

Corporate Disclosure as a Tacit Coordination Mechanism

Evidence from Cartel Enforcement Regulations

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U-Haul Communications

- ▶ U-Haul held an earnings conference call on Feb 7, 2008. They knew that representatives from their main competitor, Budget, would monitor the call. CEO made the following points:
 - ▶ *U-Haul is acting as the industry price leader. The company has recently raised its rates, and competitors should do the same*
 - ▶ *To date, Budget has not matched U-Haul's higher rates. This is unfortunate for the entire industry*
 - ▶ *U-Haul will wait a while longer for Budget to respond appropriately, otherwise it will drop its rates*
- ▶ Further discovered internal memo from the CEO:
 - ▶ *Budget continues in some markets to undercut us on One-Way rates. Either get below them or go up to a fair rate. Whatever you do, LET BUDGET KNOW*
- ▶ A similar case: Valassis Communications and News America

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Avoiding Antitrust Traps in Investor and Analyst Calls

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Antitrust Challenges Based on Statements In Calls

- ◆ Why are private plaintiffs listening?
 - Pleading requirements are more rigorous after Twombly
- ◆ Why is the government listening?
 - Belief that companies signal one another
- ◆ Theories of antitrust liability
 - Conspiracy facilitated by analyst calls
 - Invitations to collude and unlawful signaling
 - Recent FTC Consent in U-Haul
- ◆ Limitations of theories
 - Must prove conspiracy and that's not easy
 - Invitation to collude theory has limited acceptance

This Paper

- ▶ Do firms use their financial disclosure to share information that could benefit peers in tacit collusion arrangements?
 - ▶ Discussion on competitive strategies in the conference calls with equity analysts
 - ▶ Material contracts with customers

Trade-off

- ▶ More transparency brings **benefits** of reduced information asymmetry
 - ▶ Less adverse selection
 - ▶ Better governance
- ▶ But more publicly-disclosed information might allow firms to tacitly coordinate their actions in product markets
 - ▶ Welfare **costs** of disclosure
- ▶ Potential conflict between securities and antitrust regulations

Legal Discourse

- ▶ Supreme Court Ruling in *Credit Suisse vs Billing*:
 - ▶ Creation of the SEC implicitly exempted the regulated securities industry from antitrust laws
- ▶ Legal discussions to what extent this should apply to the financial disclosure
 - ▶ "Some have argued that **at least some corporate disclosures are immune entirely from antitrust challenge** under the Supreme Court's decision in *Credit Suisse v. Billing*, where those disclosures advance the purposes of the securities laws and fall within the scope of federal securities regulatory authority" (Fullerton (2011))
 - ▶ "Many statements made during **Investor Calls should be immune from antitrust attack**" (Steuer, Roberti, and Jones (2011))

Empirical Strategy

- ▶ We want variation in tacit collusion
 - ▶ Impossible to observe
 - ▶ Instead we'll vary incentives to tacitly collude
- ▶ Assumption:
 - ▶ When explicit collusion costs increase, (at least for some firms) tacit collusion becomes the most appealing alternative strategy
- ▶ Identification:
 - ▶ Strengthening antitrust enforcement around the world that affects US firms, increasing explicit collusion costs
- ▶ Joint test:
 - ▶ Antitrust enforcement against explicit collusion makes tacit collusion more likely AND
 - ▶ Tacit collusion changes financial disclosure on product markets

NOT This Paper

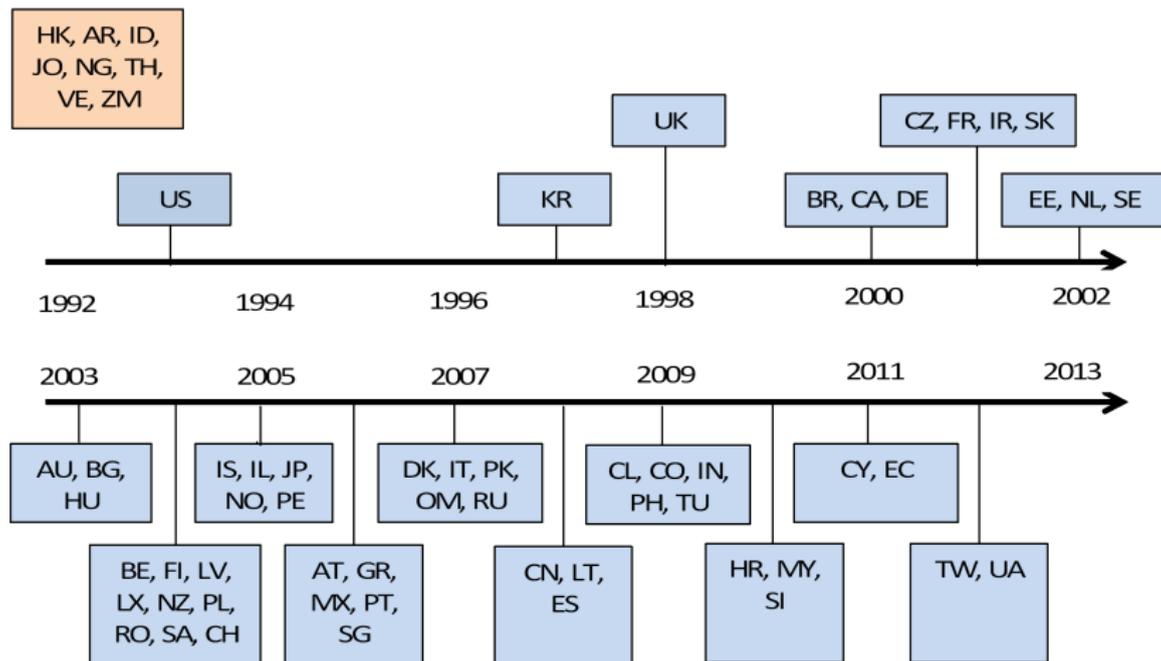
- ▶ Financial disclosure is the only/most popular way how firms stabilize collusion when explicit costs of collusion increase
- ▶ They could do something else:
 - ▶ Merge
 - ▶ Collude by other disclosure (advertising)
 - ▶ Start sharing common owners, lenders, etc
- ▶ This paper aims to show that financial disclosure is ONE way
 - ▶ Empirically document a potential conflict between antitrust and securities regulation

Identification strategy: Leniency laws

Identification

- ▶ Staggered adoption of leniency laws around the world
 - ▶ Grant immunity to the first self-reporting cartel member and allow for reduced sentences to other cooperative members
 - ▶ That includes criminal liability for individuals in the firm
 - ▶ Number of convicted cartels increased by 154% and gross margins dropped by 14.8%

Timing



No Particular Trend

- ▶ No laws are passed in vacuum but, based on our reading of media, no particular trend, e.g.:
 - ▶ US, Switzerland, Hungary: laws passed after significant collusion cases
 - ▶ Taiwan: concerns about rising consumer prices
 - ▶ Korea: financial crisis
 - ▶ Mexico: general recommendation of an OECD Peers Review
 - ▶ Singapore: US bargained to add it as part of FTA
 - ▶ Some EU member states: pressure from EU
 - ▶ IMF and World Bank sometimes ask for the overhaul of antitrust laws as part of funding

Identification in This Paper

- ▶ US firms over 1994-2012
- ▶ Staggered passage of laws in the countries with which the firm's industry trades
 - ▶ Coordination between the antitrust authorities easier
 - ▶ Information of foreign cartel becomes public, helping US authorities to prosecute similar behavior by the same firms domestically
 - ▶ Conviction in a foreign cartel might initiate private civil cases in the US (chocolate cartel)
 - ▶ More difficult to form international cartels with industry peers
- ▶ Exogenous to the economic conditions surrounding the firm back in the US

*“The DOJ recognizes that the interconnected nature of modern cartels is such that **the viability of foreign leniency programs is also critical to U.S. anti-cartel enforcement efforts**: [t]he emergence of leniency policies of different governments with similar requirements has made it much easier and far more attractive for companies to develop a global strategy for reporting international cartel offenses and had led leniency applicants to report their conduct to multiple jurisdictions simultaneously. For instance, the European Commission has been one of the Divisions closest partners in the fight against international cartels” and **“[o]ver ninety percent of the international cartels that have been prosecuted by the Division were active in Europe as well as in the United States.”***

- DoJ (2009)

“[T]he Corporate Leniency Program revolutionized cartel enforcement, led to the successful prosecution of many long-running and egregious international cartels, and served as a model for leniency programs subsequently adopted in dozens of jurisdictions around the world.”

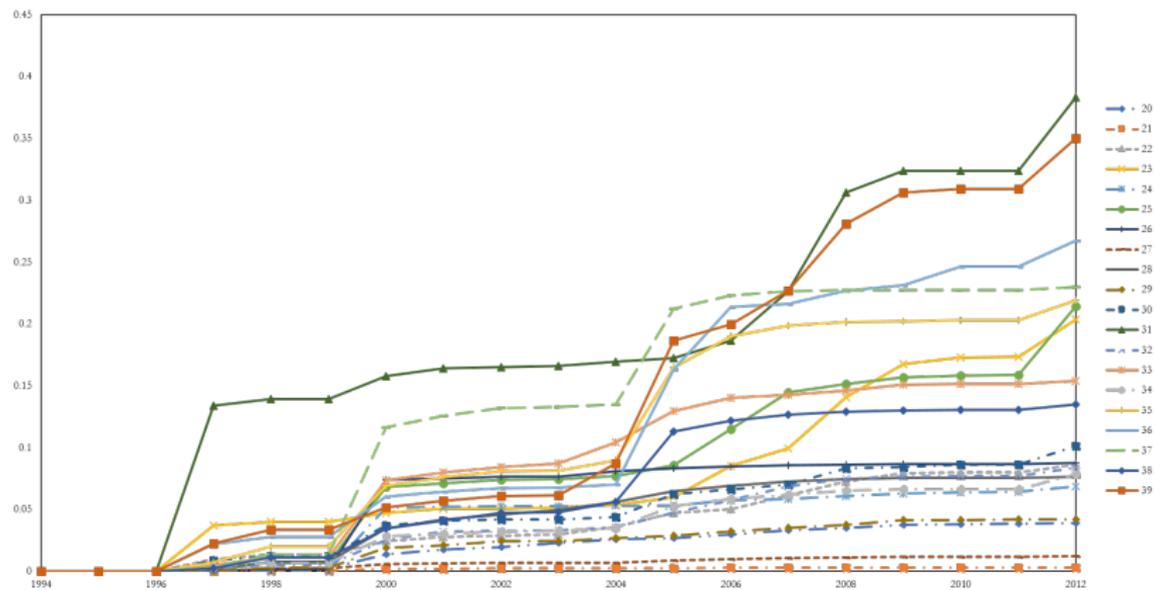
“[M]ore jurisdictions than ever before are effectively investigating and seriously punishing cartel offenses. The US is now almost always joined in investigating and punishing international cartels by the European Commission, Japan, Brazil, Canada, Australia and others. These jurisdictions investigate with vigor and impose tough sanctions. As a result, companies are now exposed to enormous monetary penalties around the world.”

- DoJ (2015)

Continuous Treatment Measure

- ▶ Proxy firm's exposure to the passage of foreign leniency laws by firm's industry imports
- ▶ Estimate a weighted average of foreign laws:
 - ▶ $Foreign\ Leniency_{jt} = \sum_l w_{lj} L_{lt}$, where w_j is equal to the share of 2-digit SIC industry j 's imports from country l to US in total industry's output in 1990 and L_{lt} is equal to one if country l has passed the law by year t
- ▶ Variation at a country/industry/year level
 - ▶ When Spain passed the law in 2008, *Foreign Leniency* increased by $x\%$ for US industries that import $x\%$ of total output from Spain

Measure



Specification

$$\begin{aligned} Disclosure_{it} = & \alpha + \beta ForeignLeniency_{jt} + Controls_{ijt} \\ & + FirmFE + YearFE + \epsilon_{it} \end{aligned}$$

- ▶ Essentially, a difference-in-difference estimate
- ▶ Treated industries in year t :
 - ▶ Trade *more* with countries that pass leniency law in year t
- ▶ Control industries in year t :
 - ▶ Trade *less* with countries that pass leniency law in year t

Validation

	<i>Convicted Cartels</i>	<i>Gross Margin</i>	<i>Stock Returns</i>	<i>PPI</i>
	(1)	(2)	(3)	(4)
Foreign Leniency	1.129** (0.537)	-0.596* (0.300)	-0.684** (0.276)	-1.265*** (0.315)
Year FE	Yes	Yes	Yes	Yes
Industry FE	Yes	No	No	Yes
Firm FE	No	Yes	Yes	No
Controls	Yes	Yes	Yes	Yes
Observations	380	25,256	25,256	4,034
Adj. R-squared	0.226	0.736	0.055	0.041

Changes in financial disclosure

Disclosure Measures

- ▶ Financial disclosure that might stabilize tacit collusion arrangements:
 - ▶ Material contracts with customers
 - ▶ Discussion on competitive strategies in the conference calls with equity analysts

Disclosure #1

- ▶ New material contracts with customers
 - ▶ Regulation S-K requires firms to file all material contracts
 - ▶ Credible forward-looking measures about prices/quantities
- ▶ Due to proprietary reasons, the SEC allows firms to request part of the information to be withheld from the filings
 - ▶ Firms have discretion
- ▶ We capture whether firms redact information
 - ▶ Search for confidential requests
 - ▶ Dummy and continuous measures of whether the firm redacted contracts each year

Redacted Contract (Molecular Insight Pharmaceuticals)

WHEREAS, MIP agrees to source and/or manufacture the products (defined below) and supply such products to **BIOMEDICA**;

...

3.2.1 Pricing *****

- Compound Transfer Price is set at ***** per Dose
- Product for clinical trials is set at ***** per Dose
- Product Transfer Price. The BIOMEDICA price per dose of the Product will be determined by the national competent authority of each country of the Territory in which the Product will be launched. If the price per dose for the Product by the national competent authority is set below ***** then the Parties will renegotiate in good faith the transfer price for Product in that country in the Territory.

Price Per Dose*	Transfer Price	Percentage of Onalta Price Per Dose**
*****	*****	*****
*****	*****	*****
*****	*****	*****
*****	*****	*****
*****	*****	*****
*****	*****	*****
*****	*****	*****

* Confidential Treatment Required *

Non-Redacted Contract (Mosaic Co)

EXHIBIT A

QUANTITY:	Approximately 20,000 short tons. Buyer agrees to purchase 100% of its requirements from Seller during the term of this Agreement.
PRICE:	For the January 1 through June 30, 2007 time period pricing will be as follows: \$218/st FFR at Buyer's designated facility Timpie, UT. \$203/st FFR at Buyer's designated facility Savage, MN. \$204/st FFR at Buyer's designated facility Buffalo, IA. \$230/st FFR at Buyer's designated facility White Marsh, MD. \$234/st FFR at Buyer's designated facility Tampa, FL. Pricing after July 1st, 2007 will be done for 6 month time periods with final pricing determined 15 days prior to the start of the period. For example, July 1 through December 31, 2007 pricing will be finalized by June 15, 2007.
PAYMENT TERMS:	Net 30 cash from date of invoice.
SHIPMENT PERIOD:	01/01/07 to 12/31/08
RAIL DEMURRAGE:	Buyer is exempt from demurrage on actual placement date plus two free days succeeding actual placement date, after which Seller will charge \$40 per day per railcar for private cars. If product shipped in railroad owned equipment, then demurrage will be charged per the railroads going rate.
STATE TONNAGE TAX:	For the account of Buyer

Disclosure #2

- ▶ Conference calls
 - ▶ We concentrate on the presentations by CEOs and CFOs to capture how they disclose product-market related issues
- ▶ Count of product-market related words:
 - ▶ *product, service, customer, consumer, user, client*
 - ▶ *price, discount, product, service, customer, consumer, user, client*
 - ▶ Twenty most frequent words in two earnings conference calls that led to FTC cases
 - ▶ Quote competitors during conference calls

Main Results

	<i>Redacted Contracts</i>		<i>%Product Conference Calls</i>	
	(1)	(2)	(3)	(4)
Foreign Leniency	-4.043*** (1.202)	-3.655*** (1.007)	10.705** (4.854)	11.889** (5.155)
Year FE	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes
Controls	No	Yes	Yes	Yes
Adjusted R-squared	0.587	0.612	0.674	0.674
Observations	414	414	9,713	9,713

- ▶ For the most exposed industries, each leniency law explains, on average, 19% of within-firm variance of *Redact Contracts* and 5% of within-firm variance of *%Product Conference Calls*

Pre-trends and Dynamics

- ▶ Looking at the binary changes of the most exposed country:

	<i>Redacted Contracts</i>	<i>%Product Conference Calls</i>
Binary Foreign Leniency (T-3)	-0.081 (0.118)	-0.174 (1.078)
Binary Foreign Leniency (T-2)	-0.406 (0.246)	1.002 (1.129)
Binary Foreign Leniency (T-1)	0.065 (0.187)	1.933 (1.224)
Binary Foreign Leniency (T)	-0.323** (0.112)	2.211* (1.188)
Binary Foreign Leniency (T+1)	-0.246 (0.146)	1.908 (1.376)
Binary Foreign Leniency (T+2)	-0.650*** (0.102)	2.554* (1.377)
Binary Foreign Leniency (T+3)	-0.508*** (0.160)	2.875** (1.372)
Binary Foreign Leniency (4+)	-0.503** (0.136)	3.269** (1.457)
Firm & Year FE	Yes	Yes
Adjusted R-squared	0.624	0.675
Observations	414	9,713

Heterogeneity

- ▶ Industry's propensity to engage in collusive arrangements
 - ▶ Concentration (Motta (2004))
 - ▶ Product homogeneity (Raith (1996))
 - ▶ Recent or predicted convictions (Levenstein and Suslow (2006))
 - ▶ Patent propensity (barriers to entry)
 - ▶ Industry growth (Rotemberg and Saloner (1986))
- ▶ Industry's ability to sustain tacit coordination via unilateral disclosure
 - ▶ Prevalence of public firms in the industry
 - ▶ Strategic complements vs substitutes (Mouraviev and Rey (2011))
- ▶ Firm leader in initiating unilateral disclosure
 - ▶ Large firms (Deneckere and Kovenock (1992))

Some Other Robustness

- ▶ Weights based on (a) exports, (b) final good imports, (c) 3-digit SIC, (d) 3-digit SIC + 2-digit SIC FE \times year
- ▶ Firm-level identification based on subsidiary locations
- ▶ EU as one country
- ▶ Countries for which we know the reason of law passage (and the time local media discussions started)
- ▶ Exclude industries and countries one-by-one
- ▶ Countries with high judicial enforcement
- ▶ Contracts redact separately (a) price, (b) quantity
- ▶ No effect on supplier contracts
- ▶ Conference call dictionaries include (a) price discussions, (b) placebo words using word2vec, (c) other executives, Q&A, (d) forward-looking versus current statements

Alternative Responses?

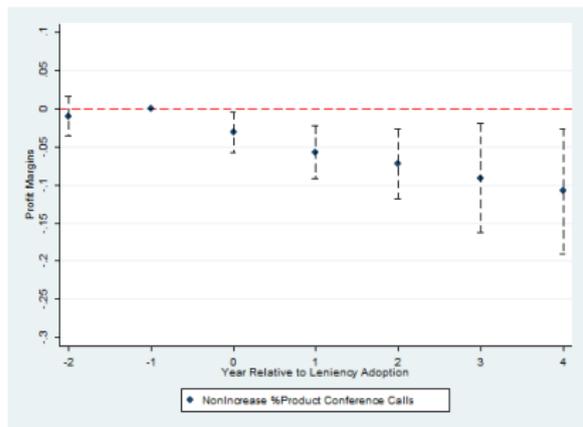
- ▶ Increased disclosure is a response to more competition?
 - ▶ Raise equity to compete with peers
 - ▶ Signaling good behavior to antitrust authorities and thus reducing litigation risk
- ▶ The effect is confounded with alternative coordination channels?
 - ▶ Information exchange through public advertising
 - ▶ Coordination through common ownership
 - ▶ ...

Alternative Responses

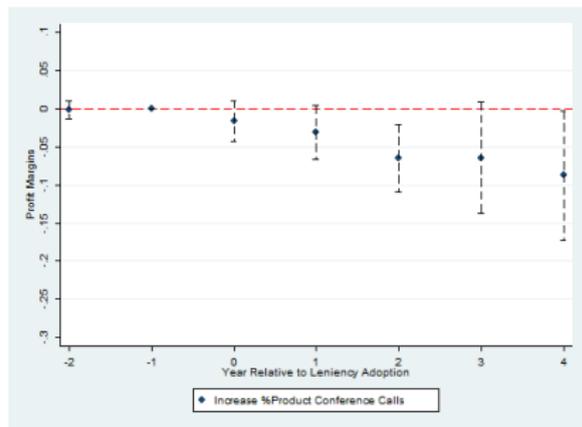
	Redact Contracts (1)	%Product Conference Calls (2)
(1) Excl. Large Decrease in HHI	-3.339*** (0.882)	11.720** (5.035)
(2) Excl. Large Increase in Import Penetration	-4.345*** (0.619)	10.017** (3.713)
(3) Excl. Large Increase in MD&A Competition Discussion	-3.702*** (0.978)	12.535** (5.313)
(4) Excl. Large Decrease in Product Differentiation	-3.993*** (1.111)	10.973** (5.028)
(5) Excl. Large Stock Price Reaction to New Products	-4.288*** (0.749)	11.680** (5.286)
(6) Excl. Large Number of Major New Products	-3.750*** (0.955)	11.728** (5.179)
(7) Excl. Large increase in New Clients	-3.490*** (0.974)	12.486** (5.003)
(8) Excl. Large Increase in Advertising Expenses	-2.344* (1.260)	11.784** (4.809)
(9) Excl. Large Increase in Common Ownership	-2.788* (1.485)	11.565** (5.215)

Does It Work?

- ▶ Is the change in disclosure consistent with tacit collusion?
 - ▶ Do firms that disclose more experience better profitability?
 - ▶ Partition based on whether firms increase discussion in conference calls and compare the trends in **profitability**



Firms without Increasing %Product Conference Calls



Firms with Increasing %Product Conference Calls

Takeaways

- ▶ Increase in explicit collusion costs leads to a strategic change in firms' disclosure on product market related information
 - ▶ Consistent with financial disclosure being used as a coordination mechanism to sustain tacit collusion
 - ▶ Firms sharing more information do not experience a drop in profitability
- ▶ Policy implications highlight the conflict between securities and antitrust regulations
 - ▶ Optimal disclosure level should take into account the effect of financial transparency on consumers' welfare

Greater transparency in the [financial] market is generally efficiency enhancing and, as such, welcome by competition agencies. However, it can also produce anticompetitive effects by facilitating collusion or providing firms with focal points around which to align their behaviour.

- OECD (2012)