“Corporate Disclosure as a Tacit Coordination Mechanism: Evidence from Cartel Enforcement Regulations”

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Analyze two key types of data of interest for studying collusion:
- earnings call transcripts
- SEC filings

Analyze firms’ strategic use of financial disclosures to sustain collusion
- increased product-related discussions during earnings calls
- fewer requests for confidential treatment for material sales contracts in SEC filings

Interpretation: passage of leniency laws in foreign countries has caused US firms to stop explicitly colluding and start tacitly colluding—with tacit collusion based on communication through earnings calls and SEC filings
Economics of collusion

- Theories for usefulness of earnings calls and SEC filings in collusion include:
  - coordinate future conduct
    - public price announcements (or capacity/other)
    - in advance of effective dates
  - monitor past conduct
    - SEC enforcement (however disclosure “somewhat voluntary”)
  - mitigate buyer resistance
    - negotiate aggressive contracts and reveal those as benchmarks to anchor other negotiations
Overall reaction

- Completely willing to believe that firms will use all (legal?) avenues available to them to enhance profits
- Including:
  - communication and signalling via earnings calls
  - communication and signalling via SEC filings
- Exciting that big data techniques open doors for new analyses of “non-numerical” data
- Great to see attention paid to antitrust implications of communication
- Not convinced that certain alternative interpretations of the results have been ruled out
- SEC redaction data: 2000–2012
- Earnings call data: 1994–2012?
Approach and interpretation

- Attempt to explain earnings call comments and failure to redact contracts in SEC filings based on the introduction of antitrust leniency in countries that have exports into the two-digit SIC code.

- Claim: identify a causal impact of increases in explicit collusion costs on firms’ disclosure choices.
  - collusion costs $\leftrightarrow$ foreign leniency
Treatment variable

\[ j = 2\text{-digit SIC industry}; \quad t = \text{year}; \quad k = \text{foreign country} \]

- **Foreign leniency:**

\[
\text{foreign leniency}_{jt} = \sum_k w_{kj} L_{kt}
\]

- \( w_{kj} \): given two-digit SIC code \( j \) (e.g., “Electronic & Other Electric Equipment”) and country \( k \) (e.g., China), share of SIC code \( j \) output imported to the US from country \( k \) in 1990

- \( L_{kt} \): given country \( k \) and year \( t \), 0/1 based on whether the country offers antitrust leniency

- sum over countries

- roughly: import share in the two-digit SIC code from countries with antitrust leniency
Note: 2008: financial crisis and China’s leniency policy
Leniency variable: electronics and chemicals

Approx. 30 EC countries
Germany 2000
EC leniency 2002 (robustness check)
Disclosure variable

\[ i = \text{firm}; \quad j = 2\text{-digit SIC industry}; \quad t = \text{year} \]

- Redacted contracts

\[
\text{redacted contracts}_{ijt} \in \{0, 1\}
\]

- material sales contracts (exhibit 10)
  - exclude contracts not related to product sales
- 414 firm-year material contracts (exclude others)
- keywords: “confidential treatment,” “confidential request,” “confidential ... redacted”
- variable coded 1 if at least one keyword for at least one material sales contract for the firm/year
- roughly: 50% coded 1 in any year
%Product Conference Calls

\[
\text{%product conference calls}_{ijt} = \frac{\text{keywords}}{\text{total words}} \cdot 1000
\]

- Earnings calls with equity analysts
- CEO or CFO opening statements
  - exclude transcripts with fewer than 150 words
- Count use of:
  - “product,” “service,” “customer,” “consumer,” “user,” “client”
  - scale by total number of words in transcript
- Average over calls in a year
Other variables

- return on assets
- total assets
- HHI for two-digit SIC code (avg. 600)
- import penetration (four-digit SIC level)
Main empirical findings 1/2

- Claim: demonstrate that passage of leniency laws leads to dissolution of cartels
  - test whether foreign leniency variable captures an increase in collusion costs
  - data from 1994–2012
  - regress log of 1 plus number of convicted cartels (alt. firms) in two-digit SIC industry on foreign leniency variable and fixed effects
  - positive, significant (380 obs)

- Great—leniency works!

- Concerns
  - use of “foreign leniency” variable to explain foreign cartels
  - were the cartels discovered through leniency?
  - what if replace foreign leniency with a time trend?
  - don’t observe initiations of collusion (relevant for interpretation of other findings)
Main empirical findings 2/2

- Regress *redacted contracts* on foreign leniency
  - negative, significant (414 obs)
- Regress %*product conference* calls on foreign leniency
  - positive, significant (9,713 obs)

Interesting/provocative results

Raise questions related to:
- measurement
- interpretation
Paper

- Firms are explicitly colluding at $t = 0$
- Leniency abroad is bad news
- Causes firms to switch from explicit to tacit collusion
- Structure of tacit collusion involves fewer redactions and more use of product words

Alternative

- Firms are not explicitly colluding at $t = 0$
- Leniency abroad is good news—lower fines or reflects a rise in collusive activity (increased profitability)
- Firms start explicitly colluding
- Structure of explicit collusion involves fewer redactions and more use of product words
Case studies

- What are these firms/industries that were explicitly colluding but switched to tacit?
  - maybe statute of limitations has not run out
- Examples (not widgets)
  - details of product language and un-redactions
- Is a richer analysis possible?
  - what is the information content of the un-redactions?
  - what is the intent of earnings call comments?
  - perhaps big data techniques open up new possibilities for analysis
Great to see this data being examined with an eye towards antitrust.

I worry that the story is more one of firms expanding anticompetitive conduct than one of them curtailing it.
Two-digit SIC codes

- Exclude financial (6000–6999) and utility (4900–4999)

D. Manufacturing

20 Food & Kindred Products
21 Tobacco Products
22 Textile Mill Products
23 Apparel & Other Textile Products
24 Lumber & Wood Products
25 Furniture & Fixtures
26 Paper & Allied Products
27 Printing & Publishing
28 Chemical & Allied Products
29 Petroleum & Coal Products
30 Rubber & Miscellaneous Plastics Products
31 Leather & Leather Products
32 Stone, Clay, & Glass Products
33 Primary Metal Industries
34 Fabricated Metal Products
35 Industrial Machinery & Equipment
36 Electronic & Other Electric Equipment
37 Transportation Equipment
38 Instruments & Related Products
39 Miscellaneous Manufacturing Industries
Electronics cartels

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<tr>
<th>Firm</th>
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<tr>
<td>Chunghwa</td>
<td>CRTs, LCDs</td>
</tr>
<tr>
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<td>CRTs, auto parts (alternators and starters), electrolytic capacitors, DRAM, optical disk drives, gas insulated switchgear, power transformers, smart card chips</td>
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<tr>
<td>LG/Philips/LPD</td>
<td>CRTs, optical disk drives, lithium-ion batteries, LCDs, smart card chips</td>
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<tr>
<td>Mitsubishi</td>
<td>CRTs, auto parts, DRAM, smart card chips, gas insulated switchgear, power cables, elevators/escalators</td>
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<tr>
<td>Panasonic</td>
<td>CRTs, auto parts, compressors, capacitors</td>
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<tr>
<td>Samsung</td>
<td>CRTs, DRAM, LCDs, smart card chips, optical disk drives, CRT glass</td>
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<tr>
<td>Toshiba</td>
<td>CRTs, DRAM, gas insulated switchgear, power transformers</td>
</tr>
<tr>
<td>Country</td>
<td>Year</td>
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Timing

- Noise in timing between enactment and implementation of leniency (ACPERA)

U.S. DOJ: Growth in Role of Leniency Applications

Figure 8: Number of Criminal Cartel Cases Filed Each Fiscal Year, Broken Out by Those Assisted and Not Assisted by a Leniency Applicant

- Total cases
- Fiscal year case filed
  - Cases not assisted by leniency applicant
  - Cases assisted by leniency applicant

Source: GAO analysis of Antitrust Division data.