(The Need for)

Industrial Organization Foundations

In Corporate Finance and Asset Pricing

by:

Gordon Phillips

University of Southern California and NBER

Focus of Central Problems in Finance

- Agency problems.
- Asymmetric information.
- *not* market coordination problems which are focus of industrial organization.

Central point I will be making: Cash flows which are the focus on the above central problems are fundamentally affected by product market competition and industrial organization.

Traditional Finance

- Asset pricing: Prices are determined by firm risk relative to aggregate benchmarks. Firms risk characteristics are independent of actions of competitors.

- Corporate Finance: Investigates the failure of MM proposition that the real and financial decisions of the firm are independent.

Traditional Finance

- Corporate Governance: Investigates the CEOs and the failure of corporate boards.

- Why do powerful CEOs and poor boards survive if they destroy value?

Typical Corporate Finance

Interaction of Finance and Real Decisions

Type A: Certain capital structure affects real decisions

> **Amount of debt affects risk of investment ➔**
>
>> **Risk shifting problem.**
>
> **Amount of debt affects level of investment➔**
>
>> **Debt overhang problem.**

Implication: Partial equilibrium or inefficiencies given recontracting costs.

Typical Corporate Finance - 2

Interaction of Finance and Real Decisions

Type B: Problems in contracting (agency problems) or selection problems given asymmetric information (signaling, separating equilibriums).

Give rise to investment inefficiencies which can be fully or partially solved with set of optimal financial contracts (back to 1st best or a better 2nd best).

Benchmarking

- <u>Unspecified how market structure affects these problems.</u>   Typically assumed firms interact without considering the actions of their rivals?   Why?

- Answers question: Does the firm under- or over-perform against its benchmarks.

- Where does industrial organization come in?   Finance usually treats competitors as "benchmarks."

Benchmarking - 2

- We benchmark performance with other firms - both in corporate finance and asset pricing.   The critique of Larry Summers is that finance is "ketchup economics" applies here. Relative pricing not what drives the benchmark.

- Performance relative to industry benchmarks misses the bigger issue: What drives the industry benchmark? How do firms interact with each other?

Firm Interaction

- **In industrial organization it is how firms interact with each other that is important. Firms take actions to impact this interaction - which of course impacts their performance.**

- Traditional Structure-Conduct-Performance:

  – **Structure** was exogenous (Monopoly, Oligopoly, Perfect Competition),

  – **Conduct** (pricing, quantity): interaction between firms (Bertrand, Cournot),

  – **Performance:** Cash flow outcomes.

New industrial organization:

- **Dynamics** are important.

- **Structure and Conduct are both endogenous.**

- Firm conduct affects the structure ==> with an aim to impact performance.

- **Endogenous Barriers to Entry** (Shaked and Sutton, Sutton):   Firms invest in R&D and advertising to differentiate themselves and create barriers to entry. Structure of course may impact the range of conduct possible.

MM for Competition and Finance (MM C&F)

- We need the equivalent of MM for competition and financial decisions.

  "Competition doesn't affect the interaction of finance and real side decisions" under the following 5 conditions:

MM C&F: Condition 1

- **Financial structure of firms can be costlessly adjusted   ==> financial structure cannot be used as a commitment device differentially in competitive and concentrated industries.**

➔ **However research has shown that financial structure can be used as a commitment device to increase price and decrease output.**

Phillips (1995), Kovenock and Phillips (1995, 1997), Campello (2006, JFE), cash and hedging Haushalter, Klassa, Maxwell (JFE, 2007) also recently Fresard (JF, 2010).

MM C&F: Condition 2

Firms can adjust their physical capital stock similarly in all industries.

➔ However financial condition of competitors affects asset liquidity - Shleifer and Vishny (1992).

Differences in adjustment costs causes risk factors to be different in competitive and concentrated industries.

➔ Work of Hou and Robinson (JF, 2006) shows that equity risk is quite different even after adjusting for common risk factors. Valta (2014) for debt.

➔ Liquidity differences, equity cost vary with product market competition (Ortiz-Molina and Phillips, 2014).

MM C&F: Condition 3

Firms can gather information about optimality of investment (which depends on their rivals) costlessly.

Implications for Asset pricing and corporate finance:

==> Stock prices equally reflect fundamentals in competitive and concentrated industries.

However, recent work of Peress (JF, 2010) and Hoberg and Phillips (JF, 2010) says otherwise.
…

Product Market Competition, Insider Trading,& Stock Market Efficiency

Peress (2010, JF)

- How does competition firms' product markets influence their behavior in equity markets?

- Do product market imperfections spread to equity markets?

Table IV
Market Power and Stock Price Informativeness

This table presents results of annual panel regressions of stock price informativeness on market power and other firm characteristics over the 1996-2005 period. Informativeness is measured as (the inverse of) the average absolute abnormal return surrounding an earnings announcement (from $t=-2$ to $t=+2$). Abnormal returns are the residuals from the Fama-French three-factor model. Market power is measured as the excess price-cost margin or Lerner index. Absolute value of t-statistics are displayed below the coefficient estimates. They are based on standard errors clustered both by firm and year. The symbols ***, ** and * denote significance at the 1%, 5% and 10% levels respectively, for the two-tailed hypothesis test that the coefficient equals zero. See Table 1 for the variable definitions.

	Stock price informativeness									
Mkt power	-0.096	-0.044	-0.030	-0.013	-0.013	-0.032	-0.190	-0.120	-0.083	-0.112
	8.50***	4.92***	5.93***	1.81*	1.65*	4.26***	8.82***	5.03***	4.48***	7.51***
Mkt Power * Size							0.025	0.015	0.012	0.013
							6.15***	3.55***	3.20***	4.75***
Size		-0.017	-0.016	-0.016	-0.016	-0.020	-0.021	-0.018	-0.018	-0.022
		17.06***	16.34***	18.27***	18.06***	35.35***	15.68***	14.78***	15.50***	34.61***
Illiquidity			0.001	0.001	0.001	0.001		0.001	0.001	0.001
			6.14***	6.00***	5.94***	5.07***		6.27***	6.05***	5.05***
Return on assets			-0.034	-0.108	-0.107	-0.099		-0.033	-0.104	-0.095
			1.320	11.59***	10.09***	10.30***		1.310	9.56***	9.69***
Market-to-book				0.365	0.368	0.275			0.427	0.344
				2.91***	3.17***	2.77***			3.46***	3.36***
Leverage					0.003	0.031			0.003	0.031
					0.410	5.97***			0.480	5.99***
Turnover						0.026				0.026
						12.69***				12.73***
Constant	0.160	0.250	0.238	0.241	0.241	0.260	0.269	0.250	0.250	0.270
	32.07***	47.36***	56.45***	58.01***	56.08***	54.57***	35.41***	37.01***	38.06***	46.44***
Observations	23 432	23 417	23 415	23 113	23 040	22 718	23 417	23 415	23 040	22 718
R-squared	0.023	0.198	0.237	0.255	0.255	0.375	0.202	0.239	0.256	0.376

Real and Financial Industry Booms and Busts
Hoberg & Phillips (JF, 2010)

- How important are industry booms?

- Are outcomes predictable: cash flows + stock prices?

- Does <u>competition</u> matter? Are outcomes different in competitive and concentrated industries?

Hoberg and Phillips (2010, JF): (T7) Regressions Predicting Firm-level Abnormal Stock Returns: $AR_{i,t+1}$

Variable	OLS + Year Clusters	OLS + Year/Ind Clusters	Fama MacBeth
Panel B: Competitive Industries Only			
Industry Relative Valuation	−0.004 (−1.60)	−0.004 (−1.45)	−0.003 (−1.16)
Firm Relative Valuation	−0.003 (−6.26)[a,e]	−0.003 (−7.22)[a,e]	−0.003 (−6.71)[a,e]
Industry Relative Investment	−0.005 (−1.76)[c]	−0.005 (−2.08)[b]	−0.006 (−2.21)[b]
Firm Relative Investment	−0.001 (−4.93)[a]	−0.001 (−4.39)[a]	−0.001 (−3.57)[a]
Industry New Finance	−0.046 (−3.97)[a,f]	−0.046 (−4.07)[a,f]	−0.028 (−2.60)[a]
Firm New Finance	−0.015 (−6.88)[a,f]	−0.015 (−5.25)[a,f]	−0.012 (−4.14)[a,e]
Observations	674,367	674,367	674,367
Panel C: Concentrated Industries Only			
Industry Relative Valuation	−0.003 (−1.37)	−0.003 (−1.28)	−0.002 (−1.11)
Firm Relative Valuation	−0.001 (−1.20)[e]	−0.001 (−1.32)[e]	−0.001 (−1.25)[e]
Industry Relative Investment	−0.003 (−1.48)	−0.003 (−1.48)	−0.003 (−1.72)[c]
Firm Relative Investment	−0.001 (−2.42)[b]	−0.001 (−1.85)[c]	−0.001 (−1.90)[c]
Industry New Finance	−0.016 (−1.25)[f]	−0.016 (−1.23)[f]	−0.021 (−1.56)
Firm New Finance	−0.024 (−5.22)[a,f]	−0.024 (−4.83)[a,f]	−0.025 (−4.66)[a,e]

Conclude: abnormal stock returns are predictable in competitive industries, especially those with high new financing and investment.

* Results weaker in concentrated industries.

MM C&F: Condition 4

- **Firms take the actions of their rivals as given.**

==> NPV, Risk of my investment does not depend on my rivals investment.

==> No "races" to invest, no strategic investment

- Real options literature: (Grenadier (2002 RFS and others), Novy-Marx (2009), Lambrecht (2000, 2004) , Morellec and Zhdanov (2005), Bernile, Lyandres, Zhdanov (2008), Carlson, Dockner, Fisher, Giammarino (2007). In industrial organization: Pakes and McGuire, dynamic games.

- Mergers and Product Market Synergies:

- Recent work by Hoberg and Phillips (2010, RFS) shows that firms' incentives to merge to create product market synergies vary with competition.

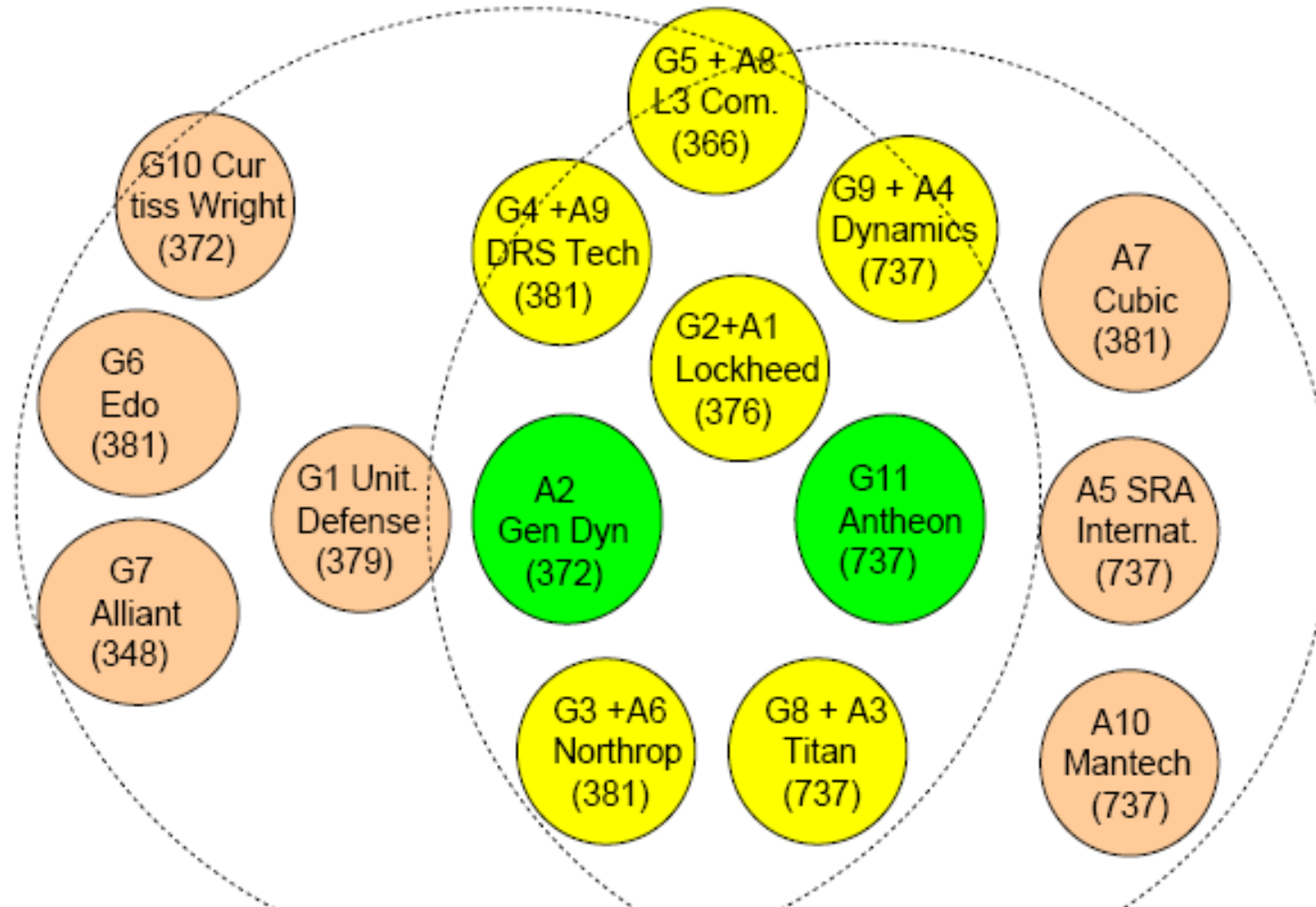# Product Market Synergies and Competition in Mergers and Acquisitions: A Text Based Analysis Hoberg & Phillips (RFS, 2010)

- Fundamental Premise: Product market competition affects synergy creation and incentives to merge

  – Synergies difficult to measure
    - Why do profits increase for some mergers? Increased cost efficiency? economies of scale? Market power? Or new product introduction given complementary assets?

  – Competition can affect likelihood of merging and successful product introduction.
    - Firms in larger clusters might have high idea arrival: higher merger incidence.
    - Competition among firms in large clusters might reduce merger incidence.

  – Competition can affect how gains are shared
    - How large gains are: post merger rivals affect profit margins.
    - How gains are shared: are there substitute target firms?

- In all cases, identifying competition means knowing "how close" and "closeness to whom". We measure closeness using computational linguistic analysis of product text.

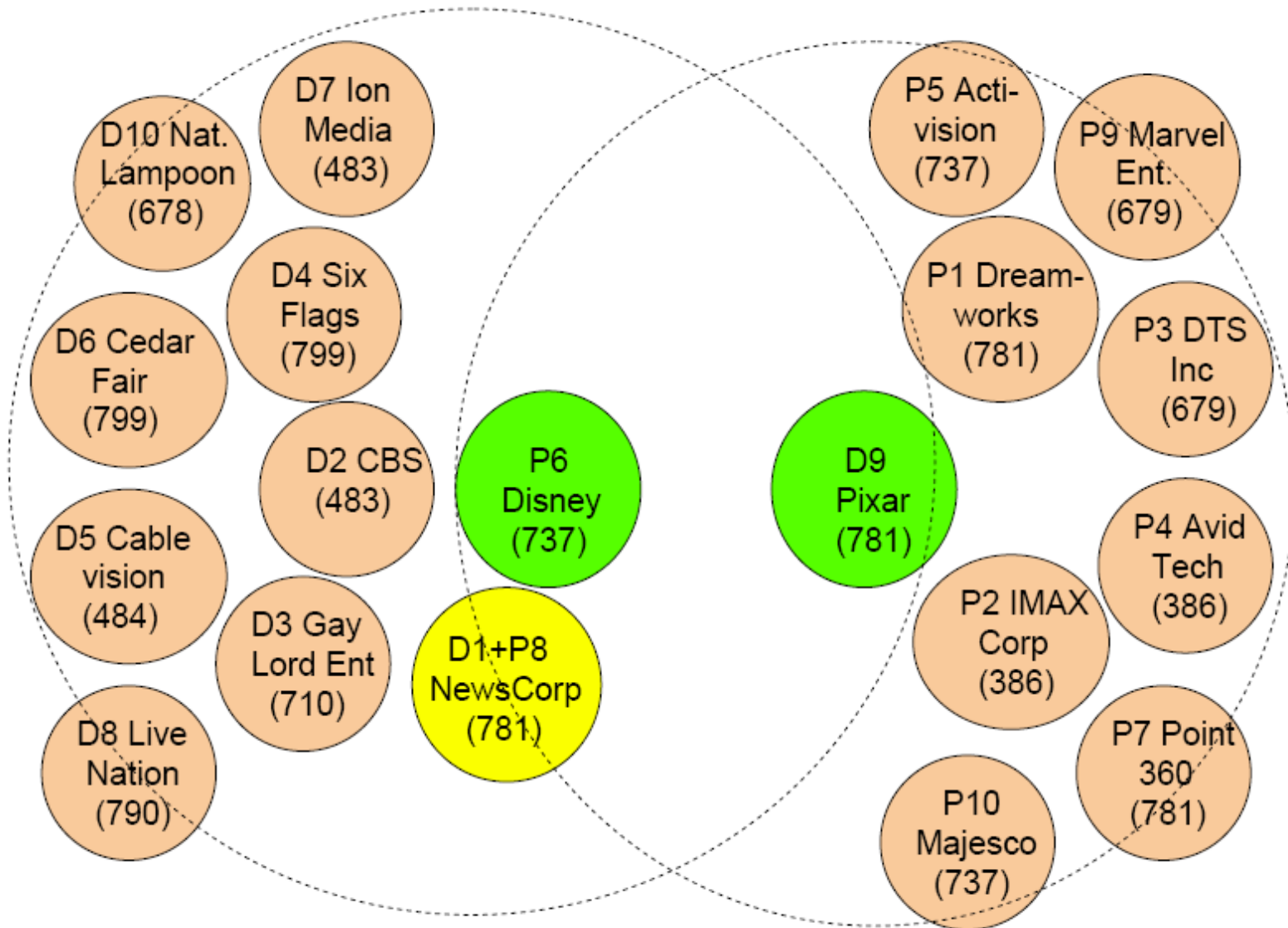# Synergy measured with Document Similarity

- Take all words used in universe of 10-Ks in product description each year (87,385 in 1997).   Exclude words (3027 of them in 1997) appearing in more than 5% of all 10-Ks.

- Product similarity is similarity of 2 firms product descriptions.

General Dynamics (372) – Antheon (737)

G10 Cur tiss Wright (372)

G6 Edo (381)

G7 Alliant (348)

G1 Unit. Defense (379)

G4 +A9 DRS Tech (381)

G5 + A8 L3 Com. (366)

G2+A1 Lockheed (376)

G9 + A4 Dynamics (737)

A2 Gen Dyn (372)

G11 Antheon (737)

A7 Cubic (381)

A5 SRA Internat. (737)

G3 +A6 Northrop (381)

G8 + A3 Titan (737)

A10 Mantech (737)

Conclude: Example of similar but different.   Merger permits new products (different enough), but similar enough to permit integration. Very different WITHIN the same industry. Variable Industry groupings: Firm Centric Notition of Compeition and Industry do not impose transitivity across firms – similar to Networks

Real Data: Merger of Disney and Pixar

D10 Nat. Lampoon (678)
D7 Ion Media (483)
D4 Six Flags (799)
D6 Cedar Fair (799)
D2 CBS (483)
D5 Cable vision (484)
P6 Disney (737)
D9 Pixar (781)
D3 Gay Lord Ent (710)
D1+P8 NewsCorp (781)
D8 Live Nation (790)
P5 Acti-vision (737)
P9 Marvel Ent. (679)
P1 Dream-works (781)
P3 DTS Inc (679)
P4 Avid Tech (386)
P2 IMAX Corp (386)
P10 Majesco (737)
P7 Point 360 (781)

Conclude: SIC codes miss the point, example of similar but different.

T9: Merger Announcement Returns

Event Window	Acquirer Product Simil. to Rivals	Target Product Simil. to Rivals	Gain in Prod. Diff. vs. Rivals	Target + Acquirer Pair Simil.	% Nei-ghbor Patent Words	Same SIC-3 Industry Dummy	Vertical Simil. Dummy	Acquirer Industry HHI (SIC-3)	Merger x Relative Size	Obs
			Combined Firm Announcement Returns							
(1) t=0 only	0.018	-0.013			0.008	-0.001	-0.006	0.016	0.021	4,937
	(2.47)	(-1.82)			(2.02)	(-0.40)	(-2.03)	(1.52)	(3.18)	
(2) t=0 only			0.018	0.009	0.009	-0.000	-0.006	0.014	0.021	4,937
			(2.55)	(0.72)	(2.30)	(-0.28)	(-1.98)	(1.37)	(3.20)	
(3) t=-1 to t=0	0.016	-0.015			0.008	0.001	-0.007	0.015	0.023	4,937
	(1.81)	(-1.78)			(1.83)	(0.88)	(-1.85)	(1.29)	(3.08)	
(4) t=-1 to t=0			0.021	0.004	0.009	0.002	-0.006	0.013	0.023	4,937
			(2.65)	(0.28)	(2.12)	(1.00)	(-1.80)	(1.11)	(3.10)	
(5) t=-5 to t=0	0.033	-0.039			0.007	0.002	0.002	0.006	0.022	4,937
	(2.40)	(-3.28)			(1.31)	(0.82)	(0.48)	(0.43)	(2.38)	
(6) t=-5 to t=0			0.028	0.027	0.010	0.002	0.002	0.002	0.023	4,937
			(2.14)	(1.43)	(1.95)	(0.75)	(0.52)	(0.15)	(2.39)	
(7) t=-10 to t=0	0.042	-0.035			0.005	0.003	0.005	-0.000	0.028	4,937
	(2.47)	(-2.47)			(0.84)	(1.30)	(0.79)	(-0.01)	(2.81)	
(8) t=-10 to t=0			0.035	0.049	0.008	0.003	0.005	-0.003	0.028	4,937
			(2.10)	(2.30)	(1.37)	(1.13)	(0.80)	(-0.19)	(2.81)	

(1) Combined firm returns larger when acquirer in comp. product market and when target is more unique.

(2) Especially large when target is dissimilar to acquirer's near rivals and when pairwise similarity is larger.

(3) Results also larger when patent-proxy for unique assets is higher.

24

Table 10: Merger Long-term Real Outcomes

Horizon	Acquirer Product Simil. (10 Near.)	Gain in Prod. Diff. vs. Rivals	Target + Acquirer Pair Simil.	% Neighbor Patent Words	Same SIC-3 Industry Dummy	Vertical Simil. Dummy	Acquirer Industry HHI (SIC-3)	Target Relative Size	Log Total $ Size	Obs
				Panel A: Operating Income/Assets						
1 Year	0.034			0.003	-0.004	-0.025	0.033	0.005	0.000	4,451
	(1.37)			(0.33)	(-1.37)	(-2.17)	(1.09)	(1.14)	(0.44)	
3 Year	0.065			-0.007	-0.009	-0.039	0.073	0.017	-0.002	4,451
	(2.24)			(-0.54)	(-2.32)	(-3.78)	(1.72)	(2.76)	(-1.33)	
1 Year		0.033	0.054	0.004	-0.005	-0.025	0.034	0.005	0.001	4,451
		(1.81)	(2.29)	(0.40)	(-1.47)	(-2.16)	(1.14)	(1.12)	(0.81)	
3 Year		0.048	0.081	-0.007	-0.010	-0.039	0.076	0.017	-0.001	4,451
		(2.08)	(2.63)	(-0.55)	(-2.40)	(-3.81)	(1.79)	(2.77)	(-0.94)	
				Panel C: Log Sales Growth						
1 Year	0.402			-0.014	0.008	-0.028	-0.193	0.068	-0.015	4,451
	(5.79)			(-0.37)	(0.69)	(-1.19)	(-2.11)	(3.78)	(-4.25)	
3 Year	0.684			-0.070	0.010	-0.022	-0.075	0.070	-0.014	4,451
	(4.97)			(-0.83)	(0.57)	(-0.41)	(-0.50)	(2.34)	(-2.63)	
1 Year		0.268	0.288	-0.026	0.008	-0.027	-0.173	0.070	-0.014	4,451
		(4.25)	(3.72)	(-0.65)	(0.72)	(-1.14)	(-1.92)	(3.85)	(-3.80)	
3 Year		0.452	0.463	-0.091	0.011	-0.020	-0.040	0.073	-0.012	4,451
		(3.86)	(3.37)	(-1.08)	(0.62)	(-0.38)	(-0.26)	(2.41)	(-2.24)	

Conclude: acquirers in competitive product markets experience higher profitability and sales growth when similar and gain in differentiation. Results stronger as horizon is lengthened.

Table 11: Merger Synergies

Row	Horizon	Acquirer Product Simil. (10 Near.)	Gain in Prod. Diff. vs. Rivals	Target + Acquirer Pair Simil.	% Nei-ghbor Patent Words	Same SIC-3 Industry Dummy	Vert ical Simil. Dummy	Acquirer Industry HHI (SIC-3)	Target Relative Size	Log Total $ Size	Initial Prod. Desc. Size
				Panel A: Ex post growth in product description							
(1)	1 Year	0.594			-0.000	-0.019	0.111	-0.032	-0.050	0.015	-0.274
		(3.47)			(-0.00)	(-0.99)	(2.06)	(-0.21)	(-1.39)	(2.83)	(-11.72)
(2)	2 Year	0.720			0.018	-0.017	0.095	0.025	-0.036	0.018	-0.359
		(4.14)			(0.30)	(-0.71)	(2.10)	(0.13)	(-0.90)	(2.96)	(-15.82)
(3)	3 Year	0.721			0.129	-0.001	0.029	0.050	-0.024	0.015	-0.394
		(3.57)			(1.96)	(-0.06)	(0.64)	(0.24)	(-0.60)	(2.65)	(-16.87)
(4)	1 Year		0.202	0.873	-0.009	-0.029	0.109	0.018	-0.046	0.019	-0.272
			(1.28)	(4.62)	(-0.16)	(-1.51)	(2.02)	(0.12)	(-1.29)	(3.43)	(-11.81)
(5)	2 Year		0.256	0.930	0.004	-0.027	0.093	0.085	-0.030	0.022	-0.356
			(1.61)	(4.47)	(0.06)	(-1.13)	(2.09)	(0.45)	(-0.77)	(3.47)	(-15.83)
(6)	3 Year		0.169	0.805	0.109	-0.010	0.026	0.119	-0.018	0.018	-0.386
			(0.99)	(3.63)	(1.67)	(-0.41)	(0.60)	(0.58)	(-0.43)	(3.14)	(-16.73)

Conclude: Acquirer product market competitiveness very related to product desc. growth. Support for post-merger real gains being related to synergies and unique assets.

26

Table 12: Economic Magnitude (Returns+Profitability)

Description	Product Similarity (10 Nearest)		Neighbor Patent Words	
	10 %ile	90 %ile	10 %ile	90 %ile
Panel A: Announcement Returns				
Combined Firm Ann Returns (t=0)	0.3%	0.7%	0.3%	0.7%
Combined Firm Ann Returns (t=-10 to t=0)	2.2%	3.0%	2.5%	2.7%
Panel B: Profitability and Sales Growth				
Δ OI/Assets: 1 Year (A)	-0.9%	-0.2%	-0.6%	-0.5%
Δ OI/Assets: 3 Year (A)	-2.2%	-1.0%	-1.4%	-1.8%
Δ OI/Sales: 1 Year (A)	-0.7%	-0.2%	-0.9%	0.0%
Δ OI/Sales: 3 Year (A)	-2.4%	-1.5%	-2.3%	-1.7%
Sales Growth: 1 Year (A)	12.0%	19.8%	16.2%	15.5%
Sales Growth: 3 Year (A)	20.3%	33.6%	28.7%	25.2%
Panel C: Growth in Product Descriptions				
Prod Desc Growth: 1 Year (A)	-2.2%	8.9%	3.3%	3.3%
Prod Desc Growth: 3 Year (A)	-3.4%	10.1%	0.1%	6.6%

Conclude: Economic impact on announcement returns modest, stronger on fundamentals, especially sales growth and growth in product descriptions.

27

Merger paper conclusions

"Synergies and <u>competition</u> matter"

Merger pair similarity – while high - is quite heterogeneous

** Best mergers with higher ex post cash flows and new product introductions are ones

(1) with similar acquirer and target

(2) with targets that are further away from A's nearest rivals

(3) that have unique, hard to replicate assets (patents) that make potential new products.

➔ "Similar but Different".

MM C&F: Condition 5

- **Agency problems are not affected by competition.**

However:

==> **Compensation:** Hart (Rand, 1983), Scharfstein (Rand, 1988), Aggarwal and Samwick (JF, 1999).

==> **Corporate governance** affected by competition: Giroud and Mueller (2010, JFE).

==> **Cash and Entry:**   Can firms use cash holding / financial structure to prevent entry? (Boutin, Cestone, Fumagalli, Pica, Serrano-Velarde (2013, JFE). Need an endogenous contracting problem that prevents rivals from getting financing.

Giroud & Meuller (2010, JFE)

Research Question

Does competition mitigate managerial slack?

Do business combination (BC) laws have a different effect on firms in competitive and non-competitive industries?

☞ Subsequent question:

Which agency problem is being mitigated?

- Does competition curb managerial empire building?

- Or does it prevent managers from enjoying a "quiet life" by forcing them to "undertake cognitively difficult activities"?

Table 3
Does Corporate Governance Matter in Competitive Industries?

Main Results	[1]	[2]	[3]		*Endogeneity of BC Laws?* Dependent Variable: ROA
Dependent Variable:	ROA	ROA	ROA		
BC	-0.006**	0.001		BC Year(-1)	-0.001
	(2.25)	(0.35)			(0.17)
BC x HHI		-0.033***		BC Year(0)	-0.002
		(4.95)			(0.39)
BC x HHI(Low)			0.002	BC Year(1)	-0.000
			(0.68)		(0.07)
BC x HHI(Medium)			-0.008**	BC Year(2+)	0.004
			(2.56)		(0.74)
BC x HHI(High)			-0.012***	BC Year(-1) x HHI	0.001
			(4.59)		(0.07)
Industry-year	0.206***	0.206***	0.206***	BC Year(0) x HHI	-0.027**
	(9.67)	(9.60)	(9.61)		(2.06)
State-year	0.249***	0.249***	0.248***	BC Year(1) x HHI	-0.032***
	(8.86)	(8.83)	(8.77)		(4.33)
Size	0.096***	0.097***	0.097***	BC Year(2+) x HHI	-0.034***
	(20.27)	(20.38)	(20.34)		(4.15)
Size-squared	-0.007***	-0.007***	-0.007***	Industry-year	0.210***
	(20.09)	(20.42)	(20.53)		(7.70)
Age	-0.021***	-0.021***	-0.021***	State-year	0.256***
	(5.34)	(5.44)	(5.37)		(7.74)
HHI	0.015*	0.025***		Size	0.097***
	(1.66)	(2.58)			(20.37)
HHI(Medium)			0.006*	Size-squared	-0.007***
			(1.88)		(20.44)
HHI(High)			0.008**	Age	-0.020***
			(2.12)		(5.44)
				HHI	0.025**
					(2.53)
Firm Fixed Effects	Yes				Yes
Year Fixed Effects	Yes				Yes
Observations	77,460	77,460	77,460	Observations	77,460
Adj. R-squared	0.68	0.68	0.68	Adj. R-squared	0.68

Indirect effect of comp on profits

direct effect

Giroud and Meuller (2010)

Recent new work: Li, Lu and Phillips

- **When are Powerful CEOs Beneficial?**
Literature to date: Powerful CEOs are costly.

  ‣ Empirical evidence: ***negative*** consequences

    ‣ (-) performance sensitivity of CEO compensation and turnover

    ‣ (-) stock returns following M&As

    ‣ (+) commit fraud, (-) being detected

    ‣ (-) accounting profitability

    ‣ (-) industry-adjusted Tobin's Q

Reference: Bebchuk and Fried (2004), Bebchuck, Cremers, and Peyer (2011), Morse, Nanda, and Seru (2011), Landier,Sauvagnat, Sraer, and Thesmar (2013), Khanna, Kim and Lu (2015), Coles, Daniel, and Naveen (forthcoming)

We find

▸ Firms with powerful CEOs tend to

  ▸ invest and advertise more and have more operating flexibility in more competitive product markets.

  ▸ Hold fewer board meetings.

▸ CEO power helps a firm react more efficiently to product market changes and threats.

▸ In rapidly changing, competitive product markets, CEO power has a positive impact on the value of the firm.

the most powerful CEO who brought value to the firm

34

Research Possibilities

- How to give advice to managers?   If you are in a very competitive industry / concentrated industry / monopolistic industry, what financial securities should you use (%debt, type of debt - short term vs. long term) to finance your investment?

Summary

- Competitors are not just benchmarks. Firms choose financial policies to influence interaction with each other.

- Industry competition is not just a control variable or alternative disciplining device.

- Competition is a fundamental state variable which impacts:
  - Viable governance structures
  - Viable compensation systems
  - Viable financing structure
  - Risk and survival of firms!!

More Information

- For more on the above topics and a more extensive reading list please consult a Ph.D. syllabus of a course I have designed and taught: "Interaction of Finance and Industrial Organization" See the web at: http://www-bcf.usc.edu/~gordonph/Phd.html.

- This course has been taught at Maryland, USC, Helsinki, HEC - Paris, Insead, Tulane, UNSW (Australia), Vienna Graduate School of Finance (VGSF).

Research Possibilities - 2

- Dynamics:
  - Do firms use cash and other financial policies to affect future competition?
  - Are changes in industry competition correlated with changes in optimal financial and actual financial policies?

  Hoberg and Phillips (2015, JPE) focuses on endogenous competition using text-based measures of industry and competition.

Research Possibilities - 3

In industry equilibrium models, industries go through the following process:

1. **Growth**:   Large number of firms (N), high prices.
2. **Consolidation:**   Standardization of technology, prices decline, some firms exit. Which firms, how do they exit?   (Pastor and Veronisi 2006 have begin to explore the implications for risk and asset prices, Maksimovic and Phillips 2008 for firm organization and industry life cycle).
3. **Stability**
4. **Decline:** firms again exit with few firms remaining.

Industry Life Cycle

- Do financial policies contribute to who exits and how?

- Are risk properties of asset prices different over the stages of the industry life-cycle?