

Financial Benchmarks, Collusion & Reform



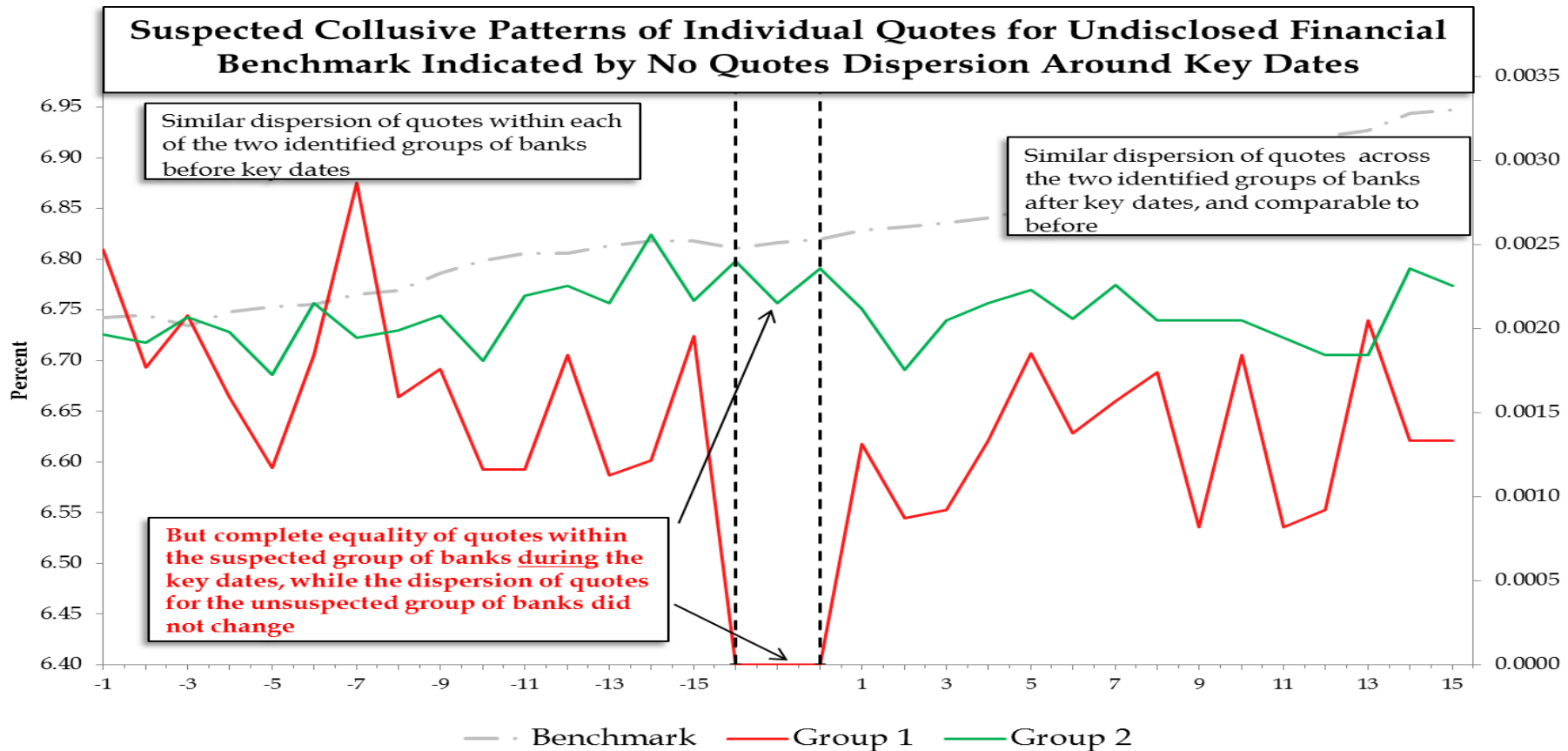
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Empirical Evidence of Collusion



Flawed Benchmark Structures Facilitate Abuse

LIBOR & Other “IBORs”

- ❖ Small group of competitors setting the benchmark
- ❖ Inputs are quotes on expected costs or market rates, not actual prices
 - ❖ Quotes are uncommitted and unverified against actual transactions
- ❖ Public release of quotes
 - ❖ Enhances stability in collusion and likelihood of unilateral manipulative acts
- ❖ Direct financial interest in the value taken by the benchmark
 - ❖ Incentive to move benchmark; at least benefit from inside information
- ❖ Administration by submitters themselves through their trade associations
 - ❖ Direct conflict of interests, lack of oversight and screening

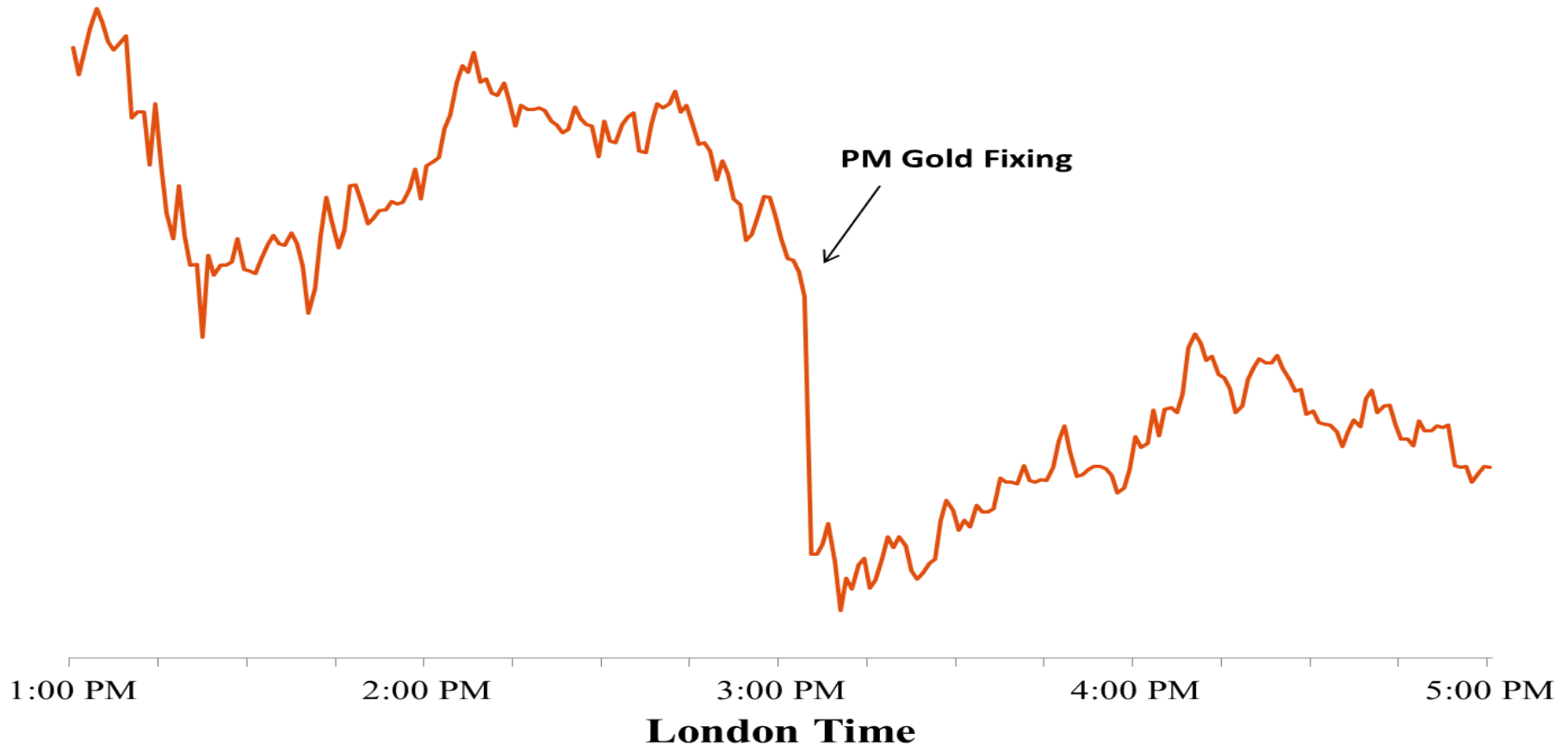
MEANS, MOTIVE AND OPPORTUNITY!

Other Concerning Structures

- ❖ Small number of competitors with majority of the market
- ❖ Though actual prices are often the inputs, these may still be easy to manipulate, with or without collusion
 - ❖ Benchmark known to be set during a very small window of time (i.e., a couple of minutes before and/or after market close) in which only trades and quotes by relatively few large players typically occur (Foreign Exchange, some Commodities Futures Settlement Prices)
 - ❖ *Or* referenced trades in which buyer and seller can potentially coordinate to report a distorted price in exchange for an undisclosed discount or a favor in another market (some Platts indices)
 - ❖ *Or* Opacity and discretion of methodology, and direct conflict of interests (Markit and CDS indices)
 - ❖ *Or* benchmarks for liquid commodities set through private calls among a handful of competitors through an undisclosed auction (Gold and Silver London Spot Fixings)
- ❖ Apparent lack of independent monitoring and oversight

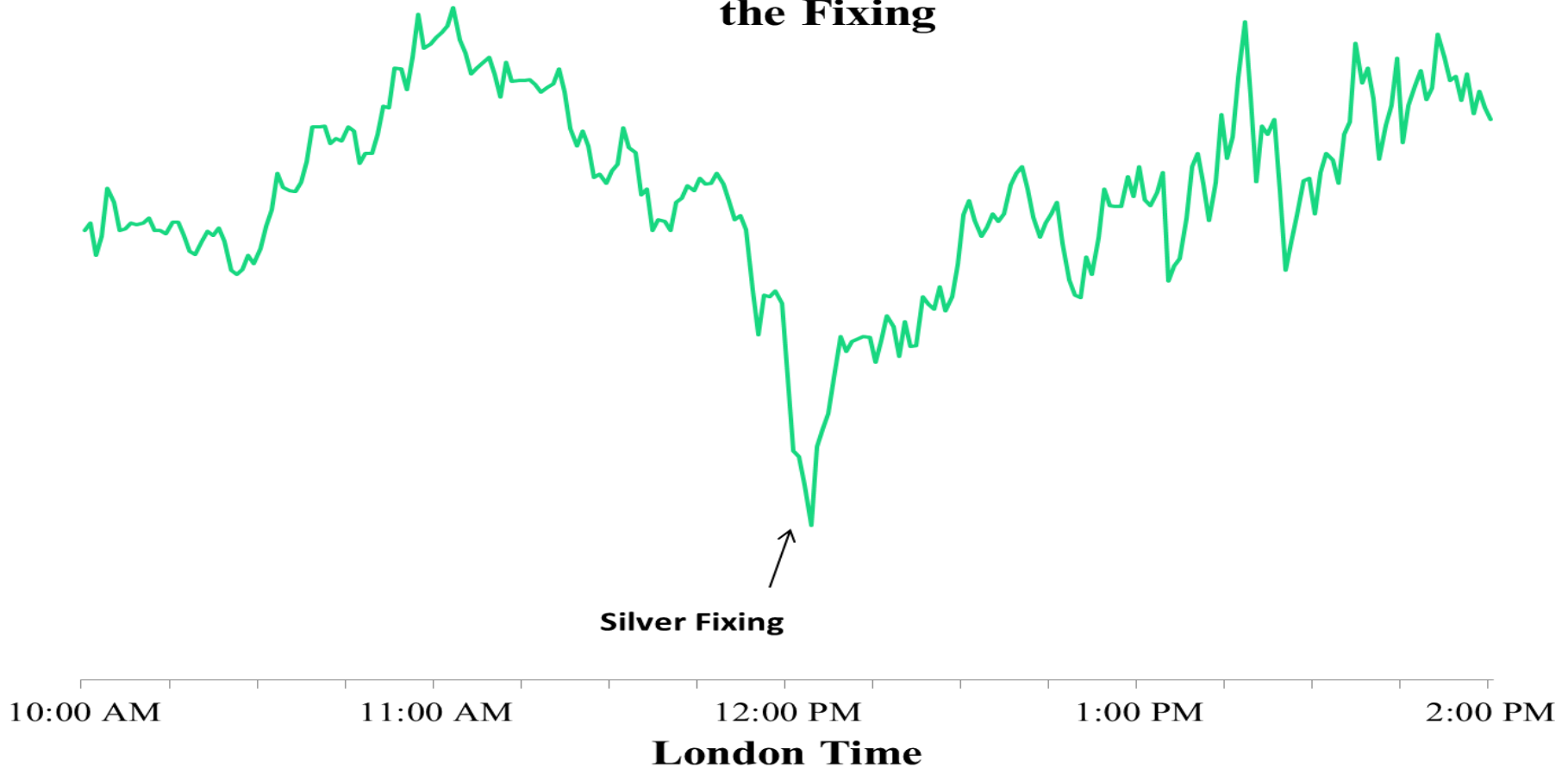
Gold Spot Price on Day X

Sharp Decline of Gold Spot Price Around the PM Fixing



Silver Spot Price on Day Y

Sharp Decline and Recovery of Silver Spot Price Around the Fixing



Gold LBMA Fixing



Source: "The Gold Cartel," by Dimitri Speck; Chart: Bloomberg View

Silver LBMA Fixing



Source: "The Gold Cartel," by Dimitri Speck; Chart: Bloomberg View

Failure to Recognize Red Flags

Relevant Factors of Information Exchanged Among Competitors Facilitating Collusion



- Intent
- Strategic importance of the information exchanged
- Age of data exchanged
- Private vs. public exchange
- Individual vs. aggregate information
- Current or future vs. past information
- Data on prices and volumes vs. data on demand and costs



- Frequency of the exchanges
- Structure, control and governance of the information exchanged
- Adoption of safeguards by the parties
- Exclusivity
- Financial interests in the collaboration
- Likelihood of competitive information
- Duration of the exchange

Lessons from LIBOR, Euribor & Others

[1] Recognize flawed structures and the means, motive and opportunity to be abused

- Gold and Silver LBMA Fixings set through undisclosed conference calls among 5 and 3 competitor banks, respectively
 - Why? These are liquid enough markets to base these benchmarks on actual prices

[2] Design appropriate structures directly dealing with identified flaws by fixing **[1]**, and also minimizing unnecessary and costly regulation with potentially undesirable effects

[3] Screen markets regularly to enhance likelihood of detection and deterrence of illegal behavior

- Recall screens first flagged the possibility of illegal behavior in LIBOR in 2008, prior to investigations

Financial Benchmarks: Best Practices

- ❖ Methodology
 - ❖ Inputs: Actual Transactions; Second best: committed quotes; Last resort: uncommitted quotes
 - ❖ Formulas: Means are easier to move; use medians or inside spreads
- ❖ When based on actual transactions: increase length of time used to compute the benchmark to 10-15 minutes at least, and maybe undertake random sampling throughout the day
- ❖ For benchmarks based on quotes: Data clearing houses or depository institutions should be required
 - ❖ Monitor quotes
 - ❖ Compare against reported transactions
 - ❖ Screen for collusion & manipulation
 - ❖ Possibly administer the benchmark

Financial Benchmarks: Best Practices

- ❖ No full transparency
 - ❖ Of both inputs and methods – full disclosure undesirable, particularly when benchmarks are based on quotes – e.g., LIBOR
- ❖ Some level of discretion by Administrator
 - ❖ Should own the methodology and report to the regulator
 - ❖ Needs to be able to make appropriate adjustments within rules
- ❖ Minimize Administrator's conflict of interests
 - ❖ Administrator cannot have a direct interest in the value taken by the benchmark
 - ❖ No trade associations
- ❖ Penalties system in place
- ❖ Screening by independent third party
- ❖ Regular reporting provided to regulator

Concluding Remarks

- ❖ Financial Benchmarks are easy targets for abuse
- ❖ Recognizing their weaknesses is key to their adequate regulation so to reduce the likelihood that collusion and manipulation may occur in the future
- ❖ But there is also a danger of over-regulation
- ❖ Striking the right balance is a major challenge for authorities

Thank you very much!

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Dr. Rosa M. Abrantes-Metz is a 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 currently teaches 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 forthcoming in the next Handbook on 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, and has also used these methods to defend against allegations of such behavior. Her screens are used by competition authorities, defendants and plaintiffs worldwide.