)	
Return volatility		0.634	0.726		0.182	0.218
		(0.000)	(0.000)		(0.000)	(0.000)
Target industry liquidity		-0.267	-0.235		-0.078	-0.070
		(0.000)	(0.000)		(0.000)	(0.001)
MB equity		0.580	0.598		0.196	0.205
		(0.000)	(0.000)		(0.000)	(0.000)
Relative size		1.559	1.527		0.511	0.513
		(0.000)	(0.000)		(0.000)	(0.000)
1 if subsequent deal		-0.220	-0.229		-0.071	-0.072
		(0.157)	(0.053)		(0.174)	(0.086)

key empirical results (2 of 8)

test 1 – *continued*

Constant	-1.895	-10.787	-9.465	-0.531	-3.573	-3.218
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Year effects		Yes	Yes		Yes	Yes
Pseudo R^2 (%)	0.06	9.03	8.93	0.11	18.65	18.59
Left-censored obs.	4,506	4,162	4,506			
Total number of obs.	6,364	5,834	6,364	6,364	5,834	6,364

key empirical results (3 of 8)

test 1 – *continued* does the influence of Alpha vary across firm-specific conditions?

Models (1) and (3) – random effects Tobit models; models (2) and (4) – random effects probit models; dependent variables are lead_time and early01; *p*-value based on bootstrapped standard errors

Explanatory variables	(1)	(2)	(3)	(4)
Alpha	0.023	0.002	0.061	0.016
	(0.810)	(0.931)	(0.444)	(0.445)
1 if FPS industries	-0.031	-0.020	-0.140	-0.049
	(0.903)	(0.793)	(0.605)	(0.443)
1 if large firm	1.215	0.330	1.098	0.298
	(0.000)	(0.000)	(0.000)	(0.000)
1 if high recent sales growth	-0.122	-0.022		
	(0.487)	(0.703)		
1 if high return volatility	0.477	0.126	0.520	0.141
	(0.027)	(0.017)	(0.006)	(0.012)
1 if high target industry liquidity	-0.489	-0.139	-0.466	-0.134
	(0.005)	(0.011)	(0.013)	(0.002)
1 if hi MB equity	0.407	0.129	0.385	0.126
	(0.016)	(0.025)	(0.013)	(0.007)
1 if large relative size	3.667	1.065	3.590	1.054
	(0.000)	(0.000)	(0.000)	(0.000)
1 if subsequent deal	-0.117	-0.050	-0.227	-0.075
	(0.444)	(0.318)	(0.143)	(0.091)

key empirical results (4 of 8)

test 1 – *continued* does the influence of Alpha vary across firm-specific conditions?

FPS industries × Alpha	-0.026	-0.010	-0.037	-0.014
	(0.682)	(0.600)	(0.546)	(0.354)
Large firm × Alpha	0.013	0.005	0.023	0.007
	(0.854)	(0.840)	(0.725)	(0.740)
High recent sales growth × Alpha	0.074	0.025		
	(0.138)	(0.102)		
High return volatility × Alpha	-0.113	-0.036	-0.089	-0.027
	(0.038)	(0.073)	(0.053)	(0.076)
High target industry liquidity × Alpha	0.072	0.020	0.049	0.015
	(0.135)	(0.156)	(0.273)	(0.354)
Hi MB equity × Alpha	0.027	0.008	0.059	0.016
	(0.650)	(0.697)	(0.249)	(0.275)
Large relative size × Alpha	-0.054	-0.010	-0.062	-0.013
	(0.346)	(0.522)	(0.282)	(0.355)
Subsequent deal × Alpha	0.037	0.008	0.027	0.006
	(0.480)	(0.634)	(0.421)	(0.676)
Constant	-4.331	-1.298	-4.176	-1.269
	(0.000)	(0.000)	(0.000)	(0.000)
Year effects	Yes	Yes	Yes	Yes
Pseudo R2 (%)	5.06	10.33	4.84	9.93
Left-censored obs.	4,162		4,506	
Total number of obs.	5,834	5,834	6,364	6,364

key empirical results (5 of 8)

test 2: linear firm-year fixed effects regressions; dependent variable is $|\mathrm{mkt\_react}|$; *p*-value based on White standard errors robust to clustering at acquirer level

Explanatory variables	(1)	(2)	(3)	(4)	(5)	(6)
ln(1 + lead time)	0.040		0.040			
	(0.001)		(0.001)			
1 if announced early		0.168		0.169		
		(0.000)		(0.000)		
Alpha			-0.019	-0.019	-0.033	-0.031
			(0.035)	(0.035)	(0.003)	(0.001)

key empirical results (6 of 8)

test 2 – *continued*

1 if FPS industries					0.077	0.089
					(0.702)	(0.676)
Firm size					-0.031	-0.036
					(0.537)	(0.417)
Recent sales growth					-0.086	
					(0.043)	
Return volatility					0.167	0.164
					(0.012)	(0.010)
Target industry liquidity					-0.027	-0.033
					(0.207)	(0.112)
MB equity					-0.052	-0.055
					(0.125)	(0.094)
Relative size					0.090	0.093
					(0.000)	(0.000)
1 if subsequent deal					-0.071	-0.069
					(0.175)	(0.154)
Constant	0.717	0.707	0.700	0.690	1.563	1.547
	(0.000)	(0.000)	(0.000)	(0.000)	(0.008)	(0.003)
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Firm fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
R^2 (%)	12.69	12.75	12.78	12.84	13.18	13.89
Total number of obs.	6,364	6,364	6,364	6,364	5,834	6,364

key empirical results (7 of 8)

test 3: linear firm-year fixed effects regressions; dependent variable is $\mathrm{mkt\_react}$; *p*-value based on White standard errors robust to clustering at acquirer level

Explanatory variables	(1)	(2)	(3)	(4)	(5)	(6)
ln(1 + lead time)	-0.220		-0.223		-0.188	
	(0.004)		(0.004)		(0.015)	
1 if announced early		-0.549		-0.581		-0.548
		(0.049)		(0.041)		(0.055)
Alpha	-0.189	-0.190	-0.186	-0.181	-0.122	-0.132
	(0.013)	(0.013)	(0.008)	(0.011)	(0.083)	(0.059)
ln(1 + lead time) × Alpha			-0.003		-0.031	
			(0.917)		(0.379)	
Announced early × Alpha				-0.030		-0.064
				(0.786)		(0.592)

key empirical results (8 of 8)

test 3 – *continued*

Firm size	-1.073	-1.082	-1.073	-1.083	-1.083	-1.082
	(0.005)	(0.005)	(0.005)	(0.005)	(0.001)	(0.001)
Leverage	3.664	3.732	3.664	3.731	2.567	2.593
	(0.067)	(0.062)	(0.067)	(0.062)	(0.144)	(0.140)
Free cash flow	-5.846	-5.831	-5.847	-5.840	-5.507	-5.486
	(0.024)	(0.024)	(0.024)	(0.024)	(0.107)	(0.109)
Tobin's *q*	-0.576	-0.581	-0.578	-0.585	-0.972	-0.961
	(0.377)	(0.373)	(0.375)	(0.369)	(0.091)	(0.095)
Relative size	0.522	0.490	0.521	0.489	0.469	0.458
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
1 if equity financed	1.297	1.260	1.294	1.255	1.034	1.031
	(0.141)	(0.153)	(0.140)	(0.154)	(0.243)	(0.245)
1 if diversifying deal	0.229	0.230	0.229	0.230	0.177	0.176
	(0.378)	(0.376)	(0.378)	(0.377)	(0.487)	(0.491)
Target industry liquidity	-0.096	-0.094	-0.096	-0.095	-0.124	-0.123
	(0.435)	(0.444)	(0.434)	(0.440)	(0.296)	(0.302)
1 if subsequent deal	-0.031	-0.032	-0.030	-0.031	0.030	0.017
	(0.922)	(0.919)	(0.924)	(0.922)	(0.928)	(0.959)
Constant	9.340	9.401	9.348	9.419	10.234	10.206
	(0.018)	(0.018)	(0.018)	(0.018)	(0.002)	(0.002)
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Firm fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
R^2 (%)	19.23	19.14	19.21	19.13	18.82	18.76
Total number of obs.	6,230	6,230	6,230	6,230	5,745	5,745