Using Screens to Deter and Detect Bid Rigging

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Screens Represent a Proactive Policy: What is a Screen?

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- **An empirical screen is an overall process rooted on a model delivering a testable hypothesis on illegal behavior. It is designed to identify:**
  - Whether collusion, manipulation (or other type of cheating) may exist in a particular market
  - Who may be involved
  - When it may have occurred
- **Screens use commonly available data such as prices, bids, spreads, market shares or volumes. They compare suspected patterns against appropriate benchmarks**
  - Abrantes-Metz (2011a, 2011b), Abrantes-Metz and Bajari (2009, 2010), Harrington (2008, 2006), Proof of Conspiracy Under Federal Antitrust Laws, Chapter VIII, ABA Editions (2010), Abrantes-Metz, Rauterberg and Verstein (2013), Sokol and Abrantes-Metz (2013, 2014)

Examples of Successful Screening Applications

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- Screens on cross-country price benchmarking in the Italian baby milk market
- Bid-rigging screening in Mexican pharmaceutical markets
- Price variance screens and others to prioritize complaints in the Brazilian gasoline retail market and to uncover direct evidence
- Screens on inside spreads flagged an alleged NASDAQ conspiracy among dealers, 1994
- Screens for low returns variance flagged Madoff's Ponzi scheme years ahead of official investigations
- Screens applied by a Canadian reporter flagged bid-rigging and market allocation in road construction
- Screens by the WSJ and my own work first flagged the possibility of collusion and manipulation in LIBOR in 2008

Key Role of Screens In Uncovering Collusion, Manipulation & Fraud in Financial Benchmarks

- Individual reporters and economists (not competition authorities or other governmental agencies) developed and implemented screens which led the way in first flagging the possibility of collusion in LIBOR, Foreign Exchange, Gold and Silver London Fixings, ISDAfix, among others
- Significantly later these were followed by successful leniency applications and to date, to over $10 billion in settlements with authorities around the world, with more to come
- Many of these benchmarks rigging involve "bid-rigging like" behavior

Lesson 1: Screens Are Powerful - Screen Markets Regularly

Lesson 2: Screens Do Not Have To Be Overly Resource Intensive to be Powerful and Successful

USD LIBOR: Bid-Rigging and Manipulation

	2006				
	August 3	August 4	August 7	August 8	August 9
BTMU	5.410	5.430	5.370	5.370	5.330
Bank of America	5.400	5.420	5.380	5.370	5.325
Barclays	5.410	5.420	5.370	5.370	5.340
JPM Chase	5.410	5.420	5.380	5.370	5.330
Citi Bank	5.405	5.420	5.360	5.370	5.330
CSFB	5.405	5.420	5.360	5.370	5.330
Deutsche Bank	5.405	5.415	5.365	5.365	5.325
HBOS	5.410	5.420	5.350	5.370	5.330
HSBC	5.400	5.420	5.370	5.370	5.330
Lloyds	5.410	5.420	5.360	5.370	5.330
Norinchukin	5.410	5.420	5.370	5.370	5.340
Rabobank	5.405	5.415	5.370	5.370	5.330
Royal Bank of Canada	5.405	5.420	5.370	5.368	5.330
Royal Bank of Scotland	5.400	5.420	5.370	5.370	5.330
UBS AG	5.405	5.420	5.370	5.370	5.330
West LB	5.405	5.460	5.360	5.370	5.330

(Abrantes-Metz &Metz (2012))

The London Gold Fixing: Bid Rigging and Manipulation

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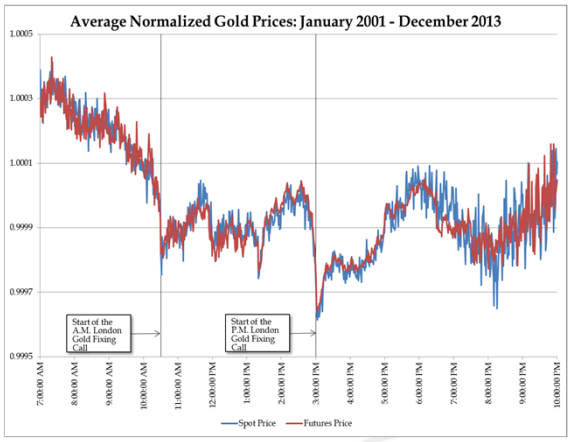
Means, Motive, Opportunity, & Supporting Empirical Evidence

- "How to Keep Banks From Rigging Gold Prices" By Rosa M. Abrantes-Metz, Dec. 19, 2013 (Bloomberg)
- Gold Fix Study Shows Signs of Decade of Bank Manipulation," Feb. 28, 2014 (Bloomberg)
- 30 US law suits filed within 1 ½ months
- Criminal investigations on collusion around the world initiated later in 2014
- UBS filed for leniency with Swiss regulators in the Fall of 2015



US Class Action Law Suit Complaint filed by Co-Lead Counsel Quinn Emanuel and Berger Montage

ISDAfix: Bid Rigging and Manipulation

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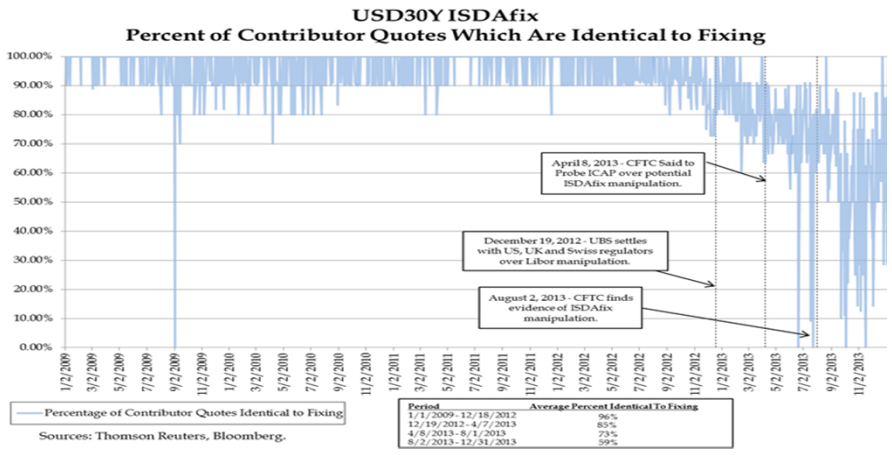

US Class Action Law Suit Complaint filed by Co-Lead Counsel Quinn Emanuel , Bernstein Liebhard and Scott+Scott

Defective Structures Easy Targets for Abuse Need to be Identified and that Extends from Benchmarks to Auctions

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LESSON 3: Screening Is Needed to Detect But Not Sufficient to Deter Illegal Behavior

- The question of whether manipulation of a financial benchmark, rate or price will occur depends on whether someone is both willing and able to effectively move prices
  - "Willingness" is generally outside the control of authorities; it is just human nature, and while most people will not try, some others will, given the incentive related to the potential additional gains from manipulation
  - Instead, where authorities can influence the likelihood of manipulation and collusion is in the overall design of structures which reduce the ability for abuse
- Clearly there was widespread failure to recognize the means, motive and opportunity to rig key financial benchmarks
  - Maybe it can be dismissed as a mistake of the past: many of these benchmarks have already been reformed, though some more robustly than others

Screening and Auction Design Need to go Hand-to-Hand to Deter Bid Rigging

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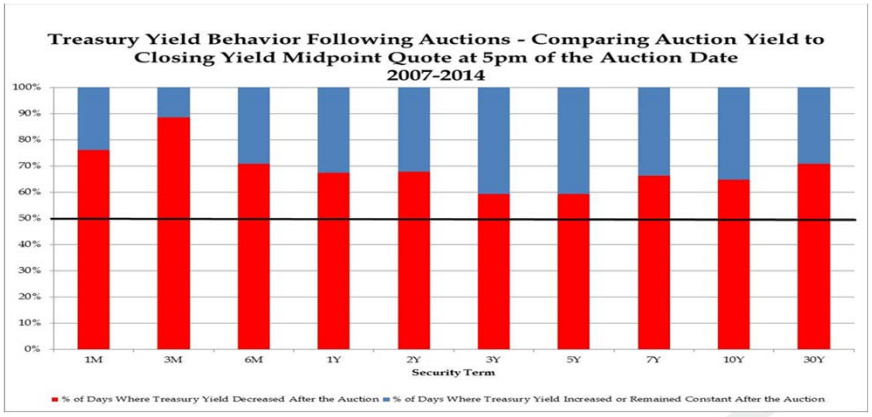
- What other structures may present similar deficiencies making them highly susceptive of abuse, and what can be done to deter and detect such conduct.?

  (Abrantes-Metz, Upcoming Opinion Article in the Financial Times on this topic)
- **Auctions:** Why is auction bid rigging the most frequent cartel offense, commonly a problem in public procurement and other settings?
  - Many procurement structures are defective, easily enabling coordination among a small number of powerful bidders with aligned interests, and with little or no independent oversight
  - Typically there is a fairly small number of repeated large auction participants

Bid Rigging in Competitive Tenders is a Productive Setting to Apply Screens for at Least Three Reasons

- First: competitive tenders are widely used not only for public sector procurement but also in financial markets, privatization of public assets, real estate and many other transactions
- Second: bid rigging is a common antitrust offense, representing a significant portion of all international cartels uncovered and associated with long lasting cartels
- Third: markets that use competitive bidding are frequently rich in data. In many countries, statutes require the public disclosure of bids.

Bid-Rigging & Manipulation in US Treasuries Auctions?



The probability of observing this number of days for which treasury yields decreased after the auction is statistically 0. And the probability of observing 10 out of 10 years with more days for which the yields decrease rather than increase following the auction is only 0.10%, highly statistically unlikely to occur by random chance.

Classical Examples of Bid Rigging Screens

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- Relationships between various auction's bids
  - Screens for phony or "complementary" bids (high correlation among bids) (Porter and Zona (1993))
  - Screens for patterns of bidding across auctions indicative of bid suppression, bid rotation, or the use of side payments to reward losing conspiracy members for not competing aggressively (Bajari and Ye (2003))
- High average price
  - Screens on price levels: estimates indicate that a cartel raises the average price by about 25% with respect to its competitive level (Connor (2008))
- Low price variance
  - Recent screen suggests searching for lower price volatility during collusion (Abrantes-Metz, Froeb, Geweke and Taylor (2006))

Red Flags for Bid-Rigging Suggested by the U.S. Department of Justice

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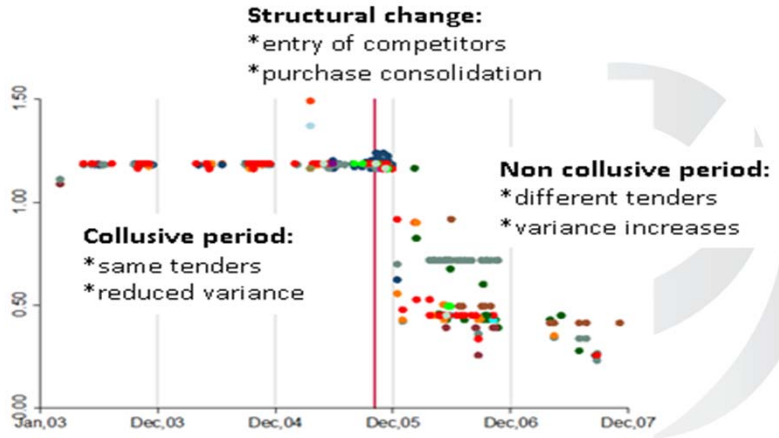
- The same company always wins a particular procurement (this pattern may be more suspicious if one or more companies continually submit unsuccessful bids)
- The same suppliers submit bids and each company seems to take a turn being the successful bidder
- Some bids are much higher than published price lists, previous bids by the same firms, or engineering cost estimates
- Fewer than the normal number of competitors submit bids
- A company appears to be bidding substantially higher on some bids than on other bids, with no apparent cost differences to account for the disparity
- Bid prices drop whenever a new or infrequent bidder submits a bid
- A successful bidder subcontracts work to competitors that submitted unsuccessful bids on the same project

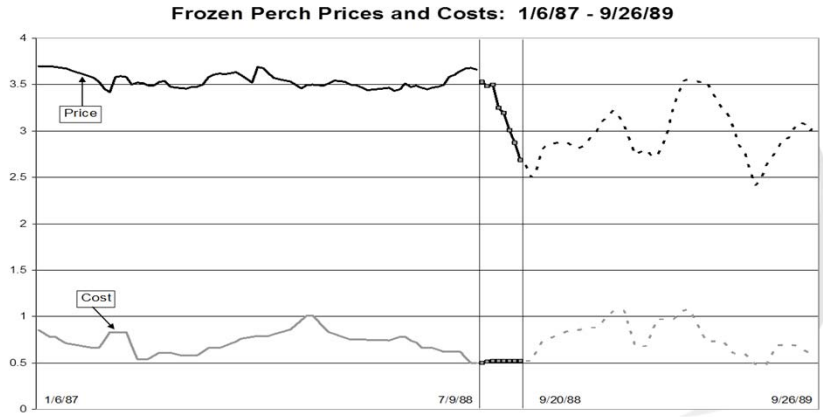
See U.S. Dep't of Justice, Antitrust Division, *An Antitrust Primer: Price Fixing, Bid Rigging, and Market Allocation Schemes: What They Are and What to Look For*, at http://www.usdoj.gov/atr/public/guidelines/primer-ncu.htm ("DOJ Antitrust Primer").

Mexican Pharmaceuticals Bid-Rigging: Screens Played an Important Role as Evidence Presented and Accepted in Court



Mexican Competition Authority,

Variance Screen for Collusion: Bid-Rigging and Price-Fixing (2006)



Abrantes-Metz and Metz (2006)

Screens Do Not Always Have To Be Neither Very Elaborate Nor Resource Intensive, But Smart! Another Reporter Applying Screens to Uncover Major Bid-Rigging in Construction

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- **"Montreal construction bids are paved with questions" Gazette investigation shows patterns that are "inconsistent with what one would expect to be normal competitive behavior"**
  By Linda Gyulai, Gazette civic affairs reporter September 15, 2012 (http://www.montrealgazette.com/news/Montreal+construction+bids+paved+with+questions/7248408/story.html)
- Among several interesting patterns found such as market allocation, and winners subcontracting losers, the reporter found that "independent bidders" submitting sealed bids provided the same contact name in their contracts! Later she also found that many of them shared the same addresses!
- The Mayor of the town has subsequently resigned, significant bid-rigging uncovered

Lessons from Recently Uncovered Rigging that Should Have Been Learned by Now…

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LESSON 4: Authorities need to learn the lessons from LIBOR and recognize deficient structures so that we can proactively reform them, minimizing the likelihood of abuse

- To enhance deterrence and detection of illegal behavior, we must screen these markets regularly and have independent oversight
  - Detection methods must become more sophisticated, unless we are willing to rely on the wrongdoers to continue leaving incriminatory emails and text messages detailing their collusive and manipulative efforts:
    - On the contrary, they have surely learned their lessons from LIBOR and other cases: they now know they can get caught and their own messages can hang them

Thank you very much!

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Dr. Rosa M. Abrantes-Metz is a managing director in the antitrust, securities and financial regulation practices of Global Economics Group based in New York. Her experience includes work in consulting and banking, as well as in government. Her main areas of specialization are econometrics, monetary and financial economics, and applied industrial organization. Dr. Abrantes-Metz is an adjunct associate professor at Leonard N. Stern School of Business, New York University, where she has taught money and banking, financial institutions, and industrial economics, and empirical business strategies. She has taught econometrics at the department of economics at the University of Chicago, and various other fields of economics at Universidade Católica Portuguesa, in Lisbon, Portugal. Dr. Abrantes-Metz's work has been featured in the press such as the Wall Street Journal, Financial Times, The Economist, CNNMoney, CNBC, Crain's, Forbes, Bloomberg, BusinessWeek, Washington Post, Reuters, Risk Magazine, Investor's Business Daily, SkyNews TV and BBC Radio.

After working as a staff economist at the Federal Trade Commission, Dr. Abrantes-Metz continued to serve as a consultant for special projects with the Commission's Bureau of Economics and she is also a consultant for the World Bank.

Dr. Abrantes-Metz is the author of several articles on econometric methods and screens, conspiracies and manipulations, gasoline, pharmaceuticals and health care, telecommunications, monetary policy, event studies, valuation, structured finance, credit default swaps, credit ratings and new statistical tests, representing some of the areas in which she has also worked as an economic consultant. Dr. Abrantes-Metz has published in various peer-reviewed journals and trade publications. She is a co-drafter of the chapter on the role of the economic expert in proving conspiracy cases under federal antitrust laws in a recent volume published by the American Bar Association. In addition she has contributed to other books on international arbitration with a focus on event studies, and is a co-author of the chapter on corporate governance and compliance in the Oxford Handbook on International Antitrust Economics. She has developed numerous empirical screens for conspiracies and manipulations, and is a pioneer in the field, contributing to the further development and increased adoption of these methods. She has flagged potential anticompetitive behavior preceding large scale investigations, such on the alleged Libor conspiracy and manipulation, the London Gold Fixing, and has testified on behalf of the US Government. Her screens are used by competition authorities, defendants and plaintiffs worldwide.