

**Hardwired Conflicts:
The Big Bang Protocol, Libor and the Paradox of Private Ordering**

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This paper explores a fundamental tension between the costs and benefits of the private market structures at the heart of the global financial system. This tension stems from the fact that, almost by definition, successful market structures generate positive network externalities. These network externalities erect substantial barriers to entry, insulate incumbents from vigorous competition, and prevent the emergence of new and potentially more efficient market structures. Moreover, where a ‘core’ group of market participants is able to anchor the market to incumbent structures, these externalities enable them to exploit their privileged position without concomitantly risking widespread defection at the ‘periphery’. Perversely, then, the success of these market structures may make them more prone to abuse, thereby undermining efficient contracting, welfare enhancing innovation and market confidence. This is the paradox of private ordering.

This paper explores this paradox through the lens of the International Swaps and Derivatives Association (ISDA) ‘Big Bang’ Protocol and, more specifically, the determination committee (DC) mechanism it created in order to adjudicate contractual issues arising in connection with ISDA’s widely used credit default swap (CDS) documentation. The Big Bang Protocol has brought much needed standardization and predictability to what was often a chaotic process for settling CDS upon the occurrence of bankruptcy, restructuring and other events. Simultaneously, however, the parties responsible for resolving contractual issues under the DC mechanism – principally global derivatives dealers – are also counterparties to the vast majority of these contracts. This generates hardwired conflicts of interest: conflicts which, as the paradox predicts, are not adequately addressed by ISDA’s existing contractual documentation or governance arrangements.

To illuminate the problems embedded within this market structure, as well as why market forces are unlikely to effectively address them, this paper draws a number of parallels between the DC mechanism and another key structural feature of OTC derivatives markets: the now infamous London Interbank Offered Rate (or Libor). It also explores some of the governance and regulatory strategies which might be employed to address them.

I. Introduction

Imagine we allowed referees to place bets on the sporting events they officiated.¹ On one level, this would almost certainly offend our sense of fair play. On another level, however, we might ultimately view this as unproblematic insofar as teams were able to freely contract with those referees willing to make credible commitments to avoid such conflicts of interest, and so long as compliance with these contracts was relatively easy to monitor and enforce. Imagine now, however, that there exists a limited number of qualified referees, that these referees coordinate in the development of a standard form contract which does not prohibit betting on games, and that they collectively enjoy sufficient market power to ensure that these contracts receive widespread adoption. Imagine further that – as you might well imagine – the costs of determining whether a referee had in fact wagered on a game are extremely high and, as a corollary, that there exists little or no credible threat of either private contractual enforcement or market-based (e.g. reputational) sanctions. Given these additional facts, we might be of the view that this state of affairs is likely to undermine confidence in the integrity of the game. Indeed, it is precisely for this reason that professional sports leagues prohibit referees from wagering on games.² It seems remarkable, therefore, that we permit this type of activity in the most high stakes game of all: finance.

We tend to view private market participants as possessing high powered incentives to develop market structures – contracts, rules and other governance mechanisms – which lower information, coordination, agency, contracting and/or other transaction costs. These incentives can be seen as driving market dynamics in a wide range of contexts: from medieval Champagne fairs to modern stock exchanges.³ They are also the prime mover behind organizations such as the International Swaps and Derivatives Association (ISDA). Over the course of almost three decades, ISDA has been extremely influential

¹ In conducting research for this paper I discovered that, as is very often the case, the journalists at FTAlphaville beat me to the punch in utilizing this metaphor; see Lisa Pollack, “The conflicted ISDA committee”, *The Financial Times* (December 14, 2011), FTAlphaville blog available at www.ft.com.

² The constating documents of the National Basketball Association, National Football League and Major League Baseball, for example, all prohibit referees from betting on games. Indeed, referees have gone to prison for betting on games they officiated; see e.g. Howard Beck and Michael Schmidt, “NBA Referee Pleads Guilty to Gambling Charges”, *New York Times* (August 16, 2007), available at www.nytimes.com.

³ See for example, Paul Mahoney, “The Exchange as Regulator” (1997), 83 *Virginia L. Rev.* 1453; Paul Milgrom, Douglass North and Barry Weingast, “The Role of Institutions in the Revival of Trade: The Law Merchant, Private Judges and the Champagne Fairs” (1995), 2:1 *Economics and Politics* 1, and Daniel Fischel and Sanford Grossman, “Customer Protection in Futures and Securities Markets” (1984), 4:3 *J. of Futures Markets* 273.

in developing standardized legal documentation, coordinating international law reform, and spearheading initiatives designed to address industry-wide technical issues within over-the-counter (OTC) derivatives markets. Without a doubt, these activities have lowered transaction costs for market participants, thereby contributing to the development and growth of these huge (and hugely important) markets. Simultaneously, however, the structures created by private market participants – including those developed under the auspices of ISDA – are the source of potentially significant agency and other costs. These costs are often borne by those with little or no influence over how modern financial markets are structured.

This paper explores a fundamental tension between the prospective costs and benefits of the private market structures at the heart of the global financial system. This tension stems from the fact that, almost by definition, successful market structures exhibit demand-side economies of scale – or positive network externalities – whereby the addition of each new market participant enhances the value of the structure to existing participants.⁴ Where significant, these network externalities erect substantial barriers to entry, insulate incumbents from vigorous competition, and prevent the emergence of new and potentially more desirable market structures. Moreover, where a ‘core’ group of market participants are able to anchor the market to incumbent structures, these externalities enable them to exploit their privileged position without concomitantly risking widespread defection by those at the ‘periphery’. Perversely, then, the very success of these market structures may ultimately make them more prone to abuse, thereby undermining efficient private contracting, welfare enhancing innovation and market confidence. This is the paradox of private ordering.

This paper explores the paradox of private ordering through the lens of two case studies. The first is ISDA’s so-called ‘Big Bang’ Protocol and, more specifically, the determination committee (DC) mechanism it introduced in order to facilitate the adjudication of certain contractual issues arising in connection with ISDA’s widely used credit default swap (CDS) documentation. On the one hand, the Big Bang Protocol has brought much needed standardization and predictability to what was previously often a chaotic process for settling many CDS transactions upon the occurrence of bankruptcy,

⁴ See *infra* Part V. Quintessential ‘network’ goods include telecommunication services, credit cards and social networks such as Facebook; Paul Klemperer, “Network Goods (Theory)” in Steven Durlauf and Lawrence Blume (eds.), *The New Palgrave Dictionary of Economics*, 2nd ed. (Palgrave MacMillan, Basingstoke, 2008).

restructuring, succession and other events involving the underlying issuers. On the other hand, however, the parties responsible for resolving contractual issues under the DC mechanism – principally global derivatives dealers – are also counterparties to the vast majority of these contracts. Not surprisingly, these same dealers also play an influential role in the governance of ISDA. This structure gives rise to hardwired conflicts of interest: putting dealers in essentially the same position as our hypothetical referees. As we shall see, these conflicts are not adequately addressed by ISDA’s existing contractual documentation or governance arrangements. Moreover, given the relative opacity of both CDS markets and dealer balance sheets, it is unrealistic to rely on market-based sanctions to fully constrain dealer opportunism.

In order to shed further light on the potential problems associated with this market structure, as well as why market forces and private ordering are unlikely to effectively address them, this paper draws a number of significant parallels between the DC mechanism and another key structural feature of OTC derivatives markets: the now infamous mechanism historically used to calculate the London Interbank Offered Rate (or Libor). Like the DC mechanism, Libor has played an important role in the standardization of many OTC derivatives contracts, thereby lowering transaction costs, attracting market participants and enhancing market liquidity. At the same time, however, the governance structure of Libor generated acute conflicts of interest vis-à-vis a core group of global banks and other, peripheral, market participants. Perhaps more importantly, the success of Libor generated positive network externalities which, along with the opacity of the derivatives and other markets in which it was utilized as a benchmark, made it possible for these banks to exploit these conflicts of interest without destabilizing the prevailing equilibrium.

This paper proceeds as follows. Part II briefly describes the role played by ISDA in developing standardized legal documentation, coordinating international law reform and spearheading other initiatives on behalf of the global OTC derivatives industry. Part III examines in greater detail both the Big Bang Protocol and DC mechanism, along with their prospective benefits and latent costs. Part IV then examines the origin and basic mechanics of Libor, before briefly chronicling the 2012-13 scandal stemming from investigations by public regulatory authorities in several jurisdictions which uncovered

widespread market manipulation on the part of dealers.⁵ Drawing on the insights from these parallel examinations, Part V explores the paradox of private ordering: how the ‘core-periphery’ structure and positive network externalities generated by ostensibly successful market structures such as Libor and the Big Bang Protocol also render them uniquely susceptible to abuse. Part VI then canvasses some of the governance and regulatory strategies which might be employed to address the problems generated by this paradox. Part VII concludes.

Before proceeding, one point of clarification is in order. I am not claiming that global derivatives dealers are currently exploiting the conflicts of interest embedded in the DC mechanism in the same way that some of these same dealers have recently admitted to manipulating Libor. This paper does not present any direct empirical or anecdotal evidence one way or the other. Indeed, as the Libor scandal amply illustrates, publicly available information is unlikely to provide definitive proof of the existence, nature or extent of any abusive conduct in this context. What I definitively am claiming, however, is that the parallels between Libor and the DC mechanism – the key players, their incentive structures, the governance arrangements within which they operate and, most importantly, the nature of the conflicts themselves – collectively suggest that the DC mechanism is vulnerable to abuse. This paper thus puts forward a small number of relatively modest, straightforward prescriptions which would serve to ameliorate this problem. In this and all things, an ounce of prevention is worth a pound of cure.

II. ISDA and the Development of OTC Derivatives Markets

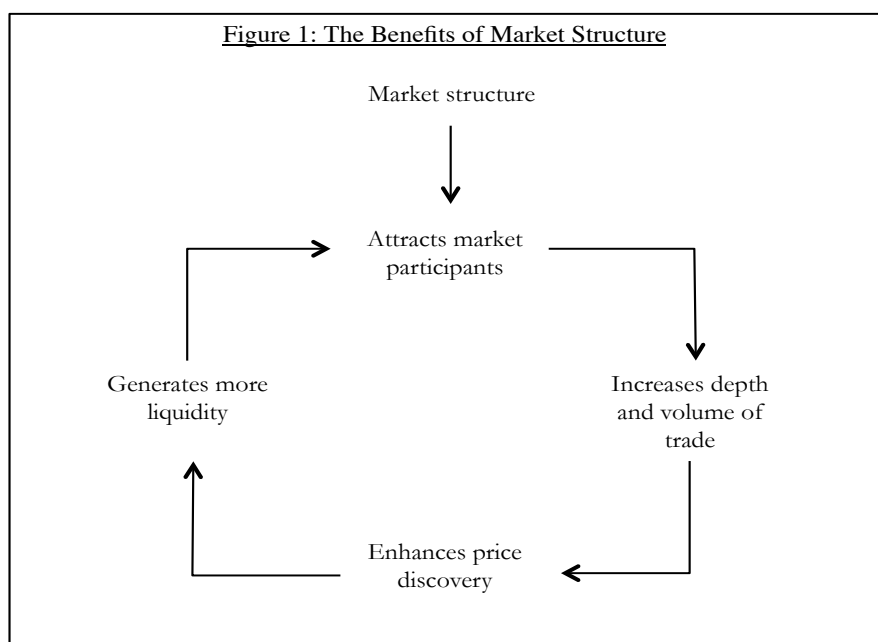
In theory, private market participants possess high powered incentives to invest in the development of institutional arrangements which lower information, coordination, agency, contracting and/or other transaction costs. These institutions range from the relatively commonplace (e.g. a town market or shopping mall⁶) to the highly specialized (e.g. stock exchange ‘specialists’⁷); from the relatively informal (e.g. eBay feedback scores

⁵ See *infra*, Part IV. See also, *The Wheatley Review of Libor* (September 28, 2012) and *Implementing the Wheatley Review: Draft Secondary Legislation* (November 2012), both available at www.hm-treasury.gov.uk.

⁶ Physical markets of this variety can be understood as generating a number of transaction cost benefits. For buyers, these markets lower search costs by concentrating sellers (and thus pricing information) in a single geographic location. For sellers, meanwhile, geographic concentration lowers the search costs (in terms of competitors’ pricing information) and generates positive externalities in terms of the number of potential buyers.

⁷ Stock exchanges designate exchange members – so-called ‘specialists’ – to maintain fair and orderly markets in the securities listed on the exchange. Specialists use their own balance sheets to buy securities

and star ratings⁸) to the highly legalistic (e.g. ISDA master agreements⁹). Where successful, these institutional arrangements act as a form of commitment mechanism: attracting market participants; increasing the depth and volume of trade; enhancing price discovery; lowering bid-ask spreads, and generating greater market liquidity.¹⁰ Greater liquidity, in turn, attracts further market participants – enhancing price discovery, reducing spreads and generating yet more liquidity.¹¹ Market participants develop and participate in these institutions with a view to extracting some of the potential gains from trade associated with this virtuous circle (*see* Figure 1). As described in greater detail in Part V, this virtuous circle is thus the source of potentially significant positive network externalities. Together with applicable law, these institutional arrangements can be understood as constituting the ‘structure’ of financial and other markets.¹²



where there is a scarcity of demand and sell securities where there is a scarcity of supply. The utilization of specialists thus enables exchanges to offer continuous two-way markets in listed securities; *see* John Armour, Dan Awrey, Paul Davies, Colin Mayer and Jennifer Payne, *Principles of Financial Regulation* (Oxford University Press, Oxford, forthcoming) [draft on file with author].

⁸ By introducing the credible threat of reputational sanctions on repeat players in the marketplace, feedback scores and ratings help overcome the adverse selection problems which might otherwise expect trading within the context of an anonymous online transaction contemplating the sequential fulfillment of obligations.

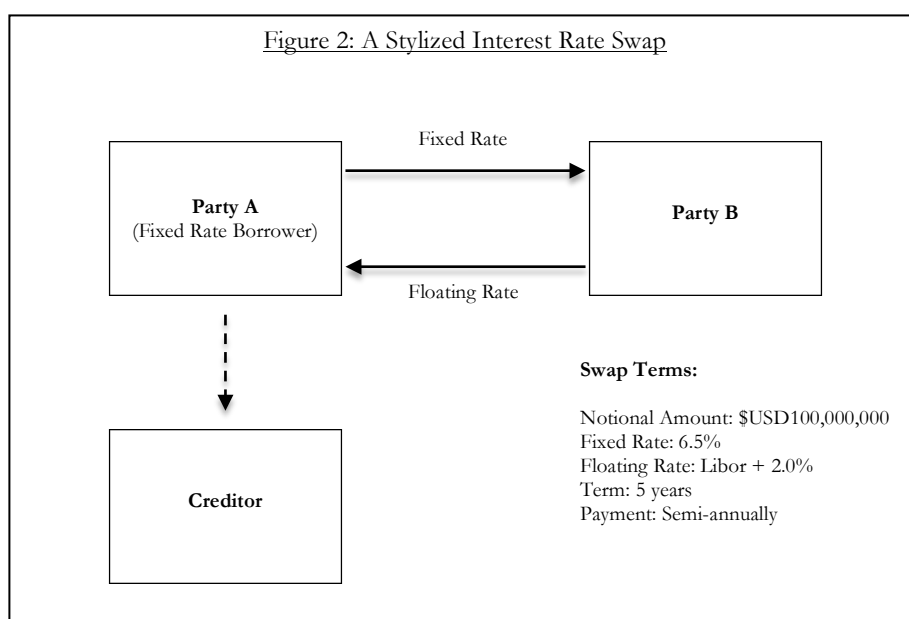
⁹ *See infra*, Part III.

¹⁰ Armour et. al. (n 7).

¹¹ For this reason, it is often said that ‘liquidity begets liquidity’; *ibid*.

¹² For a discussion of the endogenous role of law within the structure of financial markets, *see* Katharina Pistor, “The Legal Theory of Finance” (2013), 41 *Journal of Comparative Economics* [forthcoming].

The importance of market structure can be demonstrated by examining the role played by ISDA in promoting the development of OTC derivatives markets and, specifically, swaps. In its simplest form, a swap is a series of mutual forward obligations whereby two counterparties agree to periodically exchange (or ‘swap’) cash flows over a specified period of time. Perhaps the most straightforward example is an interest rate swap pursuant to which one counterparty – e.g. a borrower with fixed rate obligations – agrees to make payments at a fixed interest rate to another counterparty who in turn agrees to pay the borrower a variable (or ‘floating’) rate. The fixed rate borrower receiving the floating rate thus stands to benefit from any subsequent increase in interest rates, whereas its counterparty receiving the fixed rate will benefit from any decline. The periodic payments due under a swap are calculated with reference to what is known as a ‘notional amount’.¹³ The resulting obligations are then netted out against one another so that only one counterparty is required to remit payment in any given period. Figure 2 depicts a stylized interest rate swap transaction.¹⁴



¹³ Ultimately, while the notional amount provides a conventional (if somewhat inexact) measure of the size of OTC derivatives markets, it does not capture the attendant risks. A more representative measure in this regard is ‘gross market value’, which reflects the current exposures of counterparties under open contracts (and assuming that these contracts were all settled immediately). Where possible, therefore, gross market values are provided along with outstanding notional amounts.

¹⁴ This depiction of an interest rate swap is stylized in many respects. Perhaps most importantly, as described in greater detail below, the counterparties to a typical swap transaction will not contract directly with one another but, rather, will enter into separate swaps with a single financial intermediary (i.e. a dealer) acting as market maker.

Historically, swaps and other OTC derivatives have been executed within relatively opaque, quote-driven markets in which dealers perform an explicit market-making role: structuring derivatives and marketing them to clients, often on the basis that they are willing to take either side of the transaction.¹⁵ These dealers then typically look to eliminate the resulting exposures by seeking out and entering into offsetting transactions with other clients or, in many cases, other dealers.¹⁶ Dealers are thus central to the operation of swaps markets: representing the primary source of market access, trading information and liquidity.¹⁷ This is reflected in the concentration of trading activity within these markets: as of June 2010, the fourteen largest OTC derivatives dealers – the so-called ‘G14’ – were counterparties to swaps representing approximately 82% of the global notional amount outstanding.¹⁸

Established in 1985, ISDA is the *de facto* trade association of the global OTC derivatives industry, representing some 800 member dealers, institutional investors, governments, and other major counterparties.¹⁹ ISDA’s core mandate is to encourage the prudent and efficient development of OTC derivatives markets through the promotion of, *inter alia*: practices conducive to the efficient conduct of business; sound risk management practices, and high standards of commercial conduct.²⁰ By at least one measure, ISDA has been extremely successful in its pursuit of this mandate. As of June 30, 2012, the Bank for International Settlements (BIS) estimated the total outstanding notional amount of all OTC derivatives to be approximately \$USD638.9 trillion²¹ – up from a mere \$USD3.45 trillion in 1990.²² Simultaneously, whereas an authoritative desk reference in

¹⁵ Dan Awrey, “Complexity, Innovation and the Regulation of Modern Financial Markets” (2012), 2:2 Harvard Business Law Review 235 at 268.

¹⁶ See Deutsche Börse Group, *The Global Derivatives Market: An Introduction* (April 2008) at 17, available at www.eurexchange.com.

¹⁷ Awrey (n 15).

¹⁸ ISDA, “Concentration of OTC Derivatives Among Major Dealers”, ISDA Research Note, Issue 4 (2010), available at www.isda.org. Broken down by instrument, the G14 held 82% of the total outstanding notional amount of interest rate derivatives, 90% of CDS, and 86% of equity derivatives; *ibid*. The G14 are Bank of America, Barclays, BNP Paribas, Citigroup, Credit Suisse, Deutsche Bank, Goldman Sachs, HSBC, JPMorgan Chase, Morgan Stanley, Royal Bank of Scotland, Société Générale, UBS and Wells Fargo.

¹⁹ See “About ISDA”, available at: www2.isda.org/about-ISDA/.

²⁰ *Ibid*.

²¹ These contracts had a gross market value of approximately \$USD25.39 trillion; BIS, “Semi-annual OTC Derivatives Statistics at end-June 2012” (November 13, 2012), available at www.bis.org.

²² BIS, “International Banking and Financial Market Developments” (August 1996) at 35, available at www.bis.org.

1985 (had one existed) might have identified a universe of perhaps a dozen or so relatively basic derivatives contracts, today there are literally hundreds of different species of OTC options, forwards, swaps and structured investment products.²³

ISDA's contribution toward the development of OTC derivatives markets can be observed across at least three dimensions. First, ISDA has been the driving force behind the development of standardized legal documentation for use in connection with OTC derivatives transactions. Prior to the intervention of ISDA²⁴, the majority of OTC derivatives were documented in *ad hoc* agreements negotiated on a transaction-by-transaction basis.²⁵ The absence of standardized legal documentation thus represented a significant barrier to the growth of OTC derivatives markets.²⁶ Stepping into this breach, ISDA's commenced publication of its Code of Standard Wording, Assumptions and Provisions for Swaps in 1985.²⁷ The ISDA Swaps Code was, in effect, a glossary of standard terms reflecting then existing practice within the nascent U.S. interest rate swap market.²⁸

ISDA's defining moment, however, would come in 1987 with the publication of its first standardized 'master' agreements for U.S dollar and multi-currency interest rate swaps and currency swaps. ISDA master agreements were designed to incorporate multiple future transactions between two counterparties under the umbrella of a single legal relationship, contemplating only the preparation of a brief trade confirmation for individual transactions. These master agreements thus served to reduce the negotiation and other transaction costs which would otherwise be incurred in connection with the preparation of the legal documentation in respect of individual trades. The standardization of legal terms and terminology also resulted in greater *commoditization*, thereby lowering the information and hedging costs associated with these contracts.

²³ For a more comprehensive overview of the taxonomy of OTC derivatives, see Satyajit Das, *The Swaps and Financial Derivatives Library: Products, Pricing, Applications and Risk Management*, 3ed. (John Wiley & Sons, New York, 2005) and Richard Flavell, *Swaps and Other Derivatives*, 2ed. (John Wiley & Sons, New York, 2009).

²⁴ Along with organizations such as the British Bankers Association; see [Part IV](#).

²⁵ Norman Feder, "Deconstructing Over-the-Counter Derivatives" (2002), *Columbia Bus. L. Rev.* 677 at 736.

²⁶ *Ibid.*

²⁷ See www.isda.org/publications/isdamasteragmnt.aspx [the "Swaps Code"].

²⁸ Feder (n 25) at 737.

Over time, the scope of ISDA master agreements has been expanded to include a broad range of transactions, including OTC equity, commodity and credit derivatives. ISDA has developed standardized ancillary documentation – e.g. definitions, schedules, credit support agreements and trade confirmations – for use in connection with these agreements.²⁹ It has also developed a series of protocols which facilitate the *ex post* amendment of existing master agreements with a view to, *inter alia*, standardizing market practice and/or rectifying perceived deficiencies.³⁰ All ISDA master agreements, ancillary documentation and protocols are reviewed periodically and amended as necessary by ISDA technical committees to reflect legal and market developments, as well as new financing techniques and other technological advancements. These technical committees are staffed by representatives drawn from ISDA’s membership with assistance from external technical (e.g. legal) advisors. Reflecting this wealth of expertise, ISDA documentation is widely regarded as the gold standard within many OTC derivatives markets – and in particular bilateral swap markets.

Second, ISDA has taken the lead in promoting international law reform in areas vital to the development of OTC derivatives markets. Perhaps most significantly, ISDA has produced a Model Netting Act and supplemental guidance for legislators with a view to assisting them in enacting legislation designed to ensure the enforceability of close-out netting and related financial collateral arrangements upon the occurrence of a termination event or event of default (e.g. the commencement of insolvency proceedings involving a counterparty) as defined under ISDA’s contractual documentation.³¹ As of July 26, 2011, netting legislation based on this guidance has been adopted in at least 40 jurisdictions including the U.S., U.K., E.U., Germany, Japan and Canada.³² More broadly, ISDA has played an active role in influencing public policy and financial law reform – including, importantly, the design and implementation of post-crisis reforms

²⁹ See for example www2.isda.org/functional-areas/legal-and-documentation/recent-documents.

³⁰ See www2.isda.org/functional-areas/legal-and-documentation/protocols/.

³¹ See “2006 ISDA Model Netting Act – Version 2” and “Memorandum on the Implementation of the Model Netting Act”, both available at www2.isda.org/functional-areas/legal-and-documentation/opinions/. In effect, both the Model Netting Act and related guidance are designed to ensure special treatment for OTC derivatives under applicable bankruptcy laws (e.g. carving them out from the application of any automatic stay upon bankruptcy).

³² See “Netting Legislation – Status”, available at www2.isda.org/functional-areas/legal-and-documentation/opinions/. ISDA has also commissioned legal opinions in many jurisdictions with the objective of providing market participants with enhanced transactional certainty; Sean Flanagan, “The Rise of a Trade Association: Group Interactions Within the International Swaps and Derivatives Association” (2001), 6 Harvard Negotiation L. Rev. 211 at 233 and “Opinions”, available at www2.isda.org/functional-areas/legal-and-documentation/opinions/.

targeting OTC derivatives markets such as Title VII of the Dodd-Frank *Wall Street Reform and Consumer Protection Act* and the European Market Infrastructure Regulation (EMIR).³³ Whether or not one views the Model Netting Act and other reforms as desirable from a broader societal perspective, there is little doubt that they have helped pave the way for the spectacular growth of OTC derivatives markets in recent decades.³⁴

Finally, ISDA has helped coordinate *ad hoc* responses to industry-wide legal, operational and technical issues. In 2005-6, for example, ISDA joined with the Federal Reserve Bank of New York and other market participants to help resolve a massive backlog of unconfirmed trades.³⁵ ISDA has also been one of the catalysts behind the development and adoption of Financial Products Mark-up Language (FpML) as the standard for electronic dealing and processing of OTC derivatives transactions.³⁶ More recently, ISDA has also worked to create a detailed taxonomy of OTC derivatives as the first step toward the development of unique product identifiers (UPIs).³⁷ Together with Legal Entity Identifiers (LEIs), UPIs will eventually enable market participants and regulators to construct more accurate and complete maps of the complex interconnections between financial markets and institutions and, thus, better understand the location, nature and extent of the potential risks lurking within the global financial system.³⁸

ISDA has thus played an important role in the development of the market structures – e.g. master agreements, netting legislation, FpML and UPIs – which collectively form the institutional backbone of OTC derivatives markets. Importantly, the benefits of these

³³ See for example, ISDA, “ISDA Focus: Implementing Dodd-Frank” and ISDA, “ISDA Focus: European Market Infrastructure Regulation”, both available at www2.isda.org. See more broadly, www2.isda.org/functional-areas/public-policy/.

³⁴ For a discussion of the potential moral hazard problems stemming from the carve-out for OTC derivatives under U.S. bankruptcy law, see Mark Roe, “The Derivative Players’ Payment Priorities as Financial Crisis Accelerator” (2011), 63 *Stanford L. Rev.* 539.

³⁵ See ISDA, “ISDA Launches Protocol to Ease Transfer of Derivatives Trades; Advances Association’s Effort to Increase Operational Efficiency” (September 15, 2005) and ISDA, “Industry Groups Urge Continued Focus on Credit Derivative Efforts; Confirmation Backlog Reduction Exceeds Target” (July 16, 2006), both available at www.isda.org. For an assessment of the effectiveness of this initiative, see GAO, “Credit Derivatives: Confirmation Backlogs Increased Dealers’ Operational Risks, but Were Successfully Addressed after Joint Regulatory Action” (June 2007), available at www.gao.gov. For an opposing view, see Siona Listokin, “Can the Derivatives Market Self-Regulate? Evidence from OTC Derivatives Confirmations” (November 4, 2009), available at www.ssrn.com.

³⁶ Andrew Parry, “ISDA/FpML for Financial Institutions” (2007), 22 *J. of Int’l Banking L. and Reg.* 495.

³⁷ See ISDA, “ISDA Focus: Identifiers and OTC Taxonomies”, available at <http://www2.isda.org/identifiers-and-otc-taxonomies/>.

³⁸ For an overview of the fledgling LEI/UPI project, see Armour et. al. (n 7), ch. 26.

market structures can be understood as flowing largely from the same source: *standardization*. Master agreements standardize legal terms and terminology; protocols ensure consistency between existing and future contracts; netting legislation ensures equivalent treatment of closeout netting and financial collateral arrangements across jurisdictions, and FpML ensures uniform back office processes. This standardization makes OTC derivatives easier to write and understand. Crucially, the standardization of non-economic terms also makes it easier for counterparties to effectively hedge their exposures.

Simultaneously, however, these market structures can also be seen as the source of significant information, agency and other transaction costs. Strikingly, these costs are often disproportionately borne by those with little or no say in terms of how OTC derivatives markets are structured. Perhaps nowhere is this more evident than in connection with one of ISDA's most significant innovations of recent years: the Big Bang Protocol.

III. Market Structure Under the Microscope: ISDA's Big Bang Protocol

To understand the significance of the Big Bang Protocol one must first understand the basic mechanics of credit default swaps. A credit default swap (or CDS) is a derivative contract whereby one counterparty – often referred to as the ‘credit protection seller’ – agrees to protect another counterparty – the ‘credit protection buyer’ – upon the occurrence of certain prescribed events of default (or ‘credit events’) in connection with the debt obligations of one or more ‘reference’ entities.³⁹ The economic effect of a CDS is thus to transfer some or all of the credit risk associated with the underlying debt (or ‘reference’) obligation from the credit protection buyer – who may or may not be holding this instrument – to the credit protection seller. Triggering credit events typically include, *inter alia*, bankruptcy (e.g. a reference entity's insolvency or failure to pay its debts when due); failure to pay (e.g. a sovereign issuer's failure to pay its debts when due⁴⁰), and restructuring (e.g. creditors agreeing to amend the terms of the reference obligations in order to avoid default). Reference entities can include corporate and sovereign debt issuers, baskets of debt instruments or financial indices. Reference

³⁹ The credit protection seller provides this protection in exchange for a periodic fee – putting them in a similar position to the fixed rate borrower receiving the floating rate under the stylized swap depicted in Figure 2.

⁴⁰ The failure to pay credit event is necessary in connection with sovereign CDS owing to the fact there is no mechanism whereby sovereign states can declare (or be put into) bankruptcy.

obligations, meanwhile, can include bonds, loans or virtually any other form of debt instrument. As of June 30, 2012, the BIS estimated the total outstanding notional amount of single-name, multiple-name and index CDS to be approximately \$USD26.9 trillion.⁴¹ Like other swap markets, the vast majority of CDS contracts are entered into using ISDA's credit derivatives documentation.

Most early CDS contracts contemplated 'physical' settlement upon the occurrence of a credit event. Physical settlement requires credit protection buyers to deliver the underlying reference obligations – e.g. the actual bonds – to the credit protection seller as a condition of payment. Following the rapid growth of CDS markets between 2000-2008⁴², however, the aggregate notional amount outstanding of CDS contracts written on many reference obligations came to exceed the aggregate face value of the reference obligations themselves.⁴³ Just prior to its 2005 bankruptcy, for example, CDS written on the debt of Delphi Automotive plc exceeded the par value of the underlying debt by nearly 13:1.⁴⁴ This discontent between the CDS market and the supply of available reference obligations complicated the physical settlement process.⁴⁵ Perhaps most importantly, it introduced the possibility of a bond squeeze: a “mad scramble”⁴⁶ among credit protection buyers to acquire the reference obligations upon the occurrence of a credit event.⁴⁷ This squeeze, in turn, can artificially inflate the price of the reference obligations – driving a wedge between market and recovery value.

An alternative to physical settlement is 'cash' settlement. Cash settlement relieves credit protection buyers from the requirement to deliver the underlying reference obligations.

⁴¹ With a gross market value of approximately \$USD1.187 trillion; BIS, “OTC Derivatives Statistics at end-June 2012” (November 13, 2012), available at www.bis.org.

⁴² While reliable evidence from the early part of the decade is difficult to acquire, the BIS estimates that between 2004 and 2008 the notional amount outstanding grew from approximately \$USD6 trillion to \$USD58 trillion; BIS, “OTC Derivatives Market Activity in the Second Half of 2004” (May 2005) and “OTC Derivatives Markets Activity in the Second Half of 2008” (May 2009), both available at www.bis.org.

⁴³ Mikhail Chernov, Alexander Gorbenko and Igor Makarov, “CDS Auctions” (July 20, 2012), available at <http://faculty.london.edu>.

⁴⁴ Fitch Ratings, “Delphi, Credit Derivatives, and Bond Trading Behavior After a Bankruptcy Filing” (November 28, 2005), available at www.fitchratings.com.

⁴⁵ Jean Helwege, Samuel Maurer, Asani Sarkar and Yuan Wang, “Credit Default Swap Auctions”, Federal Reserve Bank of New York Staff Report no. 372 (May 2009), available at www.newyorkfed.org.

⁴⁶ Ibid.

⁴⁷ Helwege et. al. (n 45). Trading volumes in the debt of Delphi, for example, were several times higher than their historical averages in the first weeks following the announcement of its bankruptcy; Fitch (n 44).

Instead, credit protection buyers receive cash from sellers in an amount equal to the notional amount of the CDS multiplied by the loss in value experienced by the reference obligations. On a CDS with a notional amount of \$USD10,000,000 where the reference obligation was trading at 70 cents on the dollar, for example, the credit protection buyer would receive \$USD3,000,000 ($10,000,000 \times [1.00 - 0.70]$). Cash settlement thus resolves the bond squeeze problem. Simultaneously, it requires counterparties to fix a current price for the relevant reference obligations. This, however, can be highly problematic given the relative opacity and illiquidity associated with many bond and loan markets⁴⁸ – a problem which we might expect to be exacerbated in the midst of the sort of market dislocation often observed in connection with a credit event.⁴⁹

To resolve the problems associated with both physical and cash settlement, ISDA developed a number of *ad hoc* auction settlement protocols to deal with specific credit events. The first such protocol for single-name CDS was employed in connection with the 2005 bankruptcy of Dura Operating Corp.⁵⁰ The auctions held pursuant to these protocols established a single market price for the relevant reference obligations, thereby facilitating the smooth operation of the cash settlement mechanism, reducing the need for physical settlement, and eliminating recovery basis risk.⁵¹ Auctions can also help tether the market price of the underlying debt to its recovery value.⁵² Ultimately, however, these auction protocols only applied to a narrow range of reference entities and obligations and, even then, only where counterparties had mutually agreed to adhere to them. Moreover, physical, cash and auction settlement all required counterparties to agree on a bilateral basis that a credit event had, in fact, occurred. Predictably, this issue was often the subject of intense debate – leading to costly and duplicative third party dispute resolution.⁵³

⁴⁸ Armour et. al. (n 7).

⁴⁹ Chernov et. al. (n 43) and Helwege et. al. (n 45).

⁵⁰ ISDA, “2006 Dura CDS Protocol”, available at www.isda.org.

⁵¹ For a more detailed description – and critique – of this auction mechanism, see Chernov et. al. (n 43). See also Helwege et. al. (n 45).

⁵² As Helwege et. al. (n 45) observe, this is ultimately an empirical question. Chernov et. al. (n 43) find that auctions undervalue bonds by an average of 6% on auction day.

⁵³ ISDA’s pre-Big Bang Protocol contractual documentation provided for this dispute resolution mechanism in the form of so-called ‘calculation agents’. By convention, the calculation agent was typically the dealer which originated the transaction. In the event that a counterparty disagreed with the determination of the calculation agent, it could refer the matter to an independent third party. The costs associated with referring the matter were then determined on the basis of whether the third party

On April 8, 2009, ISDA announced the implementation of the 2009 Credit Derivatives Determinations Committees and Auction Settlement CDS (or ‘Big Bang’) Protocol.⁵⁴ The implementation of the Big Bang Protocol was significant in two respects. First, it hardwired the auction settlement mechanism: incorporating it into standard CDS documentation across all reference entities and obligations. Second, and more importantly for the present purposes, it established a new mechanism designed to facilitate the adjudication of certain technical issues arising in connection with ISDA’s credit derivatives documentation.⁵⁵ This mechanism enables counterparties to CDS and other eligible transactions to request that a determinations committee (or DC) be constituted for the purpose of adjudicating a range of potential issues.⁵⁶ These issues include, *inter alia*: (1) whether a credit event has occurred; (2) whether to hold an auction to determine a settlement price for a reference obligation following the occurrence of a credit event; (3) the identity of the reference obligations to be valued in connection with any such auction, and (4) whether a succession event has occurred and the identity of any successor entity.⁵⁷ Importantly, a DC’s determinations are binding in respect of *all* transactions of the relevant type which incorporate the Big Bang Protocol.⁵⁸

The Big Bang Protocol establishes five regional DCs.⁵⁹ Each DC is comprised of 15 voting members: one designate each from eight global derivatives dealers; two regional

substantially agreed with the determination of the calculation agent. Interestingly, these ‘independent’ third parties were themselves typically OTC derivatives dealers.

⁵⁴ ISDA, “ISDA Announces Successful Implementation of Big Bang CDS Protocol; Determinations Committees and Auction Settlement Changes to Take Effect” (April 8, 2009), available at www.isda.org. ISDA also introduced the 2009 ISDA Credit Derivatives Determinations Committees and Auction Settlement Supplement to the 2003 Credit Derivatives Definitions. For ease of exposition, this paper refers to both the protocol and related supplement as the “Big Bang Protocol”. Technically, however, the supplement applied prospectively to future transactions using ISDA documentation while the protocol applied to then outstanding transactions. The Big Bang Protocol was followed in July 2009 by the ‘Small Bang’ Protocol, which extended the application of the former to certain restructuring credit events; *see* www.isda.org/smallbang/.

⁵⁵ In addition to CDS, this mechanism applies to certain credit-linked notes and synthetic CDOs, for example; *see* Allen & Overy, “ISDA Auction Hardwiring” (March 19, 2009), available at www.allenoverly.com.

⁵⁶ *See* Credit Derivatives Determinations Committees Rules (July 11, 2011), available at www.isda.org [the “DC Rules”], s. 2.1(a).

⁵⁷ DC Rules, s. 3. *See* also Allen & Overy (n 55).

⁵⁸ Except where the counterparties bilaterally agree to dis-apply the DC’s decision.

⁵⁹ The five ‘regions’ for the purposes of these DC composition rules are the Americas; Europe, the Middle East and Africa; Japan; Australia and New Zealand, and Asia (ex Japan); DC Rules, s. 6.

dealers, and five non-dealer (or ‘buy-side’) market participants.⁶⁰ Dealer members are selected on the basis of their trading volumes in OTC credit derivatives.⁶¹ Buy-side members, meanwhile, are selected from a pool of financial institutions meeting prescribed asset and derivatives thresholds.⁶² ISDA itself acts as a non-voting secretary on each DC in order to coordinate the process “in a transparent and operationally efficient manner.”⁶³ Each DC must reach an 80% supermajority in connection with the most important determinations, including: (1) whether a credit event has occurred⁶⁴; (2) the substitution of a reference obligation⁶⁵, and (3) whether a succession event has occurred, along with the identity of any successor entity.⁶⁶ Other DC determinations are made by simple majority.⁶⁷

Where the requisite supermajority voting threshold is not reached⁶⁸, the DC Rules contemplate that the issue will be referred to a panel of three external reviewers selected from a pool of independent experts nominated by ISDA members and approved by a majority of the members of the relevant DC. Notably, unlikely the DC mechanism itself, the external review process includes an express procedure for both the recusal and removal of potential external reviewers on the basis of actual or potential conflicts of interest.⁶⁹ Once the panel is selected, the external reviewers review both written and oral arguments in favor of each presented position.⁷⁰ Each external reviewer must then select – without alteration – one of these positions.⁷¹ Where a position originally received

⁶⁰ DC Rules, s. 1.6. These rules also contemplate the involvement of non-voting consultative dealer and non-dealer members; *ibid.*

⁶¹ DC Rules, s. 1.3(a).

⁶² DC Rules, schedule 2. Criteria for buy-side membership include at least \$USD1 billion in assets under management, single-name CDS contracts with a notional amount of at least \$USD1 billion, and approval by one third of current buy-side members.

⁶³ *See* www.isda.org/credit/.

⁶⁴ DC Rules, s. 3.1(b).

⁶⁵ DC Rules, s. 3.6(a).

⁶⁶ DC Rules, s. 3.5(b) and s. 3.5(c).

⁶⁷ Determinations regarding whether to hold an auction, for example, are decided by simple majority; DC Rules, s. 3.2(a)(i) and (ii).

⁶⁸ In effect, the external review mechanism is only available in respect of issues requiring an 80% supermajority; DC Rules, s. 4.1(a). The only exception to this is a catch-all basket called “other determinations relating to the overall market” which, although only requiring a majority, can still be referred to external review; *ibid.*

⁶⁹ DC Rules, ss. 4.2(a) and 4.3.

⁷⁰ DC Rules, s. 4.5.

⁷¹ DC Rules, s. 4.6(d).

between 60-80% support from the DC, the decision of the DC will prevail unless the external reviewers unanimously conclude that another of the presented positions is “the better answer”.⁷² Where a position received less than or equal to 60% support, meanwhile, this threshold is reduced to two thirds of the external reviewers.⁷³ Decisions of the external reviewers are deemed to have been ratified by the DC from which the issue was originally referred.⁷⁴

When considering an issue, DC members are required to perform their obligations in a commercial reasonable manner and must base their votes on information which is either in the public domain or which can be published on ISDA’s website.⁷⁵ Simultaneously, however, DC rules include a disclaimer of liability for both DC members and ISDA (in its capacity as DC secretary) stipulating that they shall not undertake any duty of care or otherwise be liable to any counterparty to a transaction incorporating the Big Bang Protocol for any form of damages arising in connection with the performance of their duties (with the exception of those arising from gross negligence, fraud or willful misconduct).⁷⁶

Ultimately, the Big Bang Protocol can be seen as holding out a number of potentially significant benefits for market participants. First, as described above, auction settlement reduces both the operational complexity and economic (e.g. basis) risk associated with CDS markets. By hardwiring this mechanism into standard CDS documentation – thus ensuring its widespread use – the Big Bang Protocol maximizes the extent of these benefits. Second, the DC mechanism provides an expert and more or less real time dispute resolution mechanism for important contractual issues. The DC Rules contemplate the determination of most issues within a matter of a days⁷⁷ (although a significant number of determinations – those involving General Motors, Fortis, Bradford & Bingley, Northwest Airlines and Mitsubishi UFJ, for example – have taken several

⁷² DC Rules, s. 4.6(d)(i).

⁷³ DC Rules, s. 4.6(d)(ii).

⁷⁴ DC Rules, s. 4.6(g).

⁷⁵ DC Rules, s. 2.5(b).

⁷⁶ DC Rules, s. 5.1(b).

⁷⁷ As of March 7, 2012, ISDA estimates that in connection with the last 10 credit events, the average DC deliberation time was 1 day in the Americas and 3 days in Europe. In connection with the last 5 credit events in Asia and Oceania, meanwhile, the average was 5 days; ISDA, “The ISDA Credit Derivatives Determination Committees” (May 2012), available at www.isda.org.

weeks or even months to resolve).⁷⁸ The DC mechanism also reduces the costs associated with protracted and duplicative third party dispute resolution and eliminates the rather unsettling prospect that two adjudicators⁷⁹ might independently arrive at different conclusions regarding, for example, whether a credit event had occurred. In these and other important respects, the benefits of both auction hardwiring and the DC mechanism can, once again, be understood as flowing largely from increased standardization. This standardization, in turn, makes CDS contracts more fungible and liquid – thereby facilitating the shift toward centralized clearing as contemplated under both the *Dodd-Frank Act* and EMIR.⁸⁰ The commoditization of many standardized CDS contracts implicit in this shift might be expected to yield further savings for many market participants.

At the same time, however, the design of the DC mechanism manifests an obvious and potentially fatal structural flaw. Specifically, it fails to acknowledge or adequately constrain the acute conflicts of interest generated by the fact that DC members are permitted to wear two hats: one as a major contractual counterparty, the other as an adjudicator of issues which determine the payoffs under the very same contracts. This, of course, raises the prospect that – rather than making determinations as a neutral and independent referee – DC members will vote in their self-interest on the basis of, for example, their current exposures to the underlying reference entities and obligations. Put simply, dealers might ‘vote their book’. It also opens the door to collusion amongst DC members looking to secure an outcome in connection with one determination in exchange for future reciprocity.

It is highly informative in this regard that DC Rules do not require DC members to establish governance arrangements (e.g. Chinese walls, recusal or removal mechanisms, etc.) which might ameliorate these conflicts of interest.⁸¹ Nor does ISDA appear to

⁷⁸ As of September 30, 2011, the longest period elapsed between a submitted request and a determination in respect of a single event – almost 17 months – involved the question of whether CIT Group Inc. had experienced a bankruptcy credit event; *see* Issue No. 2009110201, available at www.isda.org.

⁷⁹ Whether this be two (or a combination of): (1) dealers (acting in their capacity as collection agents under two different CDS contracts); (2) independent third parties (appointed to review the decisions of these collection agents), or (3) (quasi-)judicial decision-makers.

⁸⁰ For this reason, regulators have been highly supportive of the Big Bang Protocol; *see* for example, Federal Reserve Bank of New York, “New York Fed Welcomes CDS Auction Hardwiring” (March 12, 2009), available at www.newyorkfed.org.

⁸¹ Although, as noted below, ISDA’s General Counsel David Geen has suggested that ISDA is working on a ‘best practice’ policy; *see* Pollack (n 1).

actively monitor compliance with DC Rules. Indeed, even if ISDA did monitor compliance, its status as an industry trade association would seem to undermine the credibility of any threat of private enforcement.⁸² Simultaneously, despite ISDA's assertions to the contrary⁸³, the complexity of CDS markets – and, ultimately, of the balance sheets of many DC members⁸⁴ – might be expected to undermine both the potency of any market-based reputational sanctions and effective supervision and enforcement by public regulatory authorities. Taken together, these factors support the claim that the risk-adjusted costs of exploiting the conflicts of interest embedded within the DC mechanism are relatively low and, accordingly, are unlikely to represent a meaningful constraint on opportunistic behavior. The result is a market structure which, in theory at least, allows DC members to extract private benefits at the expense of other market participants.

A reasonable observer might raise two objections at this point. First, is this not all just baseless speculation? This, of course, is a difficult charge to answer – especially since the information needed to test this claim is not likely to be in the public domain. To shed further light on this question, therefore, it is necessary to draw parallels between the DC mechanism and another case study where recent developments involving essentially the same protagonists, responding to virtually identical incentive structures, have exposed the nature of the problem. This case study – the manipulation of Libor – is examined in Part IV. Second, if this market structure is so undesirable, why does it survive in the marketplace? Why do we not see other, more desirable, market structures emerging to take its place? The answer to this question resides in the positive network externalities generated by ostensibly successful market structures, along with the power of OTC derivatives dealers – as market makers – to effectively dictate market practice. This paradox of private ordering is examined in greater detail in Part V.

⁸² Specifically, as an organization whose reputation and financial resources are derived from its ability to attract and retain influential market participants – e.g. dealers – ISDA can be seen as possessing a powerful incentive *not* to engage in vigorous monitoring or enforcement.

⁸³ ISDA (n 77) at 3-4.

⁸⁴ Complexity in this instance referring to the information costs and uncertainty associated with these markets; *see* Awrey (n 15). For a more detailed discussion of the complexity of bank balance sheets, *see* Richard Herring and Jacopo Carmassi, “The Corporate Structure of International Financial Conglomerates: Complexity and Its Implications for Safety and Soundness” in Allen Berger, Phillip Molyneux and John Wilson, (eds.), *The Oxford Handbook of Banking* (Oxford University Press, Oxford, 2010) and Hamid Mehran, Alan Morrison and Joel Shapiro, “Corporate Governance of Banks: What Have We Learned from the Financial Crisis?”, Federal Reserve Bank of New York Staff Report No. 502 at 4-5, available at www.ssrn.com.

IV. Libor and the Manipulation of OTC Derivatives Markets

Created in 1986, the London Interbank Offered Rate – or Libor – is a series of indicative interest rates which notionally reflect the rates at which a selection of panel banks are able to raise funds from other banks in the London money market. Libor is calculated across 10 different currencies (including the U.S. dollar, Pound sterling and Euro) and 15 different maturities (ranging from overnight to 12 months). Accordingly, while it is not uncommon for Libor to be quoted as a single figure (typically 3-month U.S. dollar Libor), there are in fact 150 different Libor rates. Libor was developed and – pending the implementation of recent regulatory reforms described below⁸⁵ – is administered by the British Bankers Association (BBA), a U.K. trade association representing approximately 200 member banks.⁸⁶

Management of the process by which Libor is set is the responsibility of BBA LIBOR Ltd., a subsidiary of the BBA. Every business day, at approximately 11:00am London time, a panel of between 8 and 18 banks⁸⁷ (depending on the currency) is asked the following question: “At what rate could you borrow funds, were you to do so by asking for them and then accepting inter-bank offers in a reasonable market size just prior to 11am?”⁸⁸ Panel banks are then required to submit their responses to Thomson Reuters, which collects submissions and calculates Libor rates on behalf of the BBA. These responses must be based on each bank’s cost of borrowing unsecured cash across each of the relevant currencies and maturities and, importantly, must be made without reference to the submissions of other panel banks. Once Thomson Reuters has received the submissions of all panel banks, the highest and lowest 25% of the panel are discarded and the arithmetic mean of the remaining rates is used as the official Libor rate for each

⁸⁵ Prior to these reforms, none of the activities involved in setting Libor constituted “regulatory activities” under the U.K. *Financial Services and Markets Act 2000*, c. 8. As a result, the U.K. FSA was prevented from asserting direct regulatory oversight.

⁸⁶ See www.bba.org.uk/about-us.

⁸⁷ The selection of panel banks is made annually by the BBA with the assistance of the Foreign Exchange and Money Markets Committee – which is itself made up predominantly of major banks. Panel banks are selected on the basis of market volume, reputation and perceived expertise in trading the relevant currency; see *The Wheatley Review of Libor – Initial Discussion Paper* (August 2012) at 50, available at www.hm-treasury.gov.uk/wheatley_review.htm.

⁸⁸ *Wheatley Review* (n 5) at 65. One of the reforms recommended in the Wheatley Review is to change this question to: “At what rate do you think inter-bank term deposits will be offered by one *prime bank* to another *prime bank* for a reasonable market size today at 11am?” [emphasis added.]

currency and maturity.⁸⁹ The official rates, along with the submissions of individual panel members, are then publicly disseminated by Thomson Reuters at around 11:45am London time.

The principal benefit of Libor stems from its use as a benchmark rate of interest in connection with a wide range of financial contracts. The floating rate leg of the stylized interest rate swap depicted in Figure 2, for example, was calculated on the basis of a spread over Libor (i.e. Libor + 2.0%). The use of Libor as a benchmark thus saves counterparties the time and expense of having to formulate and agree upon a methodology for calculating a more bespoke floating rate. The resulting standardization also reduces the costs of managing the attendant interest rate and basis risks. Accordingly, as the payouts under more and more contracts have become linked to Libor, it has become increasingly attractive to link other contracts to Libor as well. Libor has thus come to play an important role within the global financial system. The *Wheatley Review*, for example, estimated that – worldwide – approximately \$USD165-230 trillion in interest rate swaps, \$USD30 trillion in exchange-traded futures and options, \$USD25-30 trillion in forward rate agreements, \$USD10 trillion in syndicated loans and \$USD3 trillion in floating rate notes currently utilize Libor as a benchmark.⁹⁰

Despite its widespread use, however, a perception has long existed in the marketplace that the process by which Libor has historically been set is fundamentally flawed.⁹¹ First, Libor rates are often not based on actual interbank transactions, but rather panel banks' estimates of their likely borrowing costs.⁹² Second, the fact that panel banks are asked to estimate the price at which they would be able to *borrow* – as opposed to *lend* – gives them an incentive to report rates below their actual cost of capital.⁹³ Third, and most importantly, the governance of Libor is plagued by potentially significant conflicts of

⁸⁹ In the case of U.S. dollar Libor – where the panel includes 18 banks – the top four and bottom four submissions are discarded.

⁹⁰ *Wheatley Review* (n 5) at 76.

⁹¹ See for example, Douglas Keenan, “My Thwarted Attempt to Tell of Libor Shenanigans”, *The Financial Times* (July 27, 2012), available at www.ft.com (alleging that Libor has been manipulated since at least 1991) and Carrick Mollenkamp, Jennifer Ablan and Matthew Goldstein, “Special Report: How Gaming Libor Became Business as Usual”, Reuters (November 20, 2012), available at www.reuters.com (noting that U.S. regulators were warned of Libor’s susceptibility to manipulation as early as 1996).

⁹² The reason for this stems from the lack of trading volume and liquidity in a number of currencies and maturities.

⁹³ Interestingly, there also exists the London Interbank Bid Rate (or Libid). Curiously, however, Libid has thus far not found widespread use as a benchmark rate.

interest. As an industry trade association whose governing board is dominated by panel banks⁹⁴, the BBA can be understood as possessing relatively weak incentives to establish robust oversight mechanisms with a view to monitoring and enforcing compliance with the rate-setting process. The reliance on self-reporting by panel banks and the absence of a mechanism for verifying the accuracy of submissions as against banks' true borrowing costs, for example, can both be seen as products of these incentives. At the same time, and in sharp contrast, panel banks – as counterparties to many of the contracts whose payouts are determined with reference to Libor – possess powerful incentives to manipulate the benchmark rate.⁹⁵

The true nature and extent of these conflicts became clear on June 27, 2012, when the U.S. Department of Justice (DOJ), Commodities Futures Trading Commission (CFTC) and U.K. Financial Services Authority (FSA) announced that they had entered into settlement agreements with Barclays Bank plc – a longstanding Libor panel member – in connection with the manipulation of both Libor and its cousin the Euro Interbank Offered Rate (or Euribor).⁹⁶ The DOJ, CFTC and FSA investigations culminating in the settlements followed on the heels of a *Wall Street Journal (WSJ)* investigation which suggested that Libor had diverged from other measures of risk – thus potentially rendering it an inaccurate proxy for banks' true borrowing costs – during the early stages of the global financial crisis.⁹⁷ The *WSJ* investigation, in turn, prompted the BBA to undertake an expedited 'consultation' which concluded that panel banks believed Libor to be “a fundamentally robust and accurate benchmark, with contributors inputting rates

⁹⁴ See www.bba.org.uk/about-us.

⁹⁵ Perversely, the structure of Libor may actually make manipulation easier. First, the relatively small number of panel banks means that one bank's submissions are more likely to influence the benchmark rate. Second, the fact that the submissions of individual banks are published each day makes it easier to predict what the submissions of these panel banks will be from one day to the next (and thus where a manipulator's submission would need to be to move the benchmark rate). These same structural features also make collusion among panel banks more likely; see Rosa Abrantes-Metz, Michael Kraten, Albert Metz and Gim Seow, “Libor Manipulation?” (2012), 36 *J. of Banking & Finance* 136.

⁹⁶ See DOJ, “Barclays Bank PLC Admits Misconduct Related to Submissions for the London Interbank Offered Rate and the Euro Interbank Offered Rate and Agrees to Pay \$160 Million Penalty” (June 27, 2012), available at www.justice.gov; CFTC, *In the Matter of Barclays PLC, Barclays Bank PLC and Barclays Capital Inc.*, CFTC Docket No. 12-25 (June 27, 2012), available at www.cftc.gov, and FSA, *Final Notice of Settlement re Barclays Bank Plc* (June 27, 2012), available at www.fsa.gov.uk.

⁹⁷ See Carrick Mollenkamp, “LIBOR Fog: Bankers Cast Doubt On Key Rate Amid Crisis”, *Wall Street Journal* (April 16, 2008) and Carrick Mollenkamp and Mary Whitehouse, “Study Casts Doubt on Key Rate: WSJ Analysis Suggests Banks May Have Reported Flawed Interest Rate Data for LIBOR”, *Wall Street Journal* (May 28, 2008), both available at www.wsj.com.

that they believe to reflect their future funding costs.”⁹⁸ In effect, the BBA had asked the foxes whether they thought the henhouse was adequately protected.⁹⁹ Allegories and inside baseball aside, the DOJ, CFTC and FSA investigation uncovered *hundreds* of attempts by Barclays – both through its own submissions and in collusion with other financial institutions – to manipulate Libor between January 2005 and June 2009.¹⁰⁰ As part of the resulting settlements, Barclays was ordered to pay £59.5 million in fines to the FSA, \$USD200 million to the CFTC and \$USD160 million to the DOJ. Barclays also agreed to work with regulators to implement systems and controls designed to prevent future misconduct.

The Barclays settlement agreements describe two separate species of Libor rate-rigging.¹⁰¹ First, traders sought to manipulate Libor in order to generate profits for the firm and/or its clients on the basis of their existing trading positions. Given the size of the notional value of many of the financial contracts (e.g. swaps and other OTC derivatives) linked to Libor, a relatively small un-hedged exposure to the benchmark rate could be the source of significant profits or losses. As Connan Snider and Thomas Youle explain:

“If J.P. Morgan, for example, had a swap position with just a 1% net exposure to the Libor in the fourth quarter of 2008, then its cost on its contracts would be proportional to \$540 billion. If it was to succeed in modifying Libor by 25 basis point in a quarter it would make $1/4 * 540 * 0.25 = 0.337$ or \$337 million in that quarter. If it had a 10 percent exposure it could make \$3.37 billion.”¹⁰²

Emails, text messages and other communications disclosed in the settlement agreements make it clear that Barclays traders were keenly aware of the opportunities this presented and routinely attempted to exploit them.¹⁰³

⁹⁸ BBA, “BBA Libor Consultation Feedback Statement” (August 5, 2008) at 3, available at www.bba.org.uk. In March 2008, a study by the BIS had also concluded that there was no evidence of Libor manipulation by panel banks; Jacob Gyntelberg and Philip Wooldridge, “Interbank Rate Fixings During the Recent Turmoil”, BIS Quarterly Review (March 2008) at 70, available at www.bis.org.

⁹⁹ Remarkably, the BBA arrived at this conclusion notwithstanding the fact that the announcement that it was undertaking the consultation was accompanied by a significant increase in Libor rates; see Carrick Mollenkamp, “LIBOR Surges After Scrutiny Does, Too: Banks May be Reacting As BBA Speeds Probe; Impact on Borrowers”, *Wall Street Journal* (April 18, 2008), available at www.wsj.com.

¹⁰⁰ See FSA (n 96) at 11.

¹⁰¹ Ibid. and “The Libor Scandal: The Rotten Heart of Finance”, *The Economist* (July 7, 2012), available at www.economist.com.

¹⁰² Connan Snider and Thomas Youle, “Does the LIBOR Reflect Banks’ Borrowing Costs?” Working Paper (April 2, 2010) at 10, available at www.ssrn.com.

¹⁰³ See for example the statement of a Barclays’ trader quoted in DOJ (n 96) at 9: “We have turn exposure of 837 futures contracts. [F]or every 0.25 bps tomorrows [sic] fix is below 4.0525 we lose 154,687.50 usd [United States Dollars]... if tomorrows [sic] fix comes in at 4.0325 we lose 618,750 usd.”

Second, in the midst of financial crisis, Barclays submitted artificially low rates in order to avoid media scrutiny regarding its financial health, along with the adverse inferences which might be drawn by market participants and regulators from the fact that they were submitting rates higher than many other panel banks.¹⁰⁴ Rather than profit, this second species of manipulation was thus motivated by the fear that if Barclays were to be perceived as having difficulty raising funds in the interbank market that this might trigger the sort of destabilizing runs which, by September 2007, had already claimed the likes of Northern Rock and would soon claim Bear Stearns. This fear resulted in the now infamous instruction from one Barclays manager to Libor submitters that the firm should not “stick its head above the parapet”.¹⁰⁵ Thereafter, Barclays consistently submitted rates which fell within the mid-range of panel banks.¹⁰⁶

The Barclays settlement was followed by an announcement on December 19, 2012 that Union Bank of Switzerland (UBS) had also entered into settlement agreements totaling \$USD1.5 billion with the DOJ, CFTC, FSA and Swiss Financial Markets Authority (SFMA) relating to the manipulation of Libor and Euribor between January 2005 and December 2010.¹⁰⁷ To date, investigations have now been launched in the U.S., U.K., E.U., Germany, Canada, Japan and Switzerland looking into allegations that perhaps as many as 20 banks have attempted to manipulate Libor, Euribor and other national benchmark rates.¹⁰⁸ Banks alleged to have manipulated these rates include Citibank, J.P. Morgan, HSBC, Deutsche Bank and Royal Bank of Scotland.¹⁰⁹

The Libor scandal is remarkable in several important respects. The first is the scale of the manipulation. The UBS investigation, to take just one example, revealed thousands of attempts to manipulate Libor, involving dozens of employees and at least 6 other

¹⁰⁴ FSA (n 96) at 23-29. See also DOJ (n 96) and CFTC (n 96).

¹⁰⁵ FSA (n 96) at 25.

¹⁰⁶ Ibid. As an interesting aside, the settlement agreements revealed that the FSA and Bank of England were both at the very least aware of this activity and, potentially, condoned it; *ibid.*

¹⁰⁷ See DOJ, “UBS Securities Japan Co. Ltd. to Plead Guilty to Felony Wire Fraud for Long-running Manipulation of LIBOR Benchmark Rates” (December 19, 2012), available at www.justice.gov; CFTC, *In the Matter of UBS AG and UBS Securities Japan Co., Ltd.*, CFTC Docket No. 13-09 (December 19, 2012), available at www.cftc.gov, and “FSA, Final Settlement Notice re UBS AG (December 19, 2012), available at www.fsa.gov.uk

¹⁰⁸ *The Economist* (n 101).

¹⁰⁹ See “How Britain’s Rate-fixing Scandal Might Spread – And What to do About It”, *The Economist* (July 7, 2012), available at www.economist.com.

firms.¹¹⁰ Moreover, far from being an isolated incident, it seems increasingly likely that the manipulation of Libor and other benchmark rates was a common practice amongst panel banks.¹¹¹ Second, as *The Economist* aptly described it, the settlement agreements give a sense of “the everydayness with which bank traders set about manipulating the most important figure in finance.”¹¹² At least one Barclays trader would shout across the trading floor to confirm that no one held any positions which might conflict with his attempts to influence Barclays’ Libor submissions.¹¹³ Other traders wrote diary notes to themselves, reminding them to speak with Libor submitters about manipulating the benchmark rate.¹¹⁴ Third, ostensible competitors were willing to collude with one another in the manipulation of Libor. Finally, and perhaps most importantly, despite the widespread perception prior to the scandal that the Libor rate-setting process was vulnerable to manipulation by panel banks, there was no serious attempt by market participants to develop alternative market structures.

The Libor scandal has led to a fundamental review of how public authorities approach the regulation of financial benchmarks. In the U.K., the *Wheatley Review* has proposed a series of regulatory reforms which include: (1) bringing Libor within the scope “regulated activities” under the *Financial Services and Markets Act 2000*¹¹⁵; (2) enhancing both public and private sector oversight of the rate-setting process¹¹⁶; (3) replacing the BBA with a new independent administrator¹¹⁷; (4) basing Libor on actual interbank transactions¹¹⁸, and (5) creating new civil and criminal penalties for intentionally or recklessly making false or misleading statements in connection with the setting of a benchmark.¹¹⁹ The

¹¹⁰ FSA (n 107) at 2-3.

¹¹¹ On February 6, 2013, Royal Bank of Scotland announced that it, too, had entered into settlement agreements with the DOJ, CFTC and FSA; RBS Press Release, “RBS Reaches Libor Settlements” (February 6, 2013), available at www.rbs.com.

¹¹² *The Economist* (n 101).

¹¹³ FSA (n 96) at 10.

¹¹⁴ *Ibid.* at 12.

¹¹⁵ Thereby enabling the FSA to subject the Libor rate-setting process to direct regulatory supervision; *Wheatley Review* (n 5), ch. 2.

¹¹⁶ Through mechanisms such as a code of conduct, internal and external audit requirements and the creation of an independent oversight committee; *ibid.*, ch. 4.

¹¹⁷ *Ibid.*, ch. 3.

¹¹⁸ And discontinuing its use where there is insufficient trade data to corroborate submissions; *ibid.*, ch. 5.

¹¹⁹ The *Wheatley Review* also recommended, *inter alia*, larger panels and delaying publication of individual submissions for 3 months; *ibid.*, ch. 5. For an analysis of the costs and benefits of the reforms set out in

U.K. government has signaled that it will implement these proposals in full.¹²⁰ The salient question from our perspective, however, is what the Libor scandal can tell us about the conflicts of interest at the heart of the Big Bang Protocol and what, if anything, we can or should do about them. It is to this question which we now turn.

V. The Big Bang Protocol, Libor and the Paradox of Private Ordering

The parallels between the Big Bang Protocol and Libor are striking. As a preliminary matter, the same small group of global financial institutions reside at the core of both market structures. Figure 3 lists the G14 group of global derivatives dealers and indicates whether they are also Libor panel banks and/or DC members. As Figure 3 clearly illustrates, the overlap between these three groups is substantial.

Figure 3: Membership of the G14 on Libor and DC panels (as of May 1, 2013)

The G14	Libor Panel Bank	DC Member (Americas)
Bank of America	✓	✓
Barclays	✓	✓
BNP Paribas	✓	✓
Citigroup	✓	✓
Credit Suisse	✓	✓
Deutsche Bank	✓	✓
Goldman Sachs		✓
HSBC	✓	✓
JPMorgan Chase	✓	✓
Morgan Stanley		✓
Royal Bank of Scotland	✓	
Société Générale	✓	✓ (consultative)
UBS	✓	✓
Wells Fargo		

Indeed, the fact that both Libor and the DC mechanism are structured around a ‘core’ group of market participants – which, by necessary implication, also creates a ‘periphery’ – is itself an important source of commonality. Moreover, the distinguishing characteristic of this core in both cases is that, by virtue of these market structures, its members are in a position to potentially influence otherwise exogenous events – e.g. changes to the Libor rate, credit events, etc. – which determine the payoffs under contracts to which they are themselves counterparties. This gives rise to inherent

the *Wheatley Review* (as well as other potential options for reform), *see* Stephen Bainbridge, “Reforming Libor: Wheatley Versus the Alternatives” (2013), 9:2 NYU J. of Law & Bus. [forthcoming].

¹²⁰ H.M. Treasury Press Release, “Government Accepts Recommendations of Martin Wheatley’s Independent Review in Full” (October 17, 2012), available at www.gov.uk.

conflicts of interest between this core group and the other, peripheral, market participants.

Ultimately, of course, we might view this state of affairs as largely unproblematic so long as the internal governance mechanisms built into these market structures successfully constrain such conflicts of interest. Here, however, we encounter another important set of parallels. As described in Part IV, despite widely acknowledged flaws which rendered it vulnerable to misreporting and manipulation, the BBA failed to vigorously monitor or enforce compliance with the Libor rate-setting process. Indeed, the BBA's failure to provide meaningful oversight continued even after the *WSJ* and others produced evidence which was, at the very least, suggestive of pervasive rate fiddling.¹²¹ ISDA has, similarly, taken a hands-off approach toward the monitoring and enforcement of DC Rules, ostensibly relying on the fact that DC members have all entered into agreements – notably with *ISDA*, not their counterparties – stating that they will comply with them.¹²² Indeed, even if the leadership of the BBA or ISDA had wished to take a more proactive approach toward monitoring and enforcement, one might reasonably question whether these organizations – as industry trade associations – would have been able to generate a critical mass of support from their membership. This question is particularly salient for organizations such as ISDA, where the concentrated, dealer-intermediated nature of OTC derivatives markets can be seen as giving global dealers considerable influence, if not a *de facto* veto, over the organizational agenda.¹²³

Even where these internal governance mechanisms fail to constrain the conflicts of interest embedded within these market structures, however, we might still look to *external* (i.e. market-based) monitoring and enforcement. That is to say: if a particular market structure is viewed by participants as being inefficient, vulnerable to manipulation or otherwise undesirable, we would expect to observe the emergence of new, more desirable market structures. These market structures might be developed by new entrants seeking to attract market share, or by incumbents looking to stay one step ahead of the nascent competition. Indeed, this competitive dynamic is frequently held out as being one of the most important benefits of private ordering: spurring a process of

¹²¹ See Mollenkamp (n 97) and Mollenkamp and Whitehouse (n 97).

¹²² DC Rules, s. 1.8(b).

¹²³ See statement of law firm Ropes & Gray, *infra* (n 126). It is perhaps worthwhile pointing out at this juncture that ISDA's original name was the 'International Swap *Dealers* Association'.

experimentation and updating which results in progressively more desirable market structures. Viewed from this perspective, however, we are left with something of a puzzle: why, despite its widely acknowledged flaws, did we not observe the emergence of any legitimate challengers to Libor's reign? Put differently: in an industry we often think of as being characterized by fierce competition and relentless innovation, why did we not see Libor 2.0?¹²⁴

One answer to this question might be that the designers of Libor got it right the first time around. While this possibility cannot be completely discounted, however, both logic and recent experience suggest that it may be prudent to head out in search of other, more compelling, explanations. One such explanation resides in the pronounced demand-side economies of scale – or positive network externalities – associated with market structures such as Libor, the Big Bang Protocol and, indeed, ISDA's contractual documentation more generally. Positive network externalities arise wherever the addition of *new* users – or market participants in our case – generates benefits for *existing* users. The telephone is a good example, as are social networks such as Facebook. Where there is only one user, these 'network' goods possess little value. As we increase the number of new users, however, some of the value thereby generated accrues to existing users. This has a number of implications. Most importantly, once the number of users reaches a certain critical mass, network goods start to generate their own gravity: with new users attracted not only by the inherent quality of the good itself, but also (and perhaps even only) by the fact that it is widely used. This, in turn, generates an acute coordination problem¹²⁵ – rendering it extremely difficult for new and potentially more desirable goods to emerge and take hold in the marketplace.

The positive network externalities associated with market structures such as Libor and the DC mechanism are a natural byproduct of the benefits they generate for market participants. As described above, these benefits flow largely from *standardization*. Libor

¹²⁴ For greater clarity, the salient question here is not why other potentially more informative measures of bank risk did not appear – they did (e.g. the GCF Repo Index). Rather, it is why these alternative measures did not supplant Libor's widespread use as a benchmark rate for financial contracts.

¹²⁵ Facebook users will already be intimately familiar with this coordination problem. While privacy concerns, advertisements or the recently introduced 'timeline' feature might otherwise incentivize us to switch to a different social network, this strategy entails significant private costs unless a sufficiently large proportion of our friends also switch to the same alternative network at the same time. As a result, there is a distinct first-mover *disadvantage* which dis-incentivizes us from switching networks. Moreover, the existence of positive network externalities makes it less likely that alternative social networks will emerge in the first place.

is, in effect, a standardized methodology for calculating benchmark interest rates. The DC mechanism is, similarly, designed to ensure the universally consistent interpretation of the key terms of ISDA's credit derivatives documentation. In so doing, these market structures lower information, negotiation, hedging and other transaction costs for market participants. As we have seen, they also help generate greater market liquidity. Accordingly, the benefits of both Libor and the DC mechanism can be seen as flowing not only from their desirability *per se*, but also from the mere fact of their widespread adoption.

Market participants looking to mount a challenge to incumbent market structures are thus confronted with something of a bleak calculus. If they invest in the development of new market structures to rival ISDA master agreements, the DC mechanism or Libor, it is very likely that these structures will be unable to attract a critical mass of new users. Making this challenge even more daunting is the fact that many of these structures are effectively bundled together: only market participants utilizing ISDA credit derivatives documentation can adopt the Big Bang Protocol, and only those who have adopted the Big Bang Protocol can use the DC and auction settlement mechanisms. A strategy which seeks to compete with only one of these structures is thus unlikely to succeed. If they successfully overcome the attendant coordination problems, meanwhile, other market participants will inevitably be able to free-ride off their investment. As a result, it may be *individually* rational for market participants to refrain from making such investments, even where they would yield what might *collectively* be viewed as a more desirable equilibrium.

The existence of network externalities can thus be seen as undermining the threat of market-based sanctions which we might otherwise expect to help constrain the conflicts of interest embedded within structures such as Libor and the DC mechanism. In the case of OTC derivatives markets, these network externalities are exacerbated by the fact that global derivatives dealers effectively anchor the market to the incumbent structure. As rather forthrightly observed by leading global law firm Ropes & Gray LLP in its assessment of the Big Bang Protocol:

“If history is any guide, the dealer community will likely require that counterparties incorporate the terms of the [Big Bang Protocol] into every confirmation for future transactions. Meaning that, at least on a going-forward basis, parties wishing to transact in the CDS market will have to live with ISDA’s CDS changes.”¹²⁶

Given the importance of dealers as sources of market access, trading information and liquidity – to say nothing of the profits they generate from these activities – it thus seems highly unlikely that market forces, acting on their own, would displace the prevailing equilibrium.¹²⁷

Compounding the impotency of market-based sanctions in this context is the relative opacity of both the relevant markets and bank/dealer balance sheets. While many market participants suspected that Libor panel banks were submitting inaccurate rates, for example, this was incredibly difficult to *verify* – especially since submissions were not required to reflect actual interbank transactions, but only the perceptions of panel banks. Along a similar vein, given their far from complete access to information regarding the trading positions of other financial institutions, market participants (and academics) can generally only speculate as to whether DC members might be voting their book. This information problem is exacerbated by three factors. First, as we have seen, both Libor and the DC mechanism rely heavily on the discretion of ‘core’ market participants. By its very nature, however, second-guessing the exercise of this discretion is fraught with conceptual and evidential challenges. What is the appropriate standard of review? Does the exercise of discretion in question meet this standard? And if not, was this due to an ‘honest’ mistake or a more malevolent attempt to exploit this discretion for personal gain? These are inherently difficult questions to answer without resort to the powers of discovery and cross-examination – and, importantly, expense – associated with formal litigation.¹²⁸ Second, and relatedly, where information is in the public domain it is often susceptible to multiple interpretations. A unanimous or near unanimous DC decision, for example, could be interpreted either as evidence of collusion or simply that the matter in question was a relatively straightforward one. Finally, where ‘core’ market participants engage in this type of conduct, we might expect them to go to great lengths

¹²⁶ Ropes & Gray LLP, “ISDA Aims for “Fungible” CDS with Auction Settlement, Big Bang Protocol, and New Standard North American CDS Terms” (March 4, 2009) at 3, available at www.ropesgray.com. Compounding matters, market participants not adhering to the Big Bang Protocol are not able to ‘opt-in’ to the auction settlement process described in [Part III](#); ISDA “Big Bang Protocol: Frequently Asked Questions” at 8 (accessed April 15, 2013), available at www.isda.org.

¹²⁷ In this respect, it is as if there were a small group of universally popular Facebook users who were all also large shareholders of Facebook.

¹²⁸ Or an investigation by public regulatory authorities.

to conceal it from view. Indeed, if those responsible for attempting to manipulate Libor had not been so brazen as to document their machinations for posterity, it seems unlikely that the full nature and extent of these activities would have been uncovered. In an environment where observable information is often scarce – and verifiable information even more so – it thus seems somewhat unlikely that external governance would provide a meaningful constraint on opportunistic behavior.

In the absence of effective internal or external governance mechanisms, private market structures such as Libor and the DC mechanism are vulnerable to abuse by ‘core’ market participants. In the case of Libor, this abuse manifested itself in form of widespread manipulation, collusion amongst panel banks, and the submission of rates which did not reflect panel banks’ true borrowing costs. In the case of the DC mechanism, meanwhile, such abuse might manifest itself in several ways. First, as described above, DC members might simply vote their book. Indeed, the fact that ISDA’s general counsel has floated the possibility of a best-practice policy in this area – if not actually produced one – can be interpreted as an acknowledgement of the vulnerability of the DC mechanism to this sort of opportunistic behavior.¹²⁹ Given the supermajority threshold for most important determinations, however, a dealer voting its book in insolation would seem unlikely to yield the desired effect. This, of course, raises the prospect that DC members might collude to rig determinations. More specifically, DC members might engage in the sort of ‘you scratch my back’ behavior in exchange for future reciprocity exposed by the Libor scandal.¹³⁰ Third, DC members might trade on the basis of insider information regarding an impending request for, or outcome of, a determination. Such insider trading could take place in both the relevant reference obligation itself or, crucially, other correlated assets.¹³¹

¹²⁹ See Pollack (n 1). Whether such a policy, if implemented, would be effective is another matter – although on the basis of the preceding analysis there is considerable reason for skepticism.

¹³⁰ See David Enrich and Jean Eaglesham, “Clubby London Trading Scene Fostered Libor Rate-Fixing Scandal”, *Wall Street Journal* (May 2, 2013), available at www.wsj.com.

¹³¹ As an empirical matter, it would be interesting to study the movement of prices in both the reference obligation and other correlated assets both before and immediately following the announcement of DC determinations. Ultimately, however, insofar as it is often difficult to filter out other variables potentially impacting on price, the results of such empirical work would likely not be determinative one way or the other. Moreover, a given observation might also be subject to multiple interpretations. For example, any ‘unusual’ price movement in advance of an announcement could be suggestive of either insider trading or, alternatively, market participants making perfectly legitimate bets on the basis of previous precedent.

A reasonable observer might, once again, raise a number of objections at this point. First, as ISDA has itself argued, the DC Rules, the identity of DC members and the determinations themselves are all fully disclosed.¹³² Indeed, as a theoretical matter, so long as contracting parties are made aware of the attendant agency costs, we might ultimately expect these costs to be reflected in the price of the relevant contract.¹³³ In practice, however, disclosure of the DC Rules is not the same thing as highlighting the latent conflicts of interest which reside therein; nor, more importantly, does it provide an effective substitute for disclosing the trading positions of DC members as a means of determining the nature and extent of any conflicts. Moreover, disclosure is of little value – and the price mechanism unlikely to function effectively – in a market characterized by positive network externalities. Second, one might argue that the presence of buy-side members on DCs serves to make collusion more difficult.¹³⁴ This may indeed be the case. Simultaneously, however, it must be recognized that even these non-dealer members, by virtue of their elevated status within the market structure, are part of the ‘core’ group of market participants and may thus enjoy similar incentives to game the system.¹³⁵ Finally, one might observe that at least some of this conduct – insider trading and collusion, for example – is against the law. This is true enough. The real question, however, is whether the law is backed up by a credible enforcement threat. In the case of Libor, it appears that this threat was insufficiently credible. This was likely due in large part to the information problems described above. Crucially, these same problems undermine the threat of enforcement in connection with the exploitation of the conflicts of interest embedded within the DC mechanism.

As stated at the outset, my claim here is not that the conflicts of interest embedded within the DC mechanism are currently being exploited by global derivatives dealers. Rather, it is to point out that – were opportunities to materialize, either now or in the

¹³² Lisa Pollack, “More on the Conflicted ISDA Committee”, *The Financial Times* (December 14, 2011), available at www.ft.com.

¹³³ Michael Jensen and William Meckling, “Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure” (1976), 3 *J. Fin. Econ.* 305.

¹³⁴ DC Rules, s. 1.6.

¹³⁵ Indeed, the ‘buy-side’ versus ‘sell-side’ construction has never been an entirely apt distinction within OTC derivatives markets. Unlike the primary markets for debt and equity securities where these terms originated, dealers and non-dealers within secondary and OTC derivatives markets are not inherently long (i.e. buy-side) or short (i.e. sell-side) the market. Put differently, a given dealer and non-dealer may have precisely the same exposure to a given asset, whether it be long, short or neutral. As a result, there is no *inherent* conflict of interest. The reason why the construction has stuck is likely that, as described above, dealers are in fact selling something: namely, trading information, market access and liquidity. It is here that the potential conflicts of interest reside.

future – there exist virtually no credible constraints on their ability to do so. In the next section, therefore, I examine how a relatively small number of incremental reforms to the structure of the DC mechanism could go along way toward the introduction of such constraints.

VI. Resolving the Paradox: Governance and Regulatory Strategies

There exists no shortage of governance and regulatory strategies which could potentially help ameliorate the hardwired conflicts of interest embedded within the DC mechanism. The first and, in some respects, most straightforward strategy would be to require DC members to disclose their trading positions in any reference obligation.¹³⁶ The disclosure obligation would be triggered by receipt of a request for a determination under the DC Rules and then continue in effect until publication of the final determination.¹³⁷ Required disclosure could take the form of detailed position-level information or simply indicate whether the DC member was long or short the relevant reference obligation. The second strategy – which could be employed on its own or in conjunction with the first – would be to require DC members to report and, if necessary, recuse themselves in the event of an actual or potential conflict of interest. A third party removal mechanism could also be employed. Indeed, this is almost precisely what the DC Rules currently contemplate for expert reviewers. In order to render these recusal/removal mechanisms more effective, DC members could be automatically disqualified from participating on any DC where their exposure to a reference obligation exceeded a specified threshold. The third and most radical strategy, meanwhile, would be to impose reference obligation-specific trading restrictions on DC members during the period from receipt of the initial request through to the final determination. While each of these strategies could theoretically be implemented by ISDA itself, the dominance of dealers within OTC derivatives markets and the inherent ability to modify ISDA documentation would suggest that, to be truly effective, these strategies would likely require some sort of public regulatory intervention.

¹³⁶ ISDA has stated that the industry has made significant progress toward full transparency of all positions by DC members such that it will be possible to determine whether a DC is in fact voting its book; ISDA, “The ISDA Credit Derivatives Determinations Committees” (May 2012) at 3-4, available at www.isda.org. It is presently unclear, however, whether or to what extent this aspirational statement is in fact reality or if such disclosure encompasses positions in correlated assets as discussed in greater detail below.

¹³⁷ The disclosure obligation would thus require DC members to publicly disclose any *changes* in their position during this period.

Upon closer inspection, however, each of these strategies manifests its own potentially significant drawbacks. Position disclosure, for example, would impose substantial information costs on both DC members (who must *produce* the requisite information) and other market participants and/or public regulatory authorities (who must *digest* it in order to generate a credible threat of private and/or public sanctions). It might also incentivize behavior designed to obscure the nature and extent of these positions. Along a similar vein, it would be difficult to design a disclosure regime which captured positions in correlated assets which might be used by DC members to gain (or minimize) exposure to a given reference obligation. Indeed, the prospect of trading in correlated assets presents similar conceptual problems for both the recusal/removal mechanisms and trading restrictions. Moreover, insofar as trading restrictions render DC members vulnerable to market movements which occur during the restricted period, they may have an adverse impact on a firm's overall financial position and, *in extremis*, financial stability. Ultimately, these costs may not be insignificant, and must be weighed against the expected benefits associated with these strategies.

Fortunately, there exists a fourth and intuitively more desirable strategy. Rather than focusing on the rules by which DC members must abide when making decisions, why not focus on the identity of the decision-makers themselves? More specifically, why not simply allocate decision-making authority to parties who – unlike global derivatives dealers – are not inherently conflicted? In answering this question, it is worthwhile pointing out that the DC Rules already envision just such a class of independent parties: the external reviewers nominated by ISDA members to resolve determinations where the requisite supermajority threshold is not reached.¹³⁸ Moreover, the DC Rules already include disclosure, recusal and removal mechanisms for external reviewers in the event of actual or perceived conflicts of interest. Taking a page from the *Wheatley Review*, this internal governance mechanism could be augmented by subjecting these experts to *ex ante* vetting and *ex post* monitoring and enforcement by public regulatory authorities.

The key here is understanding that – unlike Libor, where panel banks are clearly best positioned to provide information regarding their own borrowing costs¹³⁹ – the decisions made by DCs are essentially a matter of contractual interpretation. In this important respect, global derivatives dealers would not appear to possess an innate comparative

¹³⁸ See *supra* Part III.

¹³⁹ If not necessarily the most *reliable* for the reasons described in Part IV.

advantage over, say, commercial lawyers, legal academics or independent financial professionals with experience designing, drafting or negotiating ISDA credit derivatives documentation.¹⁴⁰ As a result, there exists no shortage of fundamentally less conflicted, sufficiently expert parties who could perform essentially the same function as current DC members. Of course, the processes reflected in the current DC Rules would need to change in order to ensure that expert panels could render determinations within the same expedited timeframes as existing DCs. A new appeals mechanism would also need to be developed. This, however, seems like a small price to pay to ameliorate the acute agency problems which pervade the current DC mechanism.

Ultimately, of course, this is a bespoke solution to a very specific problem. But what about the broader paradox of private ordering? Can the same strategies be employed to resolve the paradox in other contexts? Clearly not in all cases. As explored throughout this paper, the paradox involves a series of trade-offs between the costs and benefits of private market structures. The optimal balance between these trade-offs is inherently context-specific. What is most important, then, is recognizing where this paradox exists, understanding what impact it has on the incentives of market participants, and weighing the inevitable trade-offs. Only then can potential solutions be identified.

VII. Conclusion

The objective of this paper has not been to single out global derivatives dealers as particularly deceitful, manipulative or untrustworthy. Indeed, in many respects, this paper can be understood as advocating that we treat these financial institutions in the same way we treat other delegated decision-makers to whom we grant, often enormous, discretion. We do not generally think it wise to permit judges to have a material interest in the cases they hear, to let students grade their own exams, or to allow referees to place bets on the games they officiate. *A priori*, there seems little justification for allocating authority to derivatives dealers to adjudicate issues which determine the payoffs under contracts – typically worth millions of dollars – to which they are themselves counterparties. Within a perfectly competitive marketplace, this equilibrium would be unlikely to take hold. In an opaque, concentrated and dealer-intermediated market

¹⁴⁰ See for example, the list of finance experts affiliated with P.R.I.M.E. Finance, a leading financial advisory and consultancy firm. As stated on the firm's website: "A guiding principal of the organization is independence, which will distinguish it from industry associations and other financial market participants."; see 'About Us' and 'Why Choose Us', available at www.primefinancedisputes.org.

characterized by positive network externalities, however, all bets are off. The key question in such cases is whether the existing constellation of governance mechanisms – markets, privately generated rules and/or public regulation – adequately constrain the inherent conflicts of interest at the heart of these market structures. In the case of Libor, the answer was a clear and resounding no. Perhaps the only difference in the case of the DC mechanism is that, rather than picking up the pieces, there is still scope to take meaningful *preventative* action – and we should.