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

Internet Appendix (Not for Publication)

Appendix A1: Examples of Sales Contracts with Redacted and Non-redacted Information

Example 1: Redacted Disclosure

The document is from a sales agreement in ***Molecular Insight Pharmaceuticals, Inc.***'s 10-Q filing on 2009-11-06 with redacted information.

EX-10.5 5 dex105.htm SUPPLY AGREEMENT

Exhibit 10.5

SUPPLY AGREEMENT

This supply agreement ("Agreement"), dated this 19th day of October, 2009 (the "Effective Date") is entered into by and between Molecular Insight Pharmaceuticals, Inc. (referred to herein as "MIP"), a corporation organized and existing under the laws of The Commonwealth of Massachusetts and having its principal office at 160 Second Street, Cambridge, MA 02142 USA, and BIOMEDICA Life Sciences S.A., a corporation organized and existing under the laws of Greece, with offices at 4 Papanikoli Str., 15232 Halandri, Athens, Greece (referred to herein as "BIOMEDICA"), with Greek Tax ID of EL 094413470, from the tax office of FAEE Athens; each a "Party" and collectively the "Parties" hereto.

. . .

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 *

Example 2: Non-Redacted Disclosure

The document is from a sales agreement in ***MOSAIC CO***'s 10-K filing on 2007-08-09 without redacted information.

EX-10.II.OO 3 dex10iioo.htm SALE CONTRACT

Exhibit 10.ii.oo

SALE CONTRACT

This Sale Contract is made this 1st day of January, 2007 by and between the Salt Business Unit of Cargill, Incorporated with principal offices at 12800 Whitewater Drive #21, Minnetonka, MN 55343 ("Buyer") and Mosaic Crop Nutrition, LLC with its principal offices located at Atria Corporate Center, Suite E490, 3033 Campus Drive, Plymouth, MN 55441 ("Seller").

1. Seller agrees to sell to Buyer Untreated White Muriate of Potash (the "Commodity") at the terms and conditions set forth below and as further set forth in Exhibit A, attached hereto and by this reference made a part hereof.

. . .

Additional terms and conditions are set forth in Exhibit A.

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

Appendix A2: The Passage of Foreign Leniency Laws

The table presents years of leniency law adoption by country. The original source of the information is Cartel Regulation 2013, published by Getting the Deal Through. We complement the dataset using press releases and news articles.

Country	**Year**	**Country**	**Year**
Argentina	None	Latvia	2004
Australia	2003	Lithuania	2008
Austria	2006	Luxembourg	2004
Belgium	2004	Malaysia	2010
Brazil	2000	Mexico	2006
Bulgaria	2003	Netherlands	2002
Canada	2000	New Zealand	2004
Chile	2009	Nigeria	None
China	2008	Norway	2005
Colombia	2009	Oman	None
Croatia	2010	Pakistan	2007
Cyprus	2011	Peru	2005
Czech Republic	2001	Philippines	2009
Denmark	2007	Poland	2004
Ecuador	2011	Portugal	2006
Estonia	2002	Romania	2004
Finland	2004	Russia	2007
France	2001	Singapore	2006
Germany	2000	Slovakia	2001
Greece	2006	Slovenia	2010
Hong Kong	None	South Africa	2004
Hungary	2003	Spain	2008
Iceland	2005	Sweden	2002
India	2009	Switzerland	2004
Indonesia	None	Taiwan	2012
Ireland	2001	Thailand	None
Israel	2005	Turkey	2009
Italy	2007	Ukraine	2012
Japan	2005	United Kingdom	1998
Jordan	None	Venezuela	None
Korea	1997	Zambia	None

Appendix A3: Data Collection Process

A material supply contract is typically disclosed as Exhibit 10 as part of an annual report 10-K, quarterly report 10-Q, and current report 10-K, in the following form:

$< Document >$
$< TYPE > EX - 10(.)XXX$
...
$< TITLE > Supply\ Contract\ Title < /TITLE >$
CONTEXT

$< /Document >$

We first obtain the URL address of annual, quarterly and current reports filed by non-financial firms incorporated in the U.S. from WRDS, then download all material business contracts filed as Exhibit 10 through the 10-K, 10-Q and 8-K. As we are interested in supply contracts only, we require the contract's title to include at least one word from the following list: *sell, sale, order, procurement, supply, supplier, purchase, purchaser.*

If the title is not specified in the form of $< TITLE >$ "$Title$" $< /TITLE >$, we require the contract to 1) have a word from the word list of *sell, sale, order, procurement, supply, supplier, purchase, purchaser* in conjunction with a word in the same sentence from the word list of *agreement, agrmt, agree, agmt, form, plan, contract, letter, confirmation, commitment, order, NO*; 2) have a word from the word list of *seller, purchaser, buyer, subscriber, producer, carrier, supplier, customer, consumer, manufacturer.*

Meanwhile, we exclude a contract automatically if in the first 200 words it contains a word from the list of *interest, registration, receivable, acquisition, merge, real estate, patent, lease, compensation plan, real property, property, properties, bonus, financing, equity, loan, debt, lend, borrow, debenture, incentive plan, executive, stock, security, securities, bond, option, employee, asset, note, land, credit, warrant, residual, rent, share, bank, dollar, employ.* This word list is developed based on our manual reading of 500 business contracts. This results in 6,671 contracts from 4,007 unique firm-years over 2000 to 2012.

We next manually read each contract and exclude non-supply contracts, such as asset

purchase agreements, stock purchase agreements, and transactions that contain only a transfer of license, properties, notes or accounts receivable, which results in 3,066 contracts. This number is comparable to that of Costello [2013], who has 3,855 customer-supplier contracts over 1996 to 2012. We obtain the name of the customer and the supplier from the contract and exclude contracts filed by the customer, which results in 1,611 contracts from 1,096 unique firm-years. Lastly, we exclude non-manufacturing firms. The data collection procedure is summarized in the following table.

Step		No. Contracts	No. Firm-years
Material contracts filed with the SEC from 2000 to 2012, containing specific words		6,671	4,007
Excluding non-customer-supplier contracts	(-3,605)	3,066	1,861
Requiring filer to be the supplier	(-1,455)	1,611	1,096
Excluding non-manufacturing firms	(-652)	959	652
Requiring information on control variables			414

Appendix A4: Additional Robustness Checks

1 Redaction in Purchase Contract

In Internet Appendix Table *A*1, we perform a falsification test where we look at the material contracts with *suppliers*, which should be less helpful in assisting collusion. We find a statistically insignificant association between *Foreign Leniency* and redaction in material contracts with *suppliers*, which indicates that firms do not increase *all* information on product-market strategies.

2 Robustness of Foreign Leniency Measures

Weighting schemes. In Internet Appendix Table *A*2, we explore the robustness of our results to alternative weighting schemes. Panel A1 reports results for *Redacted Contract*, and Panel A2 reports results for *%Product Conference Calls*. In column (1), we re-estimate *Foreign Leniency* by setting the weight as the share of the *three-digit* SIC industry's imports from other countries in 1990. Second, in column (2), we report the results based on the *Export-based Foreign Leniency* by setting the weight as the share of exports of each two-digit SIC industry from the U.S. to other countries. If a firm's industry exports a lot to a certain country, it is likely that this country is an important product market for the firm. In column (3), we further report the results based on the weight of the share of exports of each three-digit SIC industry from the U.S. to other countries. Third, one might worry that our default weighting scheme is capturing vertical rather than horizontal collusion, since imports might be intermediate goods, whereas U.S. products in the same two-digit SIC industry might be final goods. In column (4), *Foreign Leniency* is recalculated according to weights based on the imports of only the *final* goods.[1] Finally, in column (5), we abstract

[1]We gather the information about the imports of final goods from the World Input-Output Database, available at http://www.wiod.org/database/int_suts13. We use the import data in 1995 to compute the weights. We convert the International SIC to the U.S. SIC using the concordance table provided by Jon

from the industry effects by repeating the analysis in column (1) and including two-digit SIC industry times year fixed effects. Our baseline results continue to hold when we use these alternative measures.

Rule of law and enforcement. The enforcement of leniency laws can differ across countries. While we are not able to measure which leniency laws will be more successful ex ante at the time of their implementation, we can focus on the countries that are known to have a judicial system that is relatively more efficient. In Internet Appendix Table *A*2, Panel B, columns (1)-(2), we thus reconstruct *Foreign Leniency* by considering only leniency laws from countries whose score on the efficiency of the judicial system (based on the measure in La Porta et al. [1998]) is larger than the sample median. Our result holds when we limit the sample to countries with more efficient judicial systems.

Second, one potential concern is that leniency law passage is correlated with a general increase in a country's rule of law, and we are thus capturing some other correlated legal change. To address this concern, we construct a *Foreign Rule of Law* measure, which is the weighted average of the rule of law index of other countries. As with *Foreign Leniency*, the weight to estimate *Foreign Rule of Law* is based on the imports of the two-digit SIC industry from other countries, while individual rule of law indices are based on World Bank data. In column (3), we show that an increase in rule of law does not drive our results. In column (4), we also show that *Foreign Leniency* is significant after controlling for *Foreign Rule of Law*.

Given that the EU has a supranational competition policy, we perform a robustness check where we treat all EU member states as one country. We then focus on the European Commission's strengthening of its antitrust enforcement in 2002 instead of the implementation of individual laws in EU countries and consider the later of this year and the year the country joined the EU as the relevant year for each EU country. As columns (5) and (6) of Panel B show, we still find that an increase in *Foreign Leniency* leads to less redaction of information

Haveman. If multiple international SICs are mapped to one U.S. SIC, we set the weight for this U.S. SIC as the median value of the international SICs.

in material contracts and more product-market-related discussions during conference calls.

Anticipation and lobbying. One concern with our study is that leniency laws might have been anticipated, and the change in disclosure behavior might have started before the actual adoption of laws. In addition, if stringent laws were anticipated but weaker laws were ultimately passed, focusing on the actual adoption year might even reverse the sign of the estimates (Hennessy and Strebulaev [2015]). Our binary adoption treatment mitigates the latter concern, but we perform an additional test to rule out this possibility. Specifically, for each country we follow Dasgupta and Žaldokas [2019] and collect data on when the first discussion about leniency laws by policy makers took place. To collect this information, we use the Factiva News Database and search for news in the local language about the leniency program adoption. Out of the 54 countries that have the laws in our sample, we found leniency programs discussed in the media of 35 countries. Some smaller countries, especially those in Central and Eastern Europe, are not covered by Factiva. Even for a handful of those that are covered, we were not able to establish media discussion about leniency laws before the adoption year. Out of the 35 countries that had discussions, we found that 26 had discussions about leniency laws at least a year before the law passage. For the countries for which we did not find any discussion, we instead use the actual year of leniency law passage. We then reconstruct our measure *Foreign Leniency* based on this updated year. Results tabulated in columns (1) and (2) in Internet Appendix Table *A*2, Panel C, show that our effect is not materially affected.

Firm-level exposure. Next, we reconstruct our treatment variable at the firm level. Specifically, while *Foreign Leniency* measures a firm's exposure to the leniency laws in other countries based on the industry's trade with that country, for a subset of firms we collect data on their actual international operations. We then measure *Foreign Leniency* by looking at the distribution of the firm's operations around the world in terms of sales as recorded in the Lexis-Nexis Corporate Affiliations database. We construct a measure of exposure to leniency law changes based on the proportion of firm activity that takes place in the country

that experiences the law change. As columns (3) and (4) show, we find consistent results that firms redact less information in material contracts and have more discussions about product-market topics when the costs of explicit collusion are measured at the firm level.

3 Robustness on Redacted Contracts Measures

Contract types. In Internet Appendix Table *A*3, we perform a more detailed analysis by manually reading all contracts and identifying the type of redacted information. Columns (1)-(2) focus on a set of contracts where firms explicitly specify product price, and examine firms' decision to redact information about product price. Columns (3)-(4) focus on a set of contracts where firms explicitly specify product quantity, and examine firms' decision to redact information about product quantity. We find that firms redact less information about both product price and quantity when the cost of explicit collusion increases.

Time trend. Finally, in Figure *A*1, we plot the average of our primary measure of disclosure, *Redacted Contract*, over time. It shows that there is no significant time trend.

4 Robustness on Conference Call Measures

We next show that our finding that managers increase their communication about product-market topics during conference calls when explicit collusion becomes more costly is robust to different ways of constructing our *%Product Conference Calls* measure. We present the results in Internet Appendix Table *A*7.

Alternative work dictionary. First, we augment the word dictionary in Table 3 with *price*, *pricing*, *prices*, *priced*, and *discount* to capture managers' discussion about pricing strategy. We remove any instance where *share*, *stock*, or *security* is mentioned in the five words around these words, in order to avoid including discussion of the firm's share price. Results are tabulated in column (1) of Internet Appendix Table *A*4, Panel A. We find consistent results: product-market-related disclosure increases when explicit collusion becomes

more costly. Second, we construct a word dictionary based on the two FTC cases cited in footnote (5) in the main body of the paper. We first extract the sections that are suspected of collusion from these two conference call scripts (namely the 2008 Q3 Amerco Earnings Conference Call and the 2004 Q2 Valassis Communications Earnings Conference Call), and we count the frequency of each word used in these sections after stemming words and removing stop words. The word dictionary is defined as the 20 most frequently used words.[2] The results, tabulated in columns (3)-(4), are consistent with our previous findings. Lastly, also motivated by the above-mentioned FTC cases, we investigate whether firms quote their competitors during conference calls. For instance, Valassis Communications mentioned its competitor *News America* 13 times during the 2004 Q2 conference call. We first identify a firm's competitors using the Factset Revere relationships database, which collects information from SEC filings, investor presentations, corporate action announcements, and press releases. We use the relationships identified by Factset Revere from April 2003, when the Factset Revere database started, to December 2012, when our sample period ends. We next define the binary variable *Quote Competitor* and code it as one if the CEO or the CFO mentions at least one of the firm's competitors during the earnings conference call presentations in the year. We exclude the conference calls of the firms that are not covered by Factset Revere. Since the Fatcset Revere database is available only after April 2003, we limit our analysis to the sample period of 2004-2012. Results are tabulated in columns (5)-(6). We find that managers quote their competitors more frequently when the costs of explicit collusion increase.

Falsification tests. Another concern is that our findings are driven by a general trend that managers provide more information in conference calls. To mitigate this concern, we conduct another falsification test by documenting that our *Foreign Leniency* measure is not associated with management discussion of topics unrelated to product-market concerns. To

[2]These words include *market share*, *customer*, *floor*, *time*, *news*, *industry*, *goal*, *need*, *budget*, *invest*, *client*, *standpoint*, *opportunity*, and *create*. We exclude *price*, *quote*, and *return* from the list due to their possible relations with the stock price.

perform this test, we first construct a dictionary of words (*Falsification Words*) that are unlikely to be related to product markets based on the cosine similarity of each word in our base dictionary (*product*, *service*, *customer*, *consumer*, *user*, *client*). For instance, in the case of *product*, we use the *word2vec* approach to calculate the cosine similarity between each word that appears in conference calls and *product*.[3] Higher cosine similarity indicates that the two words are more likely to be associated in similar contexts. We then retain the list of the least similar words, i.e., words for which the cosine similarity is negative and falls in the lowest decile of the distribution. We repeat this process for the remaining five words in our base dictionary and obtain the five lists of the least similar words. *Falsification Words* is defined as the intersection of these six lists[4] and consists of 24 stemwords (e.g., *preannouncement*, *pension*, *settle*, *immaterial*).

We randomly draw six words without replacement from the *Falsification Words* and conduct the analysis in column (4) of Table 3 using the proportion of these six words in a conference call as the dependent variable. We repeat this process 1000 times and plot the coefficients in Internet Appendix Figure A2. Results show that all the coefficients are smaller than the actual value. Also, in 919 out of 1000 cases, we cannot reject the null hypothesis that the passage of foreign leniency laws is not associated with the word frequency. In sum, the falsification test suggests that we do not simply capture the fact that managers provide more information in general.

Including other executives. Throughout the paper, we focus on the opening statements by CEOs and CFOs. We do so because CEOs and CFOs are the most common participants in conference calls and are the most knowledgeable about the firm (Chen et al. [2017], Davis et al. [2015], Larcker and Zakolyukina [2012]). In columns (7) and (8) of Internet Appendix Table A7, we show that our results are robust when we consider opening statements by other executives. We find that including all executives' statements in the

[3]See Mikolov et al. [2013] for a more detailed description of the *word2vec* approach.

[4]We remove from *Falsification Words* 35 stemwords that appear in fewer than 5% of the scripts, and 10 stemwords that are too general (e.g., *Monday*, *take*, *when*, etc.).

sample leads to an increase in their discussion about product-market topics when the costs of explicit collusion increase.

Including Q&A sections. Furthermore, we incorporate the Q&A sections of the conference calls into our analysis. Specifically, we repeat our analysis using all executives' statements during both the opening presentation section and the Q&A section after removing the statements by analysts and other members of the audience (e.g., operator and moderator). In columns (9) and (10), we show that the association between *Foreign Leniency* and the combined discussion on product-market topics in the opening statement and the Q&A sections remains significantly positive, although it is less economically and statistically significant than the results in columns (7) and (8). This is consistent with the argument that managers have less control over the topics during the Q&A.

Forward-looking statements. Finally, we separate the conference call disclosures on product-market strategies with forward-looking indicators from those without forward-looking indicators. Specifically, we count the frequency of product-market-related words with forward-looking indicators (e.g., *will*, *would*, *plan*) appearing within the preceding or the following 10 words (Li [2010]) in the presentation by the CEO and CFO during earnings conference calls, and we define it as *Forward-looking Statement*. In contrast, we count the frequency of product-market-related words without forward-looking indicators appearing within the preceding or the following 10 words, and we define it as *Current Statement*. We report these tests in Panel B of Internet Appendix Table *A*4. Columns (1) and (2) report results for *Forward-looking Statement*, and columns (3) and (4) report results for *Current Statement*. To make the estimated coefficients comparable across specifications, we standardize the dependent variable (i.e., *Forward-looking Statement* or *Current Statement*) by subtracting its sample mean and scaling it by its standard deviation. We find that *Foreign Leniency* is positively associated with both types of disclosure. The test on the differences in the coefficients shows that the effect on *Forward-looking Statement* is statistically larger than the effect on *Current Statement*.

5 Alternative Coordination Channels

One might be concerned that financial disclosure is not the only mechanism of tacit coordination and that it always comes together with one of the more important mechanisms. That is, firms respond to higher costs of collusion by tacitly coordinating their product-market decisions, but they do so through other channels. We explore two alternative channels of tacit collusion – product-market advertising and common ownership of the firm's equity – and we look at whether our effects remain when we exclude firms that increase advertising or see increased common ownership.

First, firms might increase their advertising expenditures (e.g., Gasmi et al. [1992], Greer [1971], Sutton [1974]) in order to exchange information on their pricing through public advertising. We check whether the effect on financial disclosure is present in the subsample where advertising has not increased substantially following the foreign leniency laws. In other words, we exclude firms whose change in advertising intensity is in the top quartile of the sample distribution. In Internet Appendix Table $A5$, columns (1) and (2), we report that this is indeed what we find.

Second, the theoretical literature (see, e.g., Gilo et al. [2006]) has argued that partial cross-ownership can facilitate tacit collusion, and Heim et al. [2019] suggest that corporate cross-ownership could be a response to increased antitrust enforcement. We look at the change in the number of blockholders shared with industrial peers (Park et al. [2019]) and exclude firms in the top quartile of the sample distribution. In Internet Appendix Table $A5$, columns (3) and (4) we find that the effect on financial disclosure remains consistent when we exclude these firms.

These findings suggest that even if the firms follow alternative coordination strategies, financial disclosure is a distinct mechanism that is not a byproduct of the other channels.

6 Predicting Leniency Law Adoption

A threat to our identification strategy is that the adoption of leniency programs by foreign countries was systematically correlated with the underlying economics of the most exposed U.S. industry to a given country. To tackle this concern, we follow Dong et al. [2019] estimated a Cox proportional hazard model to test if U.S. industry-level characteristics predict the adoption of leniency programs by foreign countries. In Appendix Table *A*6, we report various specifications of our Cox model. Importantly, we fail to find that a concentration measure and a profitability measure of the U.S. industry (defined at the two-digit SIC level) that is the most exposed to each adopting country's imports predict the change in anti-trust regulation. While this non-significant result cannot substantiate our identifying assumption, it fails to document a violation of it.

7 Disclosure and Antitrust Authorities

7.1 Antitrust Authorities and 10-K Documents

We investigate whether antitrust regulators use firms' publicly disclosed financial information by looking at how frequently they access firms' 10-K filings through EDGAR. We obtain the server request records from the EDGAR Log File Data Set available on the SEC's web servers. The EDGAR Log File Data Set is available from 2003 and contains such information as the client IP address, timestamp of the request, and page request. We link the log file to the EDGAR Master File and gather the information about the form type and filing date of the files that a user accesses.[5] We then define a binary variable, *Regulator Viewing*, which equals one if the 10-K filing filed during the year is accessed through the IP associated with the

[5]We exclude years 2005 and 2006, as the daily EDGAR log files from September 24, 2005 to May 10, 2006 are labeled by the SEC as "lost or damaged" (Loughran and McDonald [2017]). Our results are not affected materially if we include these two years.

DoJ or FTC within one year following the filing date.[6]

As presented in Internet Appendix Table *A*7, columns (1)-(2), we find consistent results that internet traffic to 10-K filings that could be associated with antitrust regulators increases following higher antitrust powers. In columns (3)-(4), we repeat our analysis by including 10-Q and 8-K filings, as such filings may also contain product-market information. Our results are robust. Finally, we perform a placebo test by examining the effect of increased collusion costs on other filings (i.e., filings with the SEC excluding 10-K, 10-Q and 8-K filings) that are unlikely to contain product-market information. In this case, we fail to document a change in viewing behavior for those filings by the DoJ and FTC (see columns (5)-(6)).

7.2 Conference Call Disclosure and Antitrust Authorities

We examine whether firms' product-market-related disclosure during conference calls is associated with the likelihood that antitrust authorities uncover cartel activities. As in Panel A of Table 1, we conduct our tests based on the two-digit SIC industry-year panel data. For each industry-year, we define the industry-level product-market-related disclosure as the median of *%Product Conference Calls* of all firms in the industry. We then regress either the number of convicted cartels in the industry (*Convicted Cartels*) or the number of convicted firms in the industry (*Convicted Firms*) on the lagged-one-period value of the industry-level product-market-related disclosure. The results appear in Internet Appendix Table *A*8. We find that the product-market-related disclosure is indeed associated with a higher probability that antitrust agencies uncovered these price-fixing activities in their industries.

8 Heterogeneity

In Internet Appendix Table *A*9, we provide all coefficients for the heterogeneity tests reported in Table 4 and discussed in Section 5.2. Panel A shows results for *Redacted Contracts*, and

[6]We use the 149.101.0.0 - 149.101.255.255 IP range to proxy for the queries from the DoJ and the 164.62.0.0 - 164.62.255.255 IP range to proxy for the queries from the FTC.

Panel B shows results for *%Product Conference Calls*.

In addition, in Internet Appendix Table *A*10, we explore the robustness of our heterogeneity tests to alternative weighting schemes. In columns (1) and (2), we construct a binary treatment variable based on the three-digit SIC. Our results are robust in 7/18 of the cases. In columns (3) and (4), we report the results based on the *Export-based Foreign Leniency* by setting the weight as the share of exports of each two-digit SIC industry from the U.S. to other countries. All of our heterogeneity tests point to the correct direction and are significant at conventional statistical levels in 10/18 of cases. In columns (5) and (6), we re-estimate *Foreign Leniency* by setting the weight as the share of the *three-digit* SIC industry's imports from other countries in 1990. The results are also largely supportive of our hypotheses being significant in 8/18 of the cases.

9 Other Robustness Checks

Our results also hold if we exclude the industries one by one, which means that the results are not driven by one particular industry, and also when we exclude countries one by one, which means that the results are not driven by one particular country. Moreover, we find that our results are consistent if we limit the sample to the firms that do not change CEOs over the sample period. If *Foreign Leniency* were somehow correlated with CEO change and the new CEO prefers different disclosure policies, we might capture these preferences rather than an independent effect on disclosure. Further, our results remain unaffected if we cluster standard errors by firm instead of industry, or by industry and year. Finally, all of our results hold if we control for geographic trends by adding headquarter state times year fixed effects.

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Table A1: Redacting Information in Purchase Contracts

This table presents results from OLS regressions relating redaction of information in material contracts to the exposure to the rule of law. The sample consists of U.S. Compustat firms that filed purchase material contracts (the firm is the customer of the agreement) with the SEC from 2000-2012. The dependent variable is *Redacted Purchase Contracts* in columns (1) and (2) and *%Redacted Purchase Contracts* in columns (3) and (4). Variable definitions appear in Table A11. All continuous variables are winsorized at the 1% and 99% levels. All columns report results that control for firm- and year-fixed effects. Standard errors are clustered at the two-digit SIC industry level and are displayed in parentheses. *, **, and *** indicate significance levels of 10%, 5%, and 1%, respectively.

	Redacted Purchase Contracts		*%Redacted Purchase Contracts*	
	(1)	(2)	(3)	(4)
Foreign Leniency	-1.716	-1.224	-1.649	-1.715
	(1.950)	(2.837)	(1.789)	(2.936)
Lagged ROA		-0.046		-0.058
		(0.053)		(0.061)
Lagged Size		0.034		0.034
		(0.145)		(0.142)
HHI		1.569		1.621*
		(0.891)		(0.858)
Import Penetration		-2.796		-1.285
		(2.018)		(2.315)
Firm FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Adjusted R-squared	0.515	0.513	0.516	0.506
Observations	302	302	302	302

Table A2: Further Robustness Tests

This table presents results from the OLS regressions relating redaction of information in material contracts or product-market-related disclosure during conference calls to the exposure to foreign leniency laws for Compustat firms incorporated in the U.S. from 2000-2012. The dependent variable is *Redacted Contracts* in Panels A1, B1, C1 and *%Product Conference Calls* in Panels A2, B2, and C2. In Panels A1-A2, we repeat the analysis in Table 3 using various alternative weights to estimate industry-level exposure to foreign leniency laws. *Foreign Leniency* in columns (1) to (3) is estimated based on, respectively, the imports of the three-digit SIC industry from any other countries, the exports of the two-digit SIC industry to any other countries, the exports of the three-digit SIC industry to any other countries, and the imports of final goods of the two-digit SIC industry from any other countries. In column (5), we repeat the analysis in column (1) and control for the two-digit SIC industry times year-fixed effects. In Panels B1-B2, we investigate the variation in enforcement level and the rule of law. *Foreign Leniency (High Enforcement)* is the weighted average of the passage of laws in high-enforcement countries, where the weight is equal to the share of the two-digit SIC industry's imports from a particular country. A country is categorized as a high-enforcement country if its score on the efficiency of the judicial system is larger than the sample median. *Rule of Law* is the weighted average of the rule of law of all countries, where the weight is equal to the share of the two-digit SIC industry's imports from a particular country. The score of the rule of law for each country is obtained from the World Bank data. *Foreign Leniency (EU)* differs from *Foreign Leniency* by treating all EU member states as one country and coding the year of 2002 as the adoption year for these states. In Panels C1-C2, in columns (1) and (2), for each country, instead of defining the event year as the year when a country adopted the leniency law, we define the event year as the year when the discussion about leniency laws by policy makers has started in the local media (*Foreign Leniency (Anticipated)*). In columns (3) and (4) of Panels C1-C2, we reconstruct our measure *Foreign Leniency (Firm-level)* at the firm level based on where firms have their subsidiaries in different countries according to LexisNexis data. Variable definitions appear in Table A11. All continuous variables are winsorized at the 1% and 99% levels. All columns report results that control for firm- and year-fixed effects. Standard errors are clustered at the two-digit SIC industry level and are displayed in parentheses. *, **, and *** indicate significance levels of 10%, 5%, and 1%, respectively.

Panel A: Alternative Weighting Schemes of Foreign Leniency

Panel A1: Redacted Contracts

	Redacted Contracts				
	3-digit SIC, Import	2-digit SIC, Export	3-digit SIC, Export	Final Goods	3-digit SIC, Import, Industry FE
	(1)	(2)	(3)	(4)	(5)
Foreign Leniency	-3.134***	-7.086**	-3.590***	-6.888**	-15.256***
	(0.575)	(3.102)	(0.958)	(2.854)	(2.558)
Controls	Yes	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	No
Industry FE	No	No	No	No	Yes
Adjusted R-squared	0.622	0.600	0.605	0.605	0.429
Observations	414	414	414	414	414

Panel A2: Conference Calls

	%Product Conference Calls				
	3-digit SIC, Import	2-digit SIC, Export	3-digit SIC, Export	Final Goods	3-digit SIC, Import, Industry FE
	(1)	(2)	(3)	(4)	(5)
Foreign Leniency	8.969**	24.520*	10.289	20.810*	5.786*
	(4.097)	(13.887)	(8.583)	(11.522)	(3.177)
Controls	Yes	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	No
Industry FE	No	No	No	No	Yes
Adjusted R-squared	0.675	0.677	0.677	0.674	0.674
Observations	9713	9073	9073	9713	9713

Panel B: Enforcement and Rule of Law

Panel B1: Redacted Contracts

	Redacted Contracts					
	Enforcement		*Rule of Law*		*EU*	
	(1)	(2)	(3)	(4)	(5)	(6)
Foreign Leniency (High Enforcement)	-4.881**	-4.413***				
	(1.585)	(1.294)				
Foreign Rule of Law			-9.131	-0.687		
			(6.794)	(6.071)		
Foreign Leniency				-3.613***		
				(1.077)		
Foreign Leniency (EU)					-4.187***	-3.753***
					(1.142)	(0.849)
Controls	No	Yes	Yes	Yes	No	Yes
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted R-squared	0.586	0.612	0.594	0.609	0.591	0.615
Observations	414	414	414	414	414	414

Panel B2: Conference Calls

	%Product Conference Calls					
	Enforcement		*Rule of Law*		*EU*	
	(1)	(2)	(3)	(4)	(5)	(6)
Foreign Leniency (High Enforcement)	17.550***	18.564***				
	(5.681)	(5.821)				
Foreign Rule of Law			54.826	38.23		
			(36.987)	(23.013)		
Foreign Leniency				10.556**		
				(4.276)		
Foreign Leniency (EU)					10.806**	11.961**
					(4.862)	(5.125)
Controls	No	Yes	Yes	Yes	No	Yes
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted R-squared	0.675	0.675	0.674	0.675	0.674	0.674
Observations	9713	9713	9713	9713	9713	9713

Panel C: Alternative Measures of Foreign Leniency

Panel C1: Redacted Contracts

	Redacted Contracts			
	(1)	(2)	(3)	(4)
Foreign Leniency (Anticipated)	-4.639***	-4.167***		
	(1.066)	(0.800)		
Foreign Leniency (Firm-level)			-0.400**	-0.366**
			(0.137)	(0.123)
Controls	No	Yes	No	Yes
Firm FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Adjusted R-squared	0.601	0.623	0.604	0.588
Observations	414	414	231	231

Panel C2: Product Conference Calls

	%Product Conference Calls			
	(1)	(2)	(3)	(4)
Foreign Leniency (Anticipated)	11.861**	12.914**		
	(5.234)	(5.720)		
Foreign Leniency (Firm-level)			1.592*	1.566*
			(0.844)	(0.885)
Controls	No	Yes	No	Yes
Firm FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Adjusted R-squared	0.675	0.675	0.684	0.684
Observations	9,713	9,713	7,696	7,696

Table A3: Types of Redacted Information

This table presents results from the OLS regressions relating redaction of information in material contracts to the exposure to foreign leniency laws for Compustat firms incorporated in the U.S. from 2000-2012. The dependent variable is *Redacted Price* in columns (1) and (2), and *Redacted Quantity* in columns (3) and (4). Columns (1) and (2) are based on contracts that explicitly specify product price and either disclose or redact product price. Columns (3) and (4) are based on contracts that explicitly specify purchase/procure quantity obligation and either disclose or redact the obligation. Variable definitions appear in Table A11. All continuous variables are winsorized at the 1% and 99% levels. All columns report results that control for firm- and year-fixed effects. Standard errors are clustered at the two-digit SIC industry level and are displayed in parentheses. *, **, and *** indicate significance levels of 10%, 5%, and 1%, respectively.

	Redacted Price		*Redacted Quantity*	
	(1)	(2)	(3)	(4)
Foreign Leniency	-4.787***	-4.419***	-2.920**	-2.274*
	(1.132)	(0.903)	(1.186)	(1.034)
Lagged ROA		-0.196***		-0.011
		(0.035)		(0.087)
Lagged Size		0.009		-0.000
		(0.035)		(0.125)
HHI		-3.564**		3.361
		(1.450)		(1.972)
Import Penetration		-0.551		1.854**
		(0.844)		(0.686)
Firm FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Adjusted R-squared	0.59	0.609	0.623	0.621
Observations	320	320	307	307

Table A4: Robustness Tests for Disclosure during Conference Calls

This table presents results from OLS regressions relating product-market-related disclosure during conference calls to the exposure to foreign leniency law for U.S. Compustat firms from 2002-2012. In Panel A, the dependent variable is the disclosure during conference calls based on various dictionaries. The dictionary in columns (1) and (2) adds *price* to the dictionary in Table 3. The dictionary in columns (3) and (4) is constructed based on the Amerco and Valassis cases. In columns (5) and (6), we construct a binary variable (Quote Competitor) that equals one if the firm mentions any of its competitors during conference calls, and zero otherwise. The list of competitors is obtained from the Factset Revere relationships database over 2003 to 2012. Since the Factset Revere relationships database starts from April 2003, we exclude conference calls that were initiated prior to 2003. In columns (7) and (8), we repeat our analysis using all executives' disclosures during the presentation section. In columns (9) and (10), we repeat our analysis using all executives' disclosures during both the presentation and Q&A section. In Panel B, we decompose *%Product Conference Calls* into forward-looking statements as shown in columns (1) and (2), and non-forward-looking statements as shown in columns (3) and (4). We standardize the dependent variables by scaling them by their corresponding standard deviations. Variable definitions appear in Table A11. All continuous variables are winsorized at the 1% and 99% levels. All the columns report results that control for firm- and year-fixed effects. Standard errors are clustered at the two-digit SIC industry level and are displayed in parentheses. *, **, and *** indicate significance levels of 10%, 5%, and 1%, respectively.

Panel A: Various Dictionaries for Disclosure during Conference Calls

	%Conference Call Dic2		*%Conference Call Dic3*		*Quote Competitor*		*All Executives*		*All Executives Incl. Q&A*	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Foreign Leniency	9.396*	10.274*	13.439***	10.977**	0.479**	0.336**	7.147*	9.122**	4.959	6.447*
	(5.042)	(5.459)	(4.597)	(4.504)	(0.178)	(0.139)	(3.939)	(3.522)	(3.938)	(3.593)
Lagged ROA		0.068		-0.245		0.056***		-0.138		-0.043
		(0.124)		(0.217)		(0.015)		(0.143)		(0.194)
Lagged Size		0.001		0.281		-0.005		0.225		0.145
		(0.358)		(0.173)		(0.016)		(0.187)		(0.125)
HHI		-4.696		14.660**		0.625***		-8.786***		-6.725**
		(3.369)		(5.699)		(0.176)		(2.860)		(3.126)
Import Penetration		0.181		-3.270**		0.550		0.990		1.547
		(0.806)		(1.542)		(0.364)		(2.102)		(1.341)
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted R-squared	0.659	0.659	0.500	0.501	0.446	0.448	9,734	9,734	9,734	9,734
Observations	9,713	9,713	9,713	9,713	7,795	7,795	0.732	0.733	0.779	0.779

Panel B: Forward-looking Statement

	Forward-looking Statement		*Current Statement*	
	(1)	(2)	(3)	(4)
Foreign Leniency	2.069**	2.017**	1.173*	1.352**
	(0.787)	(0.898)	(0.563)	(0.585)
Lagged ROA		0.026		0.006
		(0.033)		(0.016)
Lagged Size		-0.024		-0.004
		(0.036)		(0.050)
HHI		0.081		-0.973**
		(0.493)		(0.424)
Import Penetration		-0.226		0.069
		(0.413)		(0.115)
χ^2 test on the equivalence of coef.		9.54***		3.64*
of (1) vs. (3), or (2) vs. (4):		(0.002)		(0.056)
Firm FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Adjusted R-squared	0.434	0.434	0.672	0.672
Observations	9713	9713	9713	9713

Table A5: Alternative Responses

This table presents results from the OLS regressions relating profitability to the exposure to foreign leniency laws for Compustat firms incorporated in the U.S. from 1994-2012. The dependent variable is *Redact Contracts* in columns (1) and (3), and *%Product Conference Calls* in columns (2) and (4). Every row reestimates our baseline specification by removing certain firm-year observations. In columns (1) and (2), we remove observations in which the change in the advertisement intensity is in the top quartile of the sample distribution, and in columns (3) and (4), the change in the number of blockholders shared with industrial peers is in the top quartile of the sample distribution. Variable definitions appear in Table A11. All continuous variables are winsorized at the 1% and 99% levels. All columns report results that control for firm- and year-fixed effects. Standard errors are clustered at the two-digit SIC industry level and are displayed in parentheses. *, **, and *** indicate significance levels of 10%, 5%, and 1%, respectively.

	Excl. Large Increase in Advertising Expenses		Excl. Large Increase in Common Ownership	
	Redacted Contracts	*%Product Conference Calls*	*Redacted Contracts*	*%Product Conference Calls*
	(1)	(2)	(3)	(4)
Foreign Leniency	-2.344*	11.784**	-2.788*	11.565**
	(1.260)	(4.809)	(1.485)	(5.215)
Lagged ROA	-0.229***	0.111	-0.199***	-0.045
	(0.045)	(0.107)	(0.060)	(0.152)
Lagged Size	0.032	-0.071	0.009	-0.008
	(0.041)	(0.395)	(0.046)	(0.412)
HHI	-1.422	-8.506**	-3.207	-6.467**
	(1.684)	(3.580)	(3.206)	(3.076)
Import Penetration	-0.461	-0.300	0.495	1.086
	(1.033)	(1.322)	(1.098)	(1.297)
Firm FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Adjusted R-squared	0.628	0.674	0.590	0.675
Observations	378	8998	345	7993

Table A6: Predicting Foreign Leniency Law Adoption

This table reports the coefficients from the Cox proportional hazards model, estimated at the country level from the 1990-2012 period. Column (1) uses macro-economic variables and region dummies. Column (3) includes two measures of financial development. *US Major Industry HHI* is the Herfindahl-Hirschman Index of the two-digit U.S. SIC industry to which the country exported the most. *US Major Industry Profit Margin* is the profit margin of the two-digit U.S. SIC industry to which the country exported the most. *Log(GDP)* is the natural logarithm of GDP, *Unemployment* is the employment rate, *GDP Growth* is the growth rate of GDP, *%Export/GDP* is the ratio of the volume of exports to GDP in percentage, and *%Private Credit/GDP* is the ratio of private credit to GDP in percentage. *Chinn-Ito index* is an index that measures a country's degree of capital account openness. Standard errors are clustered at the country level and displayed in parentheses. *, **, and *** indicate significance levels of 10%, 5%, and 1%, respectively.

	Leniency Law Adoption					
	(1)	(2)	(3)	(4)	(5)	(6)
US Major Industry HHI	0.433		-1.403	0.961		0.601
	(1.977)		(2.691)	(2.230)		(3.376)
US Major Industry Profit Margin		-1.543	-2.314		-0.726	-0.412
		(1.889)	(2.658)		(1.745)	(2.621)
log(GDP)	0.658***	0.604**	0.581**	0.814***	0.781***	0.799**
	(0.245)	(0.251)	(0.261)	(0.305)	(0.286)	(0.321)
Unemployment	-0.013	-0.010	-0.003	-0.031	-0.024	-0.028
	(0.041)	(0.042)	(0.044)	(0.057)	(0.050)	(0.062)
GDP Growth	0.591	0.500	0.574	1.282	1.278	1.263
	(1.384)	(1.431)	(1.378)	(1.864)	(1.864)	(1.873)
%Export/GDP	-0.005	-0.004	-0.004	-0.007	-0.007*	-0.007*
	(0.005)	(0.005)	(0.005)	(0.004)	(0.004)	(0.004)
Latin America	-2.070**	-1.945**	-1.664	-2.892*	-2.631*	-2.782
	(0.954)	(0.936)	(1.069)	(1.652)	(1.392)	(1.890)
Western Europe	-1.767*	-1.394	-1.055 -	2.748**	-2.466*	-2.610
	(0.958)	(1.182)	(1.361)	(1.387)	(1.305)	(1.715)
Central and Eastern Europe	-0.455	-0.089	0.203	-1.239	-0.955	-1.106
	(0.813)	(0.962)	(1.134)	(1.514)	(1.305)	(1.789)
North America	0.684	0.936	1.300	-0.479	-0.198	-0.353
	(1.159)	(1.164)	(1.436)	(1.559)	(1.318)	(1.795)
Asia	-1.814**	-1.487	-1.150	-2.462**	-2.182*	-2.327
	(0.884)	(1.074)	(1.282)	(1.227)	(1.171)	(1.607)
Oceania	-0.960	-0.457	-0.113	-1.989	-1.675	-1.824
	(1.001)	(1.350)	(1.574)	(1.397)	(1.400)	(1.850)
%Private Credit/GDP				-0.007	-0.006	-0.007
				(0.005)	(0.004)	(0.005)
Chinn-Ito index				0.226	0.231	0.224
				(0.252)	(0.230)	(0.246)
Log pseudolikelihood	111.306	-111.033	-110.940	-104.946	-104.949	-104.935
Observations	700	700	700	640	640	640

Table A7: Antitrust Regulators' Access to 10-K Filings

This table presents results from the OLS regressions relating access to SEC filing servers by antitrust regulators to the U.S. Compustat firms' exposure to foreign leniency laws from 2003-2012. The dependent variable, *Regulator IP Access*, is a binary variable that equals one if a firm's SEC filing is accessed through the IP address associated with the Department of Justice or FTC, within one year following the filing date. In columns (1) and (2), we limit our analysis to 10-K filings, in columns (3) and (4), we limit our analysis to 10-K, 10-Q, and 8-K filings; and in columns (5) and (6), we limit our analysis to public filings with the SEC, other than 10-K, 10-Q, and 8-K filings. Variable definitions appear in Table A11. All continuous variables are winsorized at the 1% and 99% levels. All columns report results that control for firm- and year-fixed effects. Standard errors are clustered at the two-digit SIC industry level and are displayed in parentheses. *, **, and *** indicate significance levels of 10%, 5%, and 1%, respectively.

	Regulator IP Access					
	10-K Filings		*10-K, 10-Q and 8-K*		*Other Filings*	
	(1)	(2)	(3)	(4)	(5)	(6)
Foreign Leniency	0.166**	0.201**	0.191*	0.264**	0.073	0.012
	(0.079)	(0.075)	(0.109)	(0.111)	(0.059)	(0.070)
Lagged ROA		-0.007**		-0.008**		-0.002
		(0.003)		(0.004)		(0.003)
Lagged Size		0.033***		0.041***		-0.002
		(0.005)		(0.005)		(0.003)
HHI		-0.029		-0.238		0.360
		(0.176)		(0.221)		(0.248)
Import Penetration		-0.148		-0.181		0.083
		(0.169)		(0.240)		(0.131)
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted R-squared	0.238	0.240	0.284	0.287	0.153	0.154
Observations	11,670	11,670	11,670	11,670	11,670	11,670

Table A8: Product-market-related Disclosure and Investigation by Antitrust Authorities

This table presents results from the OLS regressions relating product-market-related disclosure during conference calls to foreign leniency laws and to the probability of being investigated by antitrust authorities for U.S. Compustat firms from 2002-2012. The tests are based on two-digit SIC industry-year panel data. The dependent variable is *Convicted Cartels* in columns (1) and (2) and *Convicted Firms* in columns (3) and (4). *Lagged %Product Conference Calls* is the one-year lagged median value of *%Product Conference Calls* for each industry-year. The control variables include industry-level *Size*, *ROA* and *Leverage*. All columns report results controlling for industry- and year-fixed effects. Variable definitions appear in Table A11. All continuous variables are winsorized at the 1% and 99% levels. Standard errors are clustered at the two-digit SIC industry level and are displayed in parentheses. *, **, and *** indicate significance levels of 10%, 5%, and 1%, respectively.

	Convicted Cartels		*Convicted Firms*	
	(1)	(2)	(3)	(4)
Lagged %Product Conference Calls	0.021	0.023*	0.061*	0.067*
	(0.012)	(0.013)	(0.029)	(0.033)
Foreign Leniency		2.192		4.676
		(1.198)		(2.623)
Industry FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Adjusted R-squared	0.096	0.109	0.054	0.062
Observations	180	180	180	180

Table A9: Heterogeneity in Public Disclosure

This table presents results from the OLS regressions relating redaction of information in material contracts or product-market-related disclosure during conference calls to the exposure to foreign leniency laws for Compustat firms incorporated in the U.S. from 2000-2012. The dependent variable is *Redacted Contracts* in Panel A and *%Product Conference Calls* in Panel B. *HHI Census* is the four-digit census HHI ratio. *Differentiation* is a binary variable that equals one if the number of the firm's peers with similar products falls in the lowest quartile of the sample distribution, and zero otherwise. *High Industry Patent* is a binary variable that equals one if number of patents possessed by a median firm in the industry falls in the highest quartile of the sample distribution, and zero otherwise. *High Industry Growth* is a binary variable that equals one if the industry average sales growth is in the highest quartile of the sample distribution, and zero otherwise. *High Prob(Convict)* is a binary variable that equals one if the predicted likelihood of conviction is in the highest quartile of the sample distribution. *Recent Conviction* is a binary variable that equals one if there is at least one conviction case in the industry in the most recent three years. *High %Public* is a binary variable that equals one if the proportion of public firms in the three-digit NAICS industry falls in the highest quartile of the sample distribution, and zero otherwise. *Strategic Complements* is a binary variable that equals one if the median value of the estimated degree of complementarity of all Compustat firms in the three-digit SIC industry is greater than zero. *Large Firm* is a binary variable that equals one if the firm size falls in the highest quartile of the sample distribution, and zero otherwise. Variable definitions appear in Table A11. All continuous variables are winsorized at the 1% and 99% levels. All columns report results that control for firm- and year-fixed effects. Standard errors are clustered at the two-digit SIC industry level and are displayed in parentheses. *, **, and *** indicate significance levels of 10%, 5%, and 1%, respectively.

Panel A: Heterogeneity in Redacting Information in Contracts

	Redacted Contracts								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Foreign Leniency	-1.282	-4.133***	-2.875**	-4.970***	-2.053	-0.304	-2.501**	-2.767***	-2.183
	(1.495)	(1.050)	(1.031)	(0.655)	(1.551)	(1.314)	(1.125)	(0.855)	(1.441)
HHI Census	0.001**								
	(0.000)								
HHI Census×Foreign Leniency	-0.004*								
	(0.002)								
Differentiation		-0.511**							
		(0.218)							
Differentiation×Foreign Leniency		6.672*							
		(3.470)							
High Industry Patent			0.474***						
			(0.144)						
High Industry Patent×Foreign Leniency			-2.254**						
			(0.856)						
High Industry Growth				-0.479					
				(0.382)					
High Industry Growth×Foreign Leniency				4.309*					
				(2.037)					
High Prob(Convict)					0.098				
					(0.063)				
High Prob(Convict)×Foreign Leniency					-2.137*				
					(0.997)				
Recent Conviction						0.544**			
						(0.201)			
Recent Conviction×Foreign Leniency						-3.864*			
						(1.771)			
High %Public							0.322***		
							(0.088)		
High %Public×Foreign Leniency							-1.164**		
							(0.512)		
Strategic Complements								0.055	
								(0.118)	
Strategic Complements×Foreign Leniency								-1.227*	
								(0.580)	
Large Firm									0.323***
									(0.079)
Large Firm×Foreign Leniency									-2.726***
									(0.870)
Firm&Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted R-squared	0.605	0.606	0.612	0.621	0.616	0.620	0.618	0.613	0.616
Observations	402	354	414	414	414	414	414	414	414

Panel B: Heterogeneity in Disclosure during Conference Calls

	%Product Conference Calls								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Foreign Leniency	8.044	12.499**	10.279**	8.340**	10.432*	6.483	10.353**	10.042*	10.885**
	(5.587)	(4.978)	(4.402)	(3.553)	(5.082)	(6.075)	(4.781)	(4.844)	(4.940)
HHI Census	-0.001								
	(0.001)								
HHI Census×Foreign Leniency	0.008*								
	(0.004)								
Differentiation		0.519**							
		(0.188)							
Differentiation×Foreign Leniency		-2.475*							
		(1.262)							
High Industry Patent			-1.764***						
			(0.334)						
High Industry Patent×Foreign Leniency			9.116***						
			(2.284)						
High Industry Growth				2.065***					
				(0.602)					
High Industry Growth×Foreign Leniency				-14.756*					
				(7.575)					
High Prob(Convict)					-1.621***				
					(0.296)				
High Prob(Convict)×Foreign Leniency					6.831***				
					(2.033)				
Recent Conviction						0.086			
						(0.396)			
Recent Conviction×Foreign Leniency						6.724**			
						(3.085)			
High %Public							-0.718*		
							(0.403)		
High %Public×Foreign Leniency							3.642*		
							(1.896)		
Strategic Complements								-0.269	
								(0.303)	
Strategic Complements×Foreign Leniency								3.344*	
								(1.818)	
Large Firm									-0.667
									(0.467)
Large Firm×Foreign Leniency									4.012*
									(2.304)
Firm&Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted R-squared	0.674	0.679	0.675	0.675	0.675	0.675	0.675	0.675	0.675
Observations	9516	9279	9713	9713	9713	9713	9703	9688	9713

Table A10: Robustness Tests for Heterogeneity in Public Disclosure

This table presents results from the OLS regressions relating redaction of information in material contracts or product-market-related disclosure during conference calls to the exposure to foreign leniency laws for Compustat firms incorporated in the U.S. from 2000-2012. The dependent variable is either *Redacted Contracts* or *%Product Conference Calls* as indicated on the top of the table. In this summary table, we report only the coefficient estimates on the interaction terms. *Foreign Leniency* in columns (1) and (2) is estimated based on the binary treatment variable as in Table 7, in columns (3) and (4) is estimated based on the exports of the two-digit SIC industry to any other countries, and in columns (5) and (6) is estimated based on the imports of the three-digit SIC industry from any other countries. *HHI Census* is the four-digit census HHI ratio. *Differentiation* is a binary variable that equals one if the number of the firm's peers with similar products falls in the lowest quartile of the sample distribution, and zero otherwise. *High Industry Patent* is a binary variable that equals one if the number of patents possessed by a median firm in the industry falls in the highest quartile of the sample distribution, and zero otherwise. *High Industry Growth* is a binary variable that equals one if the industry average sales growth is in the highest quartile of the sample distribution, and zero otherwise. *High Prob(Convict)* is a binary variable that equals one if the predicted likelihood of conviction is in the highest quartile of the sample distribution. *Recent Conviction* is a binary variable that equals one if there is at least one conviction case in the industry in the most recent three years. *High %Public* is a binary variable that equals one if the proportion of public firms in the three-digit NAICS industry falls in the highest quartile of the sample distribution, and zero otherwise. *Strategic Complements* is a binary variable that equals one if the median value of the estimated degree of complementarity of all Compustat firms in the three-digit SIC industry is greater than zero. *Large Firm* is a binary variable that equals one if the firm size falls in the highest quartile of the sample distribution, and zero otherwise. Variable definitions appear in Table A11. All continuous variables are winsorized at the 1% and 99% levels. All columns report results that control for firm- and year-fixed effects. Standard errors are clustered at the two-digit SIC industry level and are displayed in parentheses. *, **, and *** indicate significance levels of 10%, 5%, and 1%, respectively.

	Redacted Contracts	%Product Conference Calls	*Redacted Contracts*	%Product Conference Calls	*Redacted Contracts*	%Product Conference Calls
	Binary Leniency		2-digit SIC, Export		3-digit SIC, Import	
	(1)	(2)	(3)	(4)	(5)	(6)
(1) HHI Census×Foreign Leniency	-0.001**	0.001*	-0.009**	0.005	-0.001	0.003
	(0.000)	(0.000)	(0.003)	(0.007)	(0.001)	(0.002)
(2) Differentiation×Foreign Leniency	-0.147	-0.161	5.150	0.783	0.443	-0.923
	(0.149)	(0.236)	(4.086)	(4.305)	(0.693)	(1.574)
(3) High Industry Patent×Foreign Leniency	-0.370*	1.003***	-4.448**	17.037**	-0.408	5.582***
	(0.193)	(0.290)	(1.679)	(7.758)	(0.641)	(1.625)
(4) High Industry Growth×Foreign Leniency	0.383	-0.910**	5.568	-25.441	4.097***	-12.224*
	(0.301)	(0.421)	(3.687)	(22.955)	(1.489)	(6.994)
(5) High Prob(Convict)×Foreign Leniency	-0.241	0.437	-3.100*	11.509**	-0.989**	4.922**
	(0.195)	(0.274)	(1.470)	(4.817)	(0.423)	(2.212)
(6) Recent Conviction×Foreign Leniency	-0.295	0.591*	-1.164	1.475	3.247	4.281*
	(0.165)	(0.328)	(2.711)	(5.897)	(2.809)	(2.562)
(7) High %Public×Foreign Leniency	-0.224	0.931*	-2.691*	10.436**	-0.246	0.138
	(0.214)	(0.486)	(1.404)	(4.942)	(0.515)	(1.738)
(8) Strategic Complements×Foreign Leniency	0.091	0.254	-1.268	7.437**	-0.515	3.169***
	(0.104)	(0.182)	(0.879)	(3.428)	(0.415)	(1.111)
(9) Large Firm×Foreign Leniency	-0.285	0.263	-3.989**	10.583*	-1.694***	2.315
	(0.165)	(0.271)	(1.721)	(5.659)	(0.321)	(2.602)

Table A11: Variable Definitions

Variable	Definition	Data Source
Foreign Leniency	The weighted average of the passage of laws in all other countries, where the weight is equal to the share of the two-digit SIC industry's imports from a particular country.	*Cartel Regulation 2013, Schott's Data Library*
Binary Foreign Leniency	A binary variable that is equal to one starting with the year when the country most important to that industry adopted the law. We define the most important country for each three-digit SIC code based on the import volume from the country to that industry.	*Cartel Regulation 2013, Schott's Data Library*
Foreign Rule of Law	The weighted average of the rule of law of all countries, where the weight is equal to the share of the two-digit SIC industry's imports from a particular country.	*World Bank Data*
Foreign Leniency (High Enforcement)	The weighted average of the passage of laws in high-enforcement countries, where the weight is equal to the share of the two-digit SIC industry's imports from a particular country. A country is categorized as a high-enforcement country if its score on the efficiency of the judical system is larger than the sample median.	*Cartel Regulation 2013, Schott's Data Library* *La Porta et al. [1998]*
Foreign Leniency (EU)	The weighted average of the passage of laws in all other countries, where the weight is equal to the share of the two-digit SIC industry's imports from a particular country. We treat all EU member states as one country and code 2002 as the adoption year for these states.	*Cartel Regulation 2013, Schott's Data Library*
Convicted Cartels	The logarithm of one plus the number of cartels in the industry that were convicted during the year.	*Connor [2014]*
Convicted Firms	The logarithm of one plus the number of cartel firms in the industry that were convicted during the year.	*Connor [2014]*
Redacted Contract	A binary variable that equals one if the firm files material sales contracts during the year and requests confidential treatment in the contract. We search for *confidential treatment*, *confidential request* and *confidential...redacted* in the file to identify the confidential request by the firm.	*SEC Edgar*
Redacted Price	A binary variable that equals one if the firm files a material sales contract that explicitly specifies product price but requests confidential treatment of the product price in the contract.	*SEC Edgar*
Redacted Quantity	A binary variable that equals one if the firm files a material sales contract that explicitly specifies purchase/procure quantity but requests confidential treatment of the purchase/procure quantity in the contract.	*SEC Edgar*
Redacted Purchase Contracts	A binary variable that equals one if the firm files a material purchase contract (the firm is the customer of the agreement) during the year and requests confidential treatment of the contract duration in the contract.	*SEC Edgar*
%Product Conference Calls	The ratio of product-market-related words to the total number of words in the CEO / CFO presentation during earnings conference calls multiplied by 1,000. The list of words includes *product*, *service*, *offering*, *offer*, *customers* and *client*.	*StreetEvents*
%Product Conference Calls Dic2	The ratio of product-market-related words to the total number of words in the CEO / CFO presentation during earnings conference calls multiplied by 1,000. The list of words includes *price*, *pricing*, *priced*, *discount*, *product*, *service*, *offering*, *offer*, *customers* and *client*.	*StreetEvents*
%Product Conference Calls Dic3	The ratio of product-market-related words to the total number of words in the CEO / CFO presentation during earnings conference calls multiplied by 1,000. The list of words is defined as the 20 most frequently used words in the 2008 Q3 Amerco Earnings Conference Call and the 2004 Q2 Valassis Communications Earnings Conference Call.	*StreetEvents*

Variable	Definition	Data Source
Quote Competitor	A binary variable that equals one if the CEO or the CFO mentions at least one of the firm's competitors during the earnings conference call presentations in the year.	*Factiva, StreetEvents*
All Executives	The ratio of product-market-related words to the total number of words by all executives in the presentation section during earnings conference calls multiplied by 1,000. The list of words includes *product*, *service*, *offering*, *offer*, *customers* and *client*.	*StreetEvents*
All Executives Incl. Q&A	The ratio of product-market-related words to the total number of words by all executives in the presentation and Q&A section during earnings conference calls multiplied by 1,000. The list of words includes *product*, *service*, *offering*, *offer*, *customers* and *client*.	*StreetEvents*
Forward-looking Statement	The ratio of product-market-related words with forward-looking indicators (e.g., *will*, *would*, *plan*) appearing within the preceding or following 10 words (Li [2010]) to the total number of words in the CEO / CFO presentation during earnings conference calls multiplied by 1,000.	*StreetEvents*
Current Statement	The ratio of product-market-related words without forward-looking indicators (e.g., *will*, *would*, *plan*) appearing within the preceding or following 10 words (Li [2010]), to the total number of words in the CEO / CFO presentation during earnings conference calls multiplied by 1,000.	*StreetEvents*
Regulator IP Access	A binary variable that equals one if a firm's SEC filing is accessed through the IP address associated with the Department of Justice or FTC, within one year following the filing date.	*SEC Edgar*
HHI	Herfindahl-Hirschman Index of the two-digit industry.	*Compustat*
Import Penetration	Four-digit SIC industry-level import penetration, which is defined as the value of imports scaled by the sum of the value of imports and the shipment value minus value of exports.	*Schott's Data Library*
ROA	Operating earnings before extraordinary items scaled by lagged total assets.	*Compustat*
Size	The logarithm of total assets.	*Compustat*
HHI Census	The four-digit NAICS census HHI ratio.	*U.S. Census Bureau*
Differentiation	A binary variable that equals one if the number of the firm's peers with similar products falls in the lowest quartile of the sample distribution.	Hoberg and Phillips [2010]
High Industry Patent	A binary variable that equals one if the number of patents possessed by a median firm in the industry falls in the highest quartile of the sample distribution.	Kogan et al. [2017]
High Industry Growth	A binary variable that equals one if the industry revenue growth falls in the highest quartile of the sample distribution.	*Compustat*
High Prob(Convict)	A binary variable that equals one if the predicted likelihood of conviction is in the highest quartile of the sample distribution.	*Cartel Regulation 2013, Schott's Data Library*
Recent Conviction	A binary variable that equals one if there is at least one conviction case in the industry in the most recent three years.	*Cartel Regulation 2013, Compustat*
High %Public	A binary variable that equals one if the proportion of public firms in the three-digit NAICS industry falls in the highest quartile of the sample distribution, and zero otherwise.	*U.S. Census Bureau*
Strategic Complements	A binary variable that equals one if the median value of the estimated degree of complementarity of all Compustat fims in the three-digit SIC industry-year is greater than zero, as per the methodology in Kedia [2006] and Bloomfield [2016].	*Compustat*
Large Firm	A binary variable that equals one if the firm size falls in the highest quartile of the sample distribution.	*Compustat*

Figure A1: *Redacted Contracts* over time

We plot the average *Redacted Contracts* for the sample period.

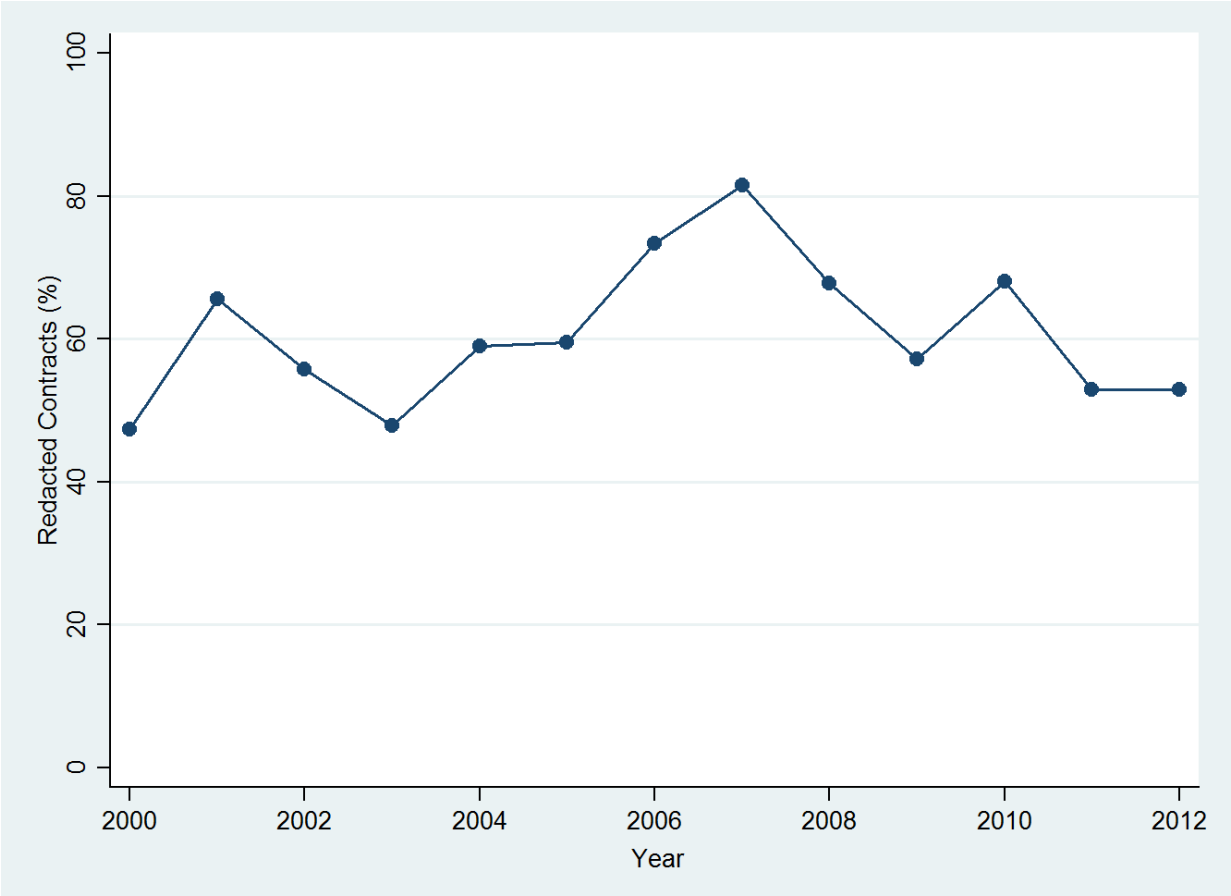

Figure A2: Falsification of Conference Call Disclosure

We plot the coefficient of *Foreign Leniency*. Each time we randomly draw six words without replacement from the falsification word list and conduct the regression analysis in column (4) of Table 3 using the proportion of these six words in a conference call as the dependent variable. The process is repeated 1,000 times.