
Misconceptions of Interest Benchmark Misconduct

AIIFL Working Paper No. 28

January 2018

Asian Institute of International Financial Law
Faculty of Law
The University of Hong Kong
www.AIIFL.com



© January 2018 the author. All rights reserved. Short text extracts may be quoted without explicit permission provided that full credit including the “©” notice is given to the source.

Misconceptions of interest benchmark misconduct

Paul Lejot

Asian Institute for International Financial Law
The University of Hong Kong
Faculty of Law

AIIFL Working Paper No. 28
January 2018

Attempts to influence interest rate benchmarks such as Libor and Euribor by procuring or providing false submissions to data collators are examples of misconduct or criminal behaviour that – contrary to general belief – may have taken place for some years before becoming widely-known during the period of stress in 2007–08 that began the global financial crisis.

Subsequent enquiries, litigation, trials and regulatory settlements have included accounts of conduct that disturbed not only popular opinion but senior commercial and regulatory figures who might have been expected to require ethical behaviour of those directly concerned. Misconduct and its apparent toleration accordingly contributed to a general loss of trust in the financial sector. Penalties and settlements have been repeatedly imposed on offending banks, although judicial proceedings and regulatory enforcement actions arising from benchmark misconduct are yet to conclude.

This article considers the neglect of interest benchmark misconduct before and since it became well known; why distinct forms of misconduct have been wrongly conflated in popular and official accounts and in judicial proceedings; whether a pervasive loss of trust caused by a perception of widespread misconduct has had lasting commercial or location-specific effects; and whether reforms intended to restore external confidence by substituting recorded transaction data for subjective estimates may revive functional concerns that interest benchmarks were created to remove.

* This article expands on material in P. Lejot, *The Place of Law: Institutional influences on financial sector agglomeration and location choice* (unpublished dissertation, University of Hong Kong, 2017). The author is grateful to Emilios Avgouleas, Mitu Gulati and Yu Guanghua for enquiring as to the impact of misconduct in a broader discussion and prompting the investigation on which the article is based. All errors are the author's own.

1. Introduction

Revelations of benchmarking malpractice appearing during the 2007–08 financial crisis came to be described in popular and official accounts as so entrenched as to resemble accepted commercial practice, and arguably contributed to a general decline in the trust accorded to the financial sector. Misconduct in interest rate benchmarking is the most startling example, due both to the pervasive use of interest rate benchmarks in a variety of contracts and instruments, and an apparent locational association of Libor – the London Interbank Offered Rate – as the prototypical and most widely-used model. It can also be readily understood as deceitful and therefore rightfully punishable, compared to the more complex recklessness seen in other aspects of the crisis.

Observers and central bankers in several major financial centres first suspected that interest benchmark manipulation was taking place in late 2007, prompted by implausible submissions made by banks polled to provide inputs for benchmark calculations.¹ It was gradually revealed in fuller detail through ensuing official investigations and from 2012 by enforcement actions against banks and inter-dealer brokers by regulatory or prosecutorial authorities in several jurisdictions,² and in criminal or civil proceedings against certain of their employees. Such conduct is important for several reasons beyond those cases of fraud or other examples of criminal behaviour:

- It involved collusion within a segment of the global financial system between bank traders, benchmark reporting clerks and individual inter-dealer brokers. This occurred in some instances with the apparent acquiescence or neglect of organisations involved in receiving and processing data, and of certain senior bank officials, central bankers and financial regulators, and will have had some ostensible impact on the trust accorded to those actors, collectively or individually.
- From concern that misconduct involving collusion might be supported by clustering among intermediaries or their agents in substantive financial centres, especially when aided by faulty or complicit regulation. More specifically, if collusion is taken to be facilitated by –

¹ This article refers to benchmark manipulation as *misconduct* since it involved infractions that in the period concerned were clearly distinguishable from market manipulation on organised exchanges, which is commonly proscribed by law. Reference is made to *Libor* as a commonly-used noun, although it often appears as an acronym in source material.

Misconduct in the two forms described in this article occurred in overlapping phases, chiefly in setting US dollar, Yen and Sterling Libor, and the Euro Interbank Offered Rate (Euribor). Many studies, official enquiries, regulatory settlements, court pleadings and judgments wrongly conflate practices observed in one currency segment or period with others, see *infra* n.49 and accompanying text. This article's main concern is misconduct in US dollar and Yen Libor-setting during the 2007–08 financial crisis.

² Notably the US, UK, EU, Japan and Switzerland, later followed by several others.

or even synonymous with – the cooperation among competitor firms that is instrumental to substantive transactional activity in such financial hubs, there may be grounds to prohibit certain customary forms of cooperation as unethical or deleterious to societal interests, even though in these instances supervisory conduct may also be remiss.³

- An alternative proposition is that if collusion has existed *among intermediaries*, rather than those individuals and agents shown to have engaged in misconduct for personal reward then trust among professional parties might be so diminished as to impede legitimate commercial activity, and to erode the positive externalities derived from clustering in financial centres, notwithstanding any separate competition concerns.
- From any association of misconduct with a single financial hub, most notably London as the centre of the Libor benchmarking process.

This article will propose conclusions as to these questions after considering misconduct in the Libor process and other interest benchmarks using similar models; whether banks chose to collude to facilitate misconduct; the substance of a locational locus in Libor; and the impact on financial activity of a general loss of trust in banks and other intermediaries resulting from these examples of misconduct. It will also examine whether reforms intended to restore external confidence and the functionality of interest rate setting by substituting recorded transaction data for subjective estimates may revive functional concerns that interest benchmarks were initially created to remove. The article will not examine how interest benchmark misconduct may have caused monetary costs or gains for unconnected parties. The scale of any such effects will never be known, being impossible to quantify due to the unknown nature of many millions of contracts that reference interest benchmarks, and because misconduct seems to have often taken place without success for the instigator or harming others,⁴ regardless of a widespread perception of banks or bankers having profited from such corrupt practices.

³ See *infra* n.22 and accompanying text, and see text accompanying n.35. Substantive financial centres are taken to be those where contractual activity is devised and executed, and are contrasted with offshore centres that are largely domiciles for financial claims or express trust arrangements devised and organised from elsewhere, see P. Lejot, *The Place of Law: Institutional Influences on Financial Sector Agglomeration and Location Choice* (unpublished dissertation, University of Hong Kong, 2017), s.1.4.1.

⁴ The first enforcement actions for interest benchmark misconduct were brought against Barclays Bank in 2012 and led to fined settlements with US and UK regulators, the reports of which describe attempts to influence rate-setting taken from recorded exchanges between individual traders, rate submitters and inter-dealer brokers, but with no indication of the results, if any. The same approach is made in all such documents and court pleadings cited here. Thus the UK Financial Services Authority (FSA) lists 257 occasions of Barclays misconduct in setting Euribor and Libor in US dollars and Yen instigated by its derivatives traders between January 2005 and June 2009, none of which appears to have achieved its objective, see FSA, Final Notice No. 122702, Barclays Bank Plc (27 June 2012), 11. Allegations in US complaints of individuals profiting from misconduct cannot be corroborated, see notably *US v Hayes*, *infra* n.40. Interest benchmark misconduct for profit appears from available court documents and approved regulatory settlements seldom to have succeeded.

2. The Libor process

Conventional medium–term Eurocurrency syndicated loan contracts have since 1969 provided for interest to accrue in successive short periods at reference rates determined when each period begins,⁵ an arrangement with two main objectives:

- Giving lenders in any single transaction net interest revenue at least equal to the loan’s credit margin while avoiding interest basis and duration mismatches.
- Tying the borrower’s interest obligations to prevailing money market deposit rates, which are assumed to be more uniform and readily–obtained than those for longer periods.

Rates were originally set by some or all lenders in each transaction according to provisions by which reporting banks would declare their respective costs of funding to an agent, which would inform the borrower of a simple or adjusted average rate.⁶ The contractual provisions for interest rate determination became standardised in purpose by the mid–1970s although minor variations in wording persisted for several years among the many agreements using this rollover formula.⁷ Bankers and drafting lawyers referred colloquially to ‘Libor’ as a compression of the words used in provisions for rate determination,⁸ although it could not then have been described

A further consideration is that estimates of the direct consequences of misconduct in improving a trader’s or trading unit’s results typically adopt the single–contract payoff approach of finance theory, and assume that any gain by one party is matched by its counterparty’s loss. This is hazardous with financial derivatives – many more of which cite interest benchmarks than other contracts – since it neglects their predominant use as portfolio instruments rather than having singular purposes and outcomes. Thus in legal analysis:

[...] we cannot extrapolate that real contracts will always have a commercial winner and loser, because few users contemplate and enter a single contract to watch its isolated outcome. The derivative markets are not a zero sum game.

see Q. Liu, P. Lejot & D. Arner, *Finance in Asia: Institutions, Regulation & Policy* (Abingdon, Routledge 2013), 345. A similar approach was taken by the English court of appeal in reviewing a criminal conviction for procuring false Yen Libor submissions, see Gloster LJ, writing for the court in *R v Hayes* [2015] EWCA Crim 1944, ss.61–9 & s.72, and see *infra* n.18 and n.81 and accompanying text.

⁵ The first disclosed syndicated loan contract involving periodic interest rate fixings was a 1969 US\$80 million transaction involving 19 lenders for Iran’s central bank arranged by a UK subsidiary of Manufacturers Hanover Trust Co., then the fourth largest US bank ranked by total assets, and for risk management reasons would otherwise have been infeasible in such an amount and maturity, see D. Lascelles, *The Story of Minos Zombanakis: Banking Without Borders* (Athens, Economica Publishing, 2011), 85–90; A. Hamilton, ‘Euro–dollar 80m loan for Iran’s 5-year plan’, *Financial Times* (16 August 1969); ‘Opening the Floodgates’, *Euromoney*, Supplement, June 1989, 92; D. Shirreff, ‘Heroes and Villains’, 30 *Euromoney* 362, June 1999, 31.

⁶ See Lascelles, *op. cit.* n.5 at 86.

⁷ There were disagreements in construction in the late–1970s as to whether ‘offer’ in a loan agreement’s interest determination clause referred to a rate or deposit but the difference was immaterial for rate fixings. Slight variations in language resulting from idiosyncratic drafting vanished from around 1981 due to banks increasingly wishing to avoid impeding secondary loan transfer, especially given that drafting was effectively led by relatively few clustered law firms. Drafting convergence occurred so effectively as to include private bilateral loan contracts and internal funding arrangements, author’s direct experience 1980–83. This evolution of private law was driven throughout by practical considerations.

⁸ Syndicated floating rate notes (FRNs) and floating–rate certificates of deposit (FRCDs) appeared from mid–1969 using identical accrual mechanisms to the first rollover loans. A May 1969 offering circular for the first public FRN issued by a subsidiary of US fund manager, Dreyfus Corporation, described rate

formally as a single benchmark for any nominated period or currency. Sophisticated borrowers knew that their costs could vary between loans according to the composition of reporting groups, especially since certain lenders or those with particular domiciles faced funding premiums from time-to-time, and the harmonisation of national capital requirements was proposed by a committee hosted by the Bank for International Settlements only in 1987.⁹

The solution adopted in 1986 to quell the disquiet of influential borrowers was to externalise a semi-public benchmark that all credit transactions could cite as a periodic base rate, relying on self-selecting panels of banks reporting rates to a disinterested data collator, the British Bankers' Association (BBA). Libor-setting, managed in London with its results used in many centres, then remained largely unchanged until it was shown in 2008 to be prone to manipulation and its collator far from disinterested.¹⁰ Such benchmarks were pivotal to the international loan market's growth in providing a uniform, contractually simple means to determine and apportion costs between lenders and borrowers, and despite being the creation of loan and money market practice were used universally — though not exclusively — as reference rates for FRNs, FRCs and many other unconnected contracts from the early-1980s, most prolifically with exchange-traded and other financial derivatives. That last factor largely explains the concern that benchmark misconduct was harmful to unconnected commercial parties,¹¹ and an unproven belief that it affected yields or costs respectively for retail investors and borrowers.

setting as based on 'the London Eurodollar six months interbank offered rate [...] computed by taking the average of such rates quoted by the London offices of five specified banks', see I. Kerr, *A History of the Euromarkets: The First 21 Years* (London, Euromoney Publications, 1984), 36.

⁹ See Basel Committee on Banking Supervision, 'International Convergence of Capital Measurement and Capital Standards' (July 1988), available at <https://www.bis.org/publ/bcbs04a.htm> (accessed 3 January 2018). The committee's approach to capital adequacy requirements for implementation by 1992 'for internationally active banks', *ibid.*, at s.7, was intended to 'have a high degree of consistency in its application to banks in different countries with a view to diminishing an existing source of competitive inequality among international banks', *ibid.*, at s.3. Such inequalities largely explained the credit market's need for published interest rate benchmarks as quasi-public goods.

¹⁰ See C. Mollenkamp, 'Bankers Cast Doubt on Key Rate Amid Crisis', *Wall Street Journal* (16 April 2008); *idem* & M. Whitehouse 'Study Casts Doubt on Key Rate: WSJ Analysis Suggests Banks May Have Reported Flawed Interest Data for Libor', *Wall Street Journal* (29 May 2008). These reports were influential but their methodology and findings doubted by some contemporary observers, see notably F. Salmon, 'Defending Libor', 29 May 2008, available at <http://www.felixsalmon.com/2008/05/defending-libor/> (accessed 3 January 2018) and were substantiated only in June 2012 after official investigations in the UK and US. Interest rate benchmarking became subject to regulation in the UK, EU, US and elsewhere from 2013. 'Libor' refers to interbank offered rates for bank funding collated in London, just as Pibor and Tibor are counterparts using a similar process and reported respectively in Paris and Tokyo.

The creation of Libor as a family of benchmarks is described by its former collator, see BBA Submission, Ev.69 in Treasury Select Committee, House of Commons (UK), 'Fixing LIBOR: Some preliminary findings', Volume II, HC 481-II (London, Stationery Office, 18 August 2012), 82.

¹¹ Estimates using 2011–2 data suggest that Libor was used as a reference rate in 50 per cent of the universe of financial contracts by notional amount or its equivalent, of which loans and FRNs represented only 4 per cent of the total, and swaps and exchange-traded derivatives 86 per cent, see M. Wheatley, *The Wheatley Review of LIBOR: Final Report* (London, HM Treasury, 2012), 76.

Legal and scholarly interest in market manipulation is well-established.¹² Benchmark misconduct was rarely discussed until suspected in rate-setting from 2007–08, after which it was found to be unexpectedly widespread.¹³ Market participants contributing price estimates or trade data for benchmark calculations have incentives to skew their submissions to suit their respective commercial aims, incentives felt both by individuals and their organisations, but the feasibility of successful misconduct in setting Libor or similar models was traditionally considered low because no single contributor could hope to have meaningful influence on the outcome. That view became suspect in 2007,¹⁴ and was later shown as false,¹⁵ albeit for motives not associated with profiteering.

Thus from 2012 it became clear that benchmark misconduct:

- Was known as a tactic in January 2005 – if not earlier – by which individuals employed as money market or derivatives traders would use various vectors and media to attempt to influence their respective bank’s daily Libor submissions, in several cases with the

¹² An orthodox view of financial market price manipulation appears in D. Fischel & D. Ross, *Should the Law Prohibit “Manipulation” in Financial Markets?*, 105 *Harv. L.R.* 2, 503 (1991), but treats benchmark manipulation as infeasible except when all those involved act in concert; A. Verstein, *Benchmark Manipulation*, 56 *B.C.L. Rev.* 215 (2015) takes a rarer contrary view.

¹³ *Ibid.*, at 216–7. A professed unawareness among senior bankers of operational misconduct is explained by its long being taken as a ‘back office’ function. This caused incredulity, see *infra* n.48, and may have contributed to a general loss of trust in finance. Banks now typically co-locate benchmark submitters with money market ‘cash desks’ but those units rarely received high-level attention before 2012–3.

¹⁴ From observations similar to Sherlock Holmes’s in *Silver Blaze* as to the guard dog that failed to bark when expected to raise an alarm, that Libor fixings were lower than expected given the known market instability, see G. Tett, ‘Libor’s value is called into question’, *Financial Times* (26 September 2007). The Bank of England privately reported similar views from market participants, for example, ‘[m]ore contacts mentioned that Libor and Euribor fixes may be understating true borrowing costs in the cash markets’, see Bank of England, *Communication No.8*, 27 November 2007, s.3.3.1 in Financial Services Authority (UK), ‘Internal Audit Report: A review of the extent of awareness within the FSA of inappropriate LIBOR submissions’ (March 2013), and:

Contacts continue to speculate about how realistic the LIBOR fixings are. US dollar fixings were said to be on the low side, with the tiering of rates across the banks not as marked for fixings as for funding rates.

This is because banks are concerned about being revealed as an outlier and the adverse comment this could attract.

see Bank of England, *Communication No.12*, 4 December 2007, *ibid.*; A. Conan Doyle, “Silver Blaze” in *The Memoirs of Sherlock Holmes*, first published 1893 (Public domain).

¹⁵ See *infra* n.26 and accompanying text; A. Snider & T. Youle, *Does the Libor Reflect Banks’ Borrowing Costs?*, unpublished, 2010, available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1569603 (accessed 3 January 2018); *idem*, *The Fix is in: Detecting Portfolio Driven Manipulation of the Libor*, unpublished, 2009, available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2189015 (accessed 3 January 2018).

knowledge of line managers.¹⁶ This continued at least until end-2010.¹⁷ It is unclear when misreporting first occurred: one witness account claims that it was considered common practice as early as 1991 although on an unstated scale.¹⁸

- Took place between August 2007 and mid-2009 as a tactic known as ‘low-balling’, or ‘strategic behaviour’ to distinguish its purpose from misconduct for reward.¹⁹ A low-balling Libor panellist would submit underestimates of its presumed funding costs, hoping to protect reputational capital and limit speculation as to the bank’s creditworthiness and available liquidity, such conduct prompted or ostensibly sanctioned by senior management.²⁰ Official investigations later indicated some indifference to such misconduct

¹⁶ Among numerous costly settlements of regulatory or criminal actions agreed by banks admitting benchmark misconduct see especially *re UBS AG and UBS Securities Japan Co., Ltd.*, CFTC No. 13–09 (19 December 2012), 5–6, Financial Services Authority (FSA), Final Notice No. 186958, UBS AG (19 December 2012), 20–23; see also US Department of Justice, Criminal Division, Fraud Section, Agreement: *Re Barclays Bank plc* (26 June 2012), available at <https://www.justice.gov/iso/opa/resources/337201271017335469822.pdf> (accessed 3 January 2018) and *idem*, Appendix A: Statement of Facts (26 June 2012), available at <https://www.justice.gov/iso/opa/resources/9312012710173426365941.pdf> (accessed 3 January 2018); *re Barclays PLC, Barclays Bank PLC and Barclays Capital Inc.*, CFTC No. 12–25 (27 June 2012), 7–18; FSA, Final Notice No. 122702, *Barclays Bank Plc*, *op. cit.* n.4; *idem*, Final Notice No. 121882, *The Royal Bank of Scotland plc* (6 February 2013), 2–4; *re The Royal Bank of Scotland plc and RBS Securities Japan Ltd*, CFTC No.13–14 (6 February 2013), 33.

¹⁷ See *re UBS AG and UBS Securities Japan Co. Ltd.*, *op. cit.* n.16 at 5 & 10; FSA, Final Notice, UBS AG, *op. cit.* n.16 at 2.

¹⁸ See D. Keenan, ‘My thwarted attempt to tell of Libor shenanigans’, *Financial Times* (27 July 2012). This is the only published witness account of its kind known to the author, and although much-cited in 2012 has never been corroborated or its wider assertions substantiated.

A former Tokyo employee of UBS and Citigroup convicted in 2015 in England of conspiracy to defraud through manipulating Yen Libor claimed in evidence that *inter alia*:

He was never trained in the Libor process and, in particular, as to what was or was not a legitimate consideration for a submitter to take into account in making a Libor submission; had no regulatory or compliance obligations imposed on him by either UBS or Citigroup; considered that what he was doing was common practice in the banking industry at the time [2006–10] and was regarded as legitimate by a significant number of submitters, traders and brokers; understood that the banks as a matter of practice based submissions on their own commercial interests; [h]is actions were not only condoned, but also encouraged by his employers and he was instructed to act in the way which he did.

see *R v Hayes*, *supra* n.4 at s.8, original punctuation omitted. Similar claims have been made elsewhere, for example, by two former Barclays traders in 2016–7 to suggest that their conduct was unconcealed and known to be common practice, and could not therefore be dishonest, see *Merchant & Anor v R* [2017] EWCA Crim 60, ss.13 & 14. The implication is of fraud occurring where ethical conduct is generally deficient, see *infra* n.92–3, although those accused of wrongdoing may hope to portray it as ubiquitous.

¹⁹ See J. Gyntelberg & P. Wooldridge, *Interbank rate fixings during the recent turmoil*, *BIS Quarterly Review* (March 2008), 65; S. Peng, C. Gandhi & A. Tyo, ‘Is Libor Broken?’, Citigroup Global Markets Inc., *US Rate Strategy Focus*, New York, 10 April 2008 (on file with author).

²⁰ See *Barclays Bank PLC et. al.*, *op. cit.* n.16 at 19–25, in particular that:

Barclays directed its US Dollar Libor submitters to lower their daily US Dollar LIBOR submissions in order to protect Barclays' reputation against what it believed were negative and unfair media and market perceptions that Barclays had a liquidity problem based in part on its high Libor submissions?

ibid., at 19, however the US Commodity and Futures Trading Commission (CFTC) noted that it had ‘not found evidence that Barclays lowered its LIBOR submissions in response to the management directive during the financial crisis period with the intent to affect the official published LIBOR’, *ibid.*, at n.2.

An external enquiry asked to examine Barclays conduct before and during the 2007–08 crisis described such ‘inappropriate behaviour’ as part of the bank’s ‘struggle for survival’, see A. Salz & R. Collins, ‘Salz Review, An Independent Review of Barclays’ Business Practices’ (April 2013), respectively at 39 & 52, available at <https://www.home.barclays/content/dam/barclayspublic/documents/news/875-269->

by UK regulators and the BBA as Libor collator,²¹ and although evidence of regulatory connivance with such strategic behaviour is equivocal,²² the Bank of England clearly believed misconduct to be of less concern than the threat of general instability, and – correctly but arguably disingenuously – later professed that it lacked a formal remit to supervise this aspect of banking or BBA conduct.²³ In common with other central banks it had tacitly accepted the infeasibility of benchmark manipulation for individual profit.²⁴ The FSA arguably took a similar view until prompted by its more energetic US counterparts.

- Had been neglected by the BBA, whose conduct failed in its fiduciary obligation in compiling and reporting a reference that the BBA itself professed to be important.²⁵ The BBA may also have believed benchmark rigging to be infeasible and therefore false submissions as purposeless, but its evident disinterest may have been inevitable given the conflict inherent in a trade association policing the conduct of certain elite members.

[salz-review-04-2013.pdf](#) (accessed 3 January 2018) but drew ‘no conclusions’ as to whether senior Barclays managers caused rate submissions to be lowered for these reasons, ‘other than that there appear to have been significant failures of communication, internally and with the authorities’, *ibid.*, at 66.

²¹ The New York Federal Reserve’s concern at Libor misreporting in June 2008 received a bland response from the Bank of England, see *Wall Street Journal*, Review & Outlook, ‘Tim Geithner and Libor: The Bank of England says the New York Fed raised little alarm’ (23 July 2012).

²² The Bank of England may have, or is believed by certain commercial actors to have, first, neglected deficiencies in the Libor process; second, condoned low-balling, perhaps in the belief that this contributed to stability, was less important than other crisis tasks, and involved no illicit rewards, see for example, *re Barclays PLC et. al.*, *op. cit.* n.16 at 24. In evidence to a UK parliamentary committee in July 2012, Bob Diamond and Jerry del Missier, respectively Barclays chief executive and chief operating officer, and Paul Tucker, Bank of England Deputy Governor, gave accounts of conversations after Lehman Brothers’ collapse in September 2008 that may have been intended to have a different effect on Barclays’ Libor submissions than either understood or implemented by its line management, see respectively Ev.3–28, Ev.76–89 and Ev.32–49 in Treasury Select Committee, *op. cit.* n.10; see also L. Vaughan & G. Finch, *The Fix: How Bankers Lied, Cheated and Colluded to Rig the World’s Most Important Number* (Chichester, Wiley, 2017), 94–100. For banks, inter-dealer brokers and regulators, it may have made little difference whether or not an instruction was given, since more important was the belief that it had, not least because condoning low-balling might conform with traditionally opaque central bank practice, *ibid.*, at 89 & 96–100.

²³ See Tucker, Ev.31–49 in Treasury Committee, *op. cit.* n.22; evidence of Mervyn King, Bank of England Governor, Ev.5–9 in Treasury Select Committee, House of Commons, ‘Bank of England, June 2012 Financial Stability Report’, HC 535 (London, Stationery Office, 17 July 2012).

Barclays’ June 2012 settlement with the FSA cites misconduct in its Libor and Euribor submissions breaching three of the FSA’s Principles for Businesses, in particular that ‘[a regulated] firm must observe proper standards of market conduct’ and ‘conduct its business with due skill, care and diligence’, see FSA, Final Notice No. 122702, Barclays Bank Plc, *op. cit.* n.16, 43–4. Barclays was fined £59.5m (US\$94.4m) for breach of those principles under FSA statutory powers, now applying to the successor Financial Conduct Authority, see FCA Handbook, Ch.2.1 ‘The Principles’, available at <https://www.handbook.fca.org.uk/handbook/PRIN.pdf> (accessed 3 January 2018).

²⁴ According to King:

‘[...] it took three years for the regulators to find out that it was being done. [...] I was very struck and surprised, when reading [recent US Federal Reserve] reports, to discover that changing LIBOR by one basis point was the kind of rigging that people were interested in. You would never have noticed that from market activity.’

ibid., at Ev.10, and see *supra* text accompanying nn.13–4.

²⁵ See *infra* text accompanying n.64–6, and see n.82.

Anomalies in US dollar Libor submissions during the severest phase of crisis illiquidity were first identified in April 2008.²⁶ Federal Reserve Bank of New York analysts reported internally in June that from the previous August the benchmark had deviated unusually from other indices due to ‘[h]eightened counterparty credit risk and liquidity risk’,²⁷ and that additional ‘[a]llegations of misreporting, designed to avoid stigma [were] picked up in mid–April [2008]’, with a ‘[b]roker [claiming] that panel banks were bidding above LIBOR quotes.’²⁸ Misreporting for defensive reasons involved the abuse of interest rate contributions to Libor benchmarking, a process conducted by regulated banks aided by licensed but unsupervised inter–dealer brokers, and the BBA, an unregulated, self–appointed industry body. Banks provided estimated borrowing costs that were both subjective – as always, since Libor submissions were never taken from executed contracts – and understated their respective probable funding costs, the behaviour characterised as ‘strategic’.²⁹ This was arguably a product of risk aversion in stressed

²⁶ These compared predicted and published US dollar Libor and suggested that misreporting had occurred for six months from mid–2007, see Peng, Gandhi & Tyo, op. cit. n.19; C. Mollenkamp, ‘Bankers Cast Doubt On Key Rate Amid Crisis’, *Wall Street Journal* (16 April 2008); C. Mollenkamp & M. Whitehouse ‘Study Casts Doubt on Key Rate: WSJ Analysis Suggests Banks May Have Reported Flawed Interest Data for Libor’, *Wall Street Journal* (29 May 2008).

²⁷ See S. Cheun & M. Raskin, ‘Market Concerns Regarding Libor’, Federal Reserve Bank of New York presentation to the Interagency Financial Markets Group Meeting, 5 June 2008, 2, available at https://www.newyorkfed.org/newsevents/news/markets/2012/Barclays_LIBOR_Matter.html (accessed 3 January 2018). The New York Federal Reserve Bank’s president later told the Federal Open Market Committee that:

The Libor indexes took a jump upward following a Wall Street Journal article that alleged that some of the 16 Libor panellists were understating the rates at which they could obtain funding. The [BBA] reacted by threatening to throw out any panellist that was not wholly honest in its daily posting of its costs of obtaining funds at different maturity horizons [which] appears to have provoked an outbreak of veracity among at least some of the panellists. [...] There is considerable evidence that the official Libor fixing understates the rates paid by many banks for funding.

see W. Dudley, 5 in Federal Open Market Committee, Minutes of 29–30 April 2008 meetings, released in 2013, available at <https://www.federalreserve.gov/monetarypolicy/fomchistorical2008.htm> (accessed 3 January 2018).

²⁸ *Ibid.*, at 3, ‘bidding above Libor’ implying actual borrowing being costlier than the bank’s submission.

²⁹ See Gyntelberg & Wooldridge, op. cit. n.19 at 65, identifying incentives for such behaviour:

Most fixings [...] are based on non-binding quotes; contributing banks are not obliged to transact at the interest rates they submit. Therefore, the reliability of such fixings as measures of market conditions depends on the willingness of contributing banks to reveal their true, transactable quotes. [...] There may be circumstances in which contributing banks deliberately choose to disclose biased quotes. If there is uncertainty about the liquidity position of a contributing bank, the bank will be wary of revealing any information that might add to this uncertainty for fear of increasing its borrowing costs. Therefore, for the purposes of the fixing, the bank has an incentive to quote a lower interest rate publicly than it might be prepared to pay in a private transaction.

ibid., reference omitted from original. A contemporary estimate of the result for three month US dollar Libor was that the published rate understated true Eurocurrency borrowing costs by 20–30 bp, and for reasons similar to Gyntelberg & Wooldridge:

[...] the prevailing fear of being perceived as a weak hand in this fragile market environment. [...] Because all LIBOR postings are publicly disclosed, any bank posting a high LIBOR level runs the risk of being perceived as needing funding.

see Peng, Gandhi & Tyo, op. cit. n.19 at 5. Later studies estimated far smaller distortions, see for example A. Monticini & D. Thornton, ‘The Effect of Underreporting on LIBOR Rates’, Federal Reserve Bank of St. Louis Working Paper 2013-008A (2013), available at <http://research.stlouisfed.org/wp/2013/2013-008.pdf> (accessed 3 January 2018) but none is conclusive.

conditions rather than causal in the crisis,³⁰ and indicated that the Libor process was not only subjective *by design* but now encapsulated two fictions — first, that banks habitually borrowed from others in wholesale money markets in a range of currencies and maturities so that their benchmark submissions were faithful outcomes of real activity; second, that such behaviour was unaffected during a time of acute illiquidity. Each was false:

- Most internationally-active banks chose from the 1990s to rely increasingly on overnight or very short-term funding from several market segments – unsecured deposits, central bank facilities, securities repurchases and foreign exchange swaps,³¹ for example, coupled with continual basis and duration hedging – rather than plan to match-fund their assets with deposits across a maturity spectrum. The Libor process accordingly no longer stood for its original purpose well before 2007’s evaporation of liquidity and mutual trust. All but very short-period Libor submissions were suppositions.
- The 2007 crisis began in a series of supervening events, for even if banks wished to acquire interbank funding for more than one or two days, by mid-year no such deposits were available.

Quotes submitted to benchmark compilers would thus not always be true in the sense of being usable for funding purposes, although this became troublesome only when general liquidity vanished. The BBA’s grasp of these circumstances was both poor and poorly presented in public.³²

3. Evidence of bank collusion

Even if false submissions were not made for individual gain,³³ when benchmark misconduct became widely known it suggested to many outside the financial sector that in effect, ‘behind

³⁰ This was the view of the Bank of England in relation to US dollar and Sterling Libor, see Tucker, Ev.36–8 in Treasury Select Committee, op. cit. n.22.

³¹ Foreign exchange swaps are contracts for the spot sale and future repurchase of currency.

³² See British Bankers’ Association, “BBA LIBOR: An Introduction”, Ev.77 in Treasury Select Committee, House of Commons, ‘Financial Stability and Transparency’, HC 536–i, ii, & iii (London, Stationery Office, 1 July 2008), and evidence of Angela Knight, BBA chief executive, given colloquially, at Ev.30:

Frankly, we have got a very sticky market out there; it is hardly surprising that you have rates that move in a different fashion than happened in the previous pretty benign conditions.

BBA evidence to the committee stated self-servingly:

The rates [submitted to the BBA] are not based on actual transaction [sic.], indeed it would not be possible to create the suite of Libor rates if this was [sic.] a requirement, as not all banks will require funds in marketable size each day in each of the currencies and maturities they quote. *However, this does not mean the rates are inaccurate.*

emphasis added, *ibid.*, at Ev.77. When evidence of Libor misconduct became public in mid-2012 the BBA represented over 240 member banks from 50 jurisdictions, see BBA annual report 2012, available at <https://www.bba.org.uk/about-us/annual-report/> (accessed 3 January 2018). It was dismissed as Libor collator following an official review, see *infra* n.60, and absorbed in 2017 into a broader industry body.

³³ Barclays explained the distinction thus:

closed doors, shrouded in complexity and protected by weak and complicit regulators, armies of bankers [were] gleefully spending their days screwing us over.³⁴ Benchmarks were typically not subject to codes of practice covering market abuse or the legal sanctions associated with manipulation on organised exchanges, and the rate-setting process was itself under no meaningful scrutiny or supervision, whether in London or other centres.³⁵

Conventional transactional reciprocity and relational contracting among professional intermediaries fall demonstrably short of cartel or monopolistic behaviour, although in the modern era this has been questioned in certain jurisdictions, notably in concerns as to domestic US syndicated loan practice.³⁶ One account suggests that divisional competition within the US

The first issue is that Barclays traders attempted to influence the bank's [Libor] submissions in order to try to benefit their own desks' trading position [...] The second issue related to decisions taken in relation to the Libor setting process during the credit crisis. The authorities found that Barclays reduced its Libor submissions to protect the reputation of the bank from negative speculation during periods of acute market stress. The unwarranted speculation regarding Barclays liquidity was as a result of its Libor submissions being high relative to those of other banks. At the time, *Barclays opinion was that those other banks' submissions were too low* given market circumstances.'

emphasis added, see Bob Diamond, letter to Chair, House of Commons Treasury Committee, 28 June 2012, 5 in Treasury Select Committee, op. cit. n.22. Examples of the first took place in 2005–07 and 2009 when Barclays' derivative traders asked colleagues in other units to make Libor submissions suited to their various positions, see Department of Justice (US), letter agreement, 'Re Barclays Bank plc', 26 June 2012, available at <https://www.justice.gov/iso/opa/resources/337201271017335469822.pdf> (accessed 3 January 2018); idem, Appendix A: Statement of Facts, available at <https://www.justice.gov/iso/opa/resources/9312012710173426365941.pdf> (accessed 3 January 2018), 5–13. Examples of the second occurred as instructions from Barclays' management at intervals between August 2007 and January 2009, *ibid.*, at 15–22; see also a chronology of the bank's experience of Libor submissions in 2005–10, Barclays Bank PLC, 'Supplementary information regarding Barclays settlement with the authorities in respect of their investigations into the submission of various interbank offered rates' (3 July 2012), *ibid.*, at 11–13.

³⁴ 'Us' being the world at large, see Vaughan & Finch, op. cit. n.22 at xi.

³⁵ Contrary to an opinion of the US Second Circuit Court of Appeals that the Libor process included BBA-enforced 'rules' to prevent collusion by panel members, see *infra* n.47–8 and accompanying text, and contrary to assertions as to BBA rules and procedures in a separate settlement between certain US states and Deutsche Bank over Libor misconduct, see Attorneys General of the States and Commonwealths of Alabama and Others v. Deutsche Bank AG, Settlement Agreement, 25 October 2017, available at https://ag.ny.gov/sites/default/files/db_settlement_agreement_signed.pdf (accessed 3 January 2018), ss.4 & 10. The lack of enforceable rules was later described as 'legal lacunae' [sic.], see Treasury Select Committee, House of Commons, 'Fixing LIBOR: Some preliminary findings', Vol. I, HC 481–1 (London, Stationery Office, 18 August 2012), 102, an omission derived from the non-contractual nature of benchmarking that made the task of supervision difficult to specify and misconduct difficult to prosecute.

Benchmarking became subject to statutory regulation in the UK under the Financial Services Act 2012 c.21, s.7, with misleading statements given in relation to designated benchmarks made a criminal offence, *ibid.*, at s.45. The EU established a regulatory framework for member states in 2016, including guidance for the introduction if necessary of criminal and other sanctions for misconduct for implementation in 2018, see Regulation (EU) 2016/1011 of the European Parliament and of the Council of 8 June 2016 on indices used as benchmarks in financial instruments and financial contracts or to measure the performance of investment funds and amending Directives 2008/48/EC and 2014/17/EU and Regulation (EU) No 596/2014, OJ L 171, 29.6.2016/1, Art. 42.

³⁶ Many US commercial banks (notably those based outside New York or Chicago) hesitated to participate fully in syndicated credits in the 1970s – either at home or overseas – for fear of infringing federal prohibitions on their selling securities or colluding with competitors, respectively under the Banking Act of 1933 (Glass–Steagall Act), 12 U.S.C. § 227, and the Sherman Antitrust Act of 1890

justice department led in 2012 to banks that acknowledged benchmark misconduct being treated as engaging in fraud rather than collusion that might be contrary to federal antitrust law,³⁷ although a criminal indictment brought in a New York district court against two traders formerly employed by UBS in Singapore and Tokyo included an alleged antitrust violation among other counts of wire fraud.³⁸ The case against the first defendant was withdrawn after his conviction in the UK for conspiracy to defraud,³⁹ while that against the second defendant has not proceeded to trial since he remains immune from extradition in Switzerland.⁴⁰

Private and class actions relating to US dollar Libor misconduct and begun in several US states were consolidated in 2011 in New York federal court proceedings.⁴¹ These involved complaints made against sixteen participants in Libor–setting by numerous domestic investors, borrowers and users of OTC and exchange–traded derivatives, claiming compensation for losses allegedly arising in organised US markets from several causes, including collusive antitrust infringements. The litigation is extensive and only partially concluded, although at the time of writing at least four defendants have made court–approved settlements:⁴²

- In its first substantive judgment the court ruled that Libor–setting at the time of misconduct was a non–competitive ‘cooperative endeavor’ and thus could not be subject to US antitrust law,⁴³ leaving only claims of fraud to be considered.

(Sherman Act) 26 Stat. 209, 15 U.S.C. §§ 1–7. Concerns at the applicability of these and other statutes persisted into the early–1980s in the author’s experience, partly because prevailing US lending practice included ‘loan notes’ as evidence of debt and for presentation when payments fell due. Some US regional banks considered that loan notes or formal evidence of loan sales might be treated as securities under the Securities Act of 1933, a view later encouraged by the SEC’s amicus brief to the same effect filed in *Banco Español de Credito v Security Pacific National Bank* 763 F. Supp. 36 (S.D.N.Y. 1991); 973 F.2d 51 (2d Cir. 1992), involving a disputed loan transfer, despite the Second Circuit affirming an earlier finding to the contrary.

³⁷ See Vaughan & Finch, op. cit. n.22 at 128.

³⁸ See *US v Hayes and Darin*, No. 12 MAG 3229 (Dec. 19, 2012).

³⁹ See supra n.18.

⁴⁰ See *US v. Hayes* 99 F.Supp.3d 409 (S.D.N.Y. 2015); 118 F.Supp.3d 620 (S.D.N.Y. 2015).

⁴¹ See *re Libor–Based Financial Instruments Antitrust Litigation*, Memorandum and Order, Case 1:11-md-02262-NRB, S.D.N.Y. (29 March 2013); 802 F.Supp.2d 1380 (U.S. Jud. Pan. Mult. Lit. 2011). The proceedings comprised six class actions (identified as ‘LIBOR I – VI’) and 27 individual actions, many including repeated attempts to amend pleadings or add further defendants – including the BBA.

⁴² See M. Armental, ‘Citigroup, Deutsche, HSBC Agree to \$132 Million Settlement in Libor Scandal’, *Wall Street Journal* (13 October 2017). The court earlier approved a settlement involving Barclays Bank, see *re Libor–Based Financial Instruments Antitrust Litigation* (‘OTC Plaintiff Action’), Memorandum and Order, Case 1:11–cv–05450–NRB (21 December 2016), noting that the action was brought only in respect of instruments purchased from Libor–submitting banks, and involved no complaints against the same banks in respect of US dollar Libor–related instruments purchased from non–submitting banks, *ibid.*, at 2, which arguably reflects the plaintiffs’ decision to avoid a claim becoming non–judiciable under US law.

⁴³ See *re Libor–Based Financial Instruments Antitrust Litigation*, op. cit. n.41, per Buchwald J, at 31.

- On appeal the Second Circuit found that Libor was calculated using ‘a joint process [...] governed by rules put in place to prevent collusion’,⁴⁴ implying that collusion occurred to circumvent those rules, and accordingly remanded the case to the district court for consideration of those other claims not linked to the question here at issue.

Libor appears as a reference in many contracts, and although it was at the time concerned (and at all times previously) a subjectively-determined indicator, its manipulation would be contrary to US law if shown to be collusive, that is, subject to an agreement made among submitting banks. On the facts known, it is respectfully suggested that the Second Circuit mis-stated the intention and substance of the ‘Libor-setting rules’.⁴⁵ No other court has taken a similar view and the precedents cited by the Second Circuit concerned benchmark conduct wholly different from the Libor process. The court noted that the Libor rules included a requirement for submitting banks to provide opinions in good faith and it has been stated in UK appellate proceedings that a failure to do so was ‘potentially dishonest’,⁴⁶ but collusion among submitting banks was not substantiated in the claim made at first instance in *re Libor-Based Financial Instruments Antitrust Litigation* and nothing was presented to the court to indicate that each submitting bank did anything but act alone and in accordance with its perceived self-interest.

The rules summarised by the Second Circuit were supposedly a record of contemporary practices adopted by the BBA with the express intention of ensuring the competitiveness of its Libor process, these summaries taken directly from material contained in the plaintiffs’ amended complaint of 10 September 2013. This *inter alia* misinterprets verbal and electronic exchanges among traders and brokers contained in published settlements and regulatory orders – all of which originated with individuals in connection with misconduct for reward – as providing evidence of banks colluding to influence the benchmarking process for strategic reasons.⁴⁷ It is submitted to the contrary that only one BBA ‘rule’ of the three stated in the complaint may be correctly described as such; the others were descriptions of BBA operational guidance rather than demands made of submitters, and there is no available evidence to show

⁴⁴ Emphasis added, see the constituent case *Gelboim v. Bank of America Corp. et. al.*, 823 F.3d 759 (2nd Cir. 2016), per Jacobs J, at 775.

⁴⁵ *Ibid.*, at 766.

⁴⁶ See dicta of Davis LJ, in *R v H[ayes]* [2015] EWCA Crim 46 at 43.

⁴⁷ See *Gelboim v. Bank of America Corp. et. al.*, op. cit. n.44 at nn.3 & 4, quoting Second Consolidated Amended Complaint, *Mayor & City Council of Baltimore & City of New Britain Firefighters’ & Police Benefit Fund, Texas Competitive Electric Holdings Company LLC v. Credit Suisse Group AG et al.*, in *re Libor-Based Financial Instruments Antitrust Litigation*, No. 1:11-md-2262 (S.D.N.Y. Sept. 10, 2013) ss.58–64.

that banks sought to circumvent those rules during the liquidity crisis of 2007–08, however egregious or inadequate their conduct may have been then or at other times.⁴⁸

It is further submitted that while the precedents identified by the Second Circuit in characterising the application of federal antitrust law to a restraint of trade by price fixing among like competitors, or ‘horizontal agreements’, would resemble anticompetitive conduct by banks such as BBA Libor panellists, their conduct in the Libor process was not connected to setting, replacing or rigging a price more properly market–determined but in supplying a subjective view of what that price might be, and had always been so. Collusion among individuals figured in Libor misconduct for reward, almost all – among known examples – involving bank colleagues or individual broker contacts, however, there are no substantiated examples of collusion among Libor submitting banks during the period of strategic Libor misreporting:

Despite wide-ranging investigations of Libor since at least 2011 by the Securities Exchange Commission, the Commodities Futures Trading Commission, the Department of Justice, the New York State Attorney General, and numerous foreign regulators, and despite public settlements and plea agreements involving Barclays, Citi, Deutsche Bank, JPMorgan, Rabobank, RBS, Société Générale, UBS, and brokers, there has been no exposure of a broad conspiracy among traders at different banks to fix USD LIBOR, or of *any* conspiracy to persistently suppress LIBOR during the financial crisis.⁴⁹

No other jurisdiction has considered collusion in this fashion, nor have US or other parties brought actions on similar grounds in the UK or elsewhere in the EU; none of the settlement agreements cited here or reviewed in preparation for this article identify agreements of any kind made between Libor or Euribor panel banks, nor provide evidence of their colluding for anti–competitive purposes. It is submitted that while the sale in the US of Libor–related instruments may have been deficient in some manner, the district court was correct to distinguish between unconnected cooperation and the possibility of collusion, for the Libor process under

⁴⁸ In evidence to a UK parliamentary enquiry into banking practice seven current and former UBS executives stated uniformly that they were unaware until learning from press reports in 2011 that Libor misconduct within UBS was found by UK and US regulators to be ‘routine, widespread and condoned by a number of [m]anagers with direct responsibility for the relevant business area’, see FSA, Final Notice, UBS AG, *op. cit.* n.16 at 6; evidence of Andrea Orcel, Chief Executive, UBS Investment Bank, Philip Lofts, Group Chief Risk Officer, and Andrew Williams, Global Head of Compliance, 9 January 2013, and Marcel Rohner, former Group Chief Executive, and Huw Jenkins, Jerker Johansson and Alex Wilmot–Sitwell, former Investment Bank Chief Executives, 10 January 2013, Ev.322–61 in Parliamentary Commission on Banking Standards (UK), ‘Changing Banking for Good’, Vol. III, HC 175–III (12 June 2013).

⁴⁹ Emphasis in original, see *re Libor–Based Financial Instruments Antitrust Litigation*, Amended Memorandum and Order, No. 11 MDL 2262 NRB, (S.D.N.Y. Oct. 20, 2015), 43.

consideration could not be characterised as price fixing when the process itself was not a market-based price determination, that is, neither a buyers' nor sellers' cartel such that it would be illegal in US law. It was instead intended merely to record one aspect of that market. Price competition took place in active money markets (if anywhere) but by design never in the Libor process.

US sellers of Libor-referencing instruments could have contractually specified actual rates based on market activity. Instead they adopted a benchmark that while representative in normal conditions was at all times fictional. Scholars of US competition law have identified certain benchmark misconduct as illegal due to the Sherman Act's prohibition of price-fixing,⁵⁰ for example, that 'standard-setting is an elimination of informational competition' and therefore contrary to US law,⁵¹ a suggestion that first, fails to distinguish between standard-setting and price reporting; second, mischaracterises the BBA's Libor process as both cooperative (which it was) and provided with rules to prevent collusion (which it was not), the breach of which constituted collusion and would make the process illegal in US law. The Sherman Act requires that colluding parties have made an agreement in some meaningful manner,⁵² so that merely acting in like-fashion for plausible, independently-determined commercial motives is insufficient. The Second Circuit arguably treated published records of collusion for reward by individuals as synonymous with banks collaborating for agreed strategic reasons. The same analysis asserts that the banks 'began to agree among themselves' to submit false estimates,⁵³ a claim for which no published evidence exists. The BBA's US dollar panellists – with Barclays the notable exception – chose instead to submit lower than realistic estimates of their respective Libors in order to maintain confidence, with general illiquidity providing the incentive for the banks so to do. Such behaviour was far less prevalent or non-existent with other currency Libors since the daily US dollar benchmark results were the most widely-observed as indications of market conditions and stress.

⁵⁰ 26 Stat. 209, 15 U.S.C. §§ 7, and see *Gelboim v. Bank of America Corp. et al.*, op. cit. n.44 at s.8. A precedent cited in the Second Circuit decision involved many companies and agents illegally colluding to squeeze prevailing prices of certain petroleum goods, *US v Socony-Vacuum Oil Co.*, 310 U.S. 150 (1940), see also H. Hovenkamp, *Antitrust Law: An Analysis of Antitrust Principles and Their Application*, Vol XII, 2e (New York NY, Aspen, 2005), s.2003e, noting that the *Socony* cartel involved actual prices fixed using a formula or stated to be within certain bounds, compared to which the Libor process (albeit subject to misconduct) was informational and unconnected to the contracts entered by plaintiffs in the Libor-based litigation.

⁵¹ See M. Patterson, *Antitrust Law in the New Economy: Google, Yelp, LIBOR, and the Control of Information* (Cambridge MA, Harvard University Press, 2017), 94.

⁵² See 26 Stat. 209, 15 U.S.C. §§ 1.

⁵³ Emphasis added, see Patterson, op. cit. n.51 at 92. No indication is given as to when this behaviour 'began' nor what form an agreement took.

4. Locating Libor

What became the BBA's Libor in 1986 evolved from well-accepted provisions developed in syndicated Eurocurrency loan and securities contracts.⁵⁴ The BBA invited submissions from nominated panels of banks using similar language to those contracts, then processing and publishing the results as adjusted simple averages of the panellists' rates.⁵⁵ Libor was named from commercial habit rather than locational reasons, for the process described in the terms of floating rate loans or securities referred to interbank deposits available to a specific bank *at a fixed time in London*, and the result known colloquially as Libor some years before its adoption by the BBA.⁵⁶ Submissions were typically sourced from several centres even if reported to the BBA by a London clerk,⁵⁷ and later misconduct enforcement actions were accordingly begun

⁵⁴ Euromarket practice in 1981–5 was that English and many New York law syndicated loan contracts typically referred to periodic interest rates as adjusted averages of those given to a transaction agent by a defined group of banks, being the rate at which each expected to be able to borrow in the interbank market at 1100 hours, London time, for a set period from a specified date, see *supra* nn.5–8 and accompanying text.

⁵⁵ See Gyntelberg & Wooldridge, *op. cit.* n.19 at 60–5; D. Enrich, *The Spider Network: The Wild Story of a Math Genius, a Gang of Backstabbing Bankers, and One of the Greatest Scams in Financial History* (London, WH Allen, 2017), 73–7; Vaughan & Finch, *op. cit.* n.22 at 49–60. The BBA's adjustment excluded the highest and lowest submissions from calculations (or several more when provided by larger panels) and this also became the model for the Euribor collator from 1998. Submissions to the BBA in the period under discussion in this article were made in response to the question:

At what rate could you borrow funds, were you to do so by asking for and then accepting inter-bank offers in a reasonable market size just prior to 11 am?

see Wheatley *op. cit.* n.11 at 61. Until 1998 the question had been substantively identical but more plainly subjective:

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?

ibid., emphasis added. The earlier version of the question was taken by the BBA from contemporary contractual drafting and was also adopted in 1998 by Euribor's collator.

⁵⁶ London was cited to provide a uniform submission time given that banks sourced rates from many time zones, and did so during seasonal daylight saving time that began and ended in different jurisdictions on non-congruous dates. 'London' avoided ambiguity and the need for conditional terms, and appeared in contracts prior to 'Libor' becoming a widely-known acronym, see I. Kerr, *A History of the Euromarkets: The First 21 Years* (London, Euromoney Publications, 1984), referring to a 1970 FRN issue's 'Libor' coupon, *ibid.*, at 34, and to 'Swiss Libor' used to calculate FRN coupons in 1977, in this case in Swiss francs and calculated in Zurich, but at 1100 hours, London time, *ibid.*, at 142.

⁵⁷ Examples include indictments filed in August 2017 in New York of two French employees working in Paris for a French bank, the US justice department claiming jurisdiction because the Libor benchmark that the bank is alleged to have manipulated is specified in futures contracts traded on the Chicago Mercantile Exchange, and the alleged offences thus 'took place in New York', see Department of Justice, Office of Public Affairs, 'Justice News' (24 August 2017), available at <https://www.justice.gov/opa/pr/two-international-bank-managers-charged-libor-interest-rate-manipulation-scheme> (accessed 3 January 2018). The indictment states *inter alia*:

Before, in or about May 2010, Société Générale made USD LIBOR submissions that were higher than many other members of the USD Contributor Panel, thus indicating that Société Générale was paying higher interest rates than other banks in order to borrow money.

see *US v Danielle Sindzingre & Muriel Bescond*, Indictment CR17–464, EDNY (24 August 2017), s.13. However:

[...] between May 2010 and October 2011, the defendants [...] engaged in a scheme to cause Société Générale to submit false and misleading USD LIBOR rates to the BBA [...], so that it would appear to the public [sic.] that Société Générale was able to borrow money at lower interest rates than the rates that were actually available to the Bank. The purpose of the scheme was to avoid anticipated reputational harm to

in several jurisdictions. One account describing Libor-related misconduct at UBS, which was indicted in 2012 by regulators or prosecutorial authorities in the US, UK and Switzerland, states that ‘the wrongdoing was institutional, stretching from Tokyo to Singapore to London to Zurich [...]’.⁵⁸

While misconduct first made known during the 2007–08 crisis has contributed to a decline in popular and political trust in the financial system and a concomitant disregard for those engaged in finance, that enmity cannot be identified with a single location. Repeated misconduct or regulatory failure in any single jurisdiction might influence location choice among banks and their counterparties, but Libor misconduct was not so location-specific as to cause any such impact or influence informed opinion in such a manner,⁵⁹ and no evidence exists of proportionately less use being made of Libor as a reference while the crisis was most severe, nor in the ensuing period,⁶⁰ despite contracts that reference benchmarks such as Libor customarily including ‘market disruption’ clauses providing alternative mechanisms for interest rate determination.

Libor’s locational association is misleading (even as a Sterling benchmark, which uses observations of a largely domestic money market). This is a global and ubiquitous metric based on submissions influenced by banks and traders in multiple locations, with a locus in the UK that – regardless of malpractice – is purely operational,⁶¹ and thus insubstantive in the sense of meaningful commercial activity. Facilitating term loans and floating rate securities in the 1970s through provisions for periodic rate-setting was certainly innovative, as was the recognition in the early–1980s that standardising contractual terms was essential for fairness and to encourage

Société Générale had the Bank submitted honest estimates of its borrowing rates, which rates were publicized through the LIBOR rate setting process.
ibid., at s.14.

⁵⁸ See Enrich, *op. cit.* n.55 at 306.

⁵⁹ Inter-dealer broking firms have fallen in number since 2008–09 due to consolidation and a functional migration to electronic platforms encouraged by the adoption of FSB and IOSCO recommendations on dealing transparency and record-keeping, without a disproportionate effect on substantive activity in any single hub.

⁶⁰ Despite any apparent ‘loss of trust’, see Wheatley, *op. cit.* n.11 at 7, although altering benchmark specifications is more quickly implemented than changing contractual references to any single benchmark, and may be unnecessary if contracts or exchange rules provide for alternative calculations when a benchmark is unavailable or suspect.

Wheatley’s report led inter alia to the BBA’s replacement as Libor compiler, and the cessation of the least plausible components of the Libor family, that is, those for long periods in shallow markets. Its findings were endorsed by the FSB and IOSCO in respect of four major currency benchmarks and six others, and followed by regulators elsewhere, see Financial Stability Board, *Reforming Major Interest Rate Benchmarks* (22 July 2014), 4, available at http://www.fsb.org/wp-content/uploads/r_140722.pdf (accessed 3 January 2018). Progress is slow in specifying ‘true’ benchmarks to replace Libor and Euribor, arguably one indication of why a subjective model was first adopted, see *supra* text accompanying n.9.

⁶¹ ‘Although LIBOR is calculated in London, it is based on daily submissions from a number of international banks and is used as a benchmark globally’, see Wheatley, *op. cit.* n.11 at 76.

credit activity;⁶² initiating and operating the Libor process was neither innovative nor a substantive activity, while including Libor as a reference in contracts unconnected to the Libor process has no locational consequences in terms of an agreement's *lex fori* or choice of governing law.

It is accordingly suggested with respect that remarks as to the positional importance of the Libor process made from the bench in sentencing following Tom Hayes's convictions for fraud are an exaggeration and a conflation of facts, albeit providing fair warning to others.⁶³ Trial evidence given by BBA staff indicated to the contrary how little seriousness was attached to the process,⁶⁴ indeed the BBA appears on evidence given at two criminal trials to have been conflicted by its functional and reporting obligations,⁶⁵ and unable to operate as a self-policing quasi-agent. The last term is used here not in the sense of a party appointed by and responsible for its actions to a principal and engaging in legal relations with third parties, but of one assuming certain fiduciary duties in the collation and reporting of Libor, notably equitable duties of care and accountability. The BBA took its role with the consent of its members and financial regulators and while it would have been expected to act responsibly in this regard it arguably lacked a sufficiently formal mandate to trouble its managers.⁶⁶

Others also assert without reason the significance of the Libor process to the UK financial sector, thus chauvinistically '[t]he fact that Britain effectively set interest rates for the world was *a great source of prestige and soft power*',⁶⁷ or more formally as '[t]he UK's interest in preserving the integrity of certain financial benchmarks [...] is tied to its interest in maintaining a dominant position for transactions based on these benchmarks that come to London

⁶² Leading to Libor's use in many other instruments, see Wheatley, *op. cit.* n.11 at Table C.1.

⁶³ In particular that:

The conduct involved here must be marked out as dishonest and wrong and a message sent to the world of banking accordingly. The reputation of LIBOR is important to the City as a financial centre and of the banking industry in this country. Probity and honesty are essential, as is trust which is based upon it. The LIBOR activities, in which [the accused] played a leading part, *put all that in jeopardy*.

emphasis added, see *R v Tom Hayes*, Southwark Crown Court, Sentencing Remarks, Cooke J, 3 August 2015, 1.

⁶⁴ The BBA's former Libor coordinator claimed to be unaware of any benchmark misconduct until seeing a CFTC order in June 2012 concerning proceedings against Barclays PLC and certain subsidiaries, quoted in Enrich, *op. cit.* n.55 at 412–3, see also *ibid.*, at 175–7.

⁶⁵ See Vaughan & Finch, *op. cit.* n.22 at 161–3; L. Vaughan, 'How Six Brokers Walked Free After Unravelling of UK Libor Case', *Bloomberg News* (9 February 2016).

⁶⁶ The BBA's removal as Libor collator and subsequent emasculation seems to have been regarded as sufficient penalty for neglect. The BBA's replacement until the completion of further reforms is an overtly commercial organisation subject *inter alia* to obligations set by regulators under new legislation, see *supra* n.35. The same provisions require appropriate conduct of Libor submitters in that function, albeit that they were during the period under discussion also required to observe proper care.

⁶⁷ Emphasis added, see "J.R.", 'LIBOR and regulation: The watchdogs that didn't bark', *The Economist* (17 July 2012).

markets’,⁶⁸ a view premised on the assertion that ‘[n]ational financial markets can become deeper and more attractive if the use of financial benchmarks tied to these national markets is widespread even at the international level.’⁶⁹ The contention here is that such claims are misplaced, both in identifying an uncultivated process as generating actionable reputational capital due to the projection of soft power, and in assuming that this brought benefits to finance in the UK,⁷⁰ or indeed that Sibor was of similar value to Singapore, for example. The BBA’s labelling Libor as ‘the world’s most important number’ not only belied a failure to ensure its integrity but neglected that Libor’s ubiquity resulted from certain markets developing more comprehensively in the UK than elsewhere, not something with intrinsic value.

5. Trust in finance

No analysis of benchmark misconduct can neglect the post-crisis hostility towards global finance associated with a sudden awareness of wrongdoing, recklessness or inadequate supervision,⁷¹ conclusions shared by prominent enquiries.⁷² Seen as a loss of trust, any continuing enmity may have implications for dealings among intermediaries and financial centre activity,⁷³ trust being synonymous with exchange transactions and relational dealings

⁶⁸ See I. Chiu, ‘Regulating financial benchmarks by “Proprietization”’, 11 *C.M.L.J.* 2, 191 (2016), 199–200.

⁶⁹ *Ibid.*, at 199.

⁷⁰ Soft power implies policy volition in using cultural resources to influence others, see J. Nye Jr., *Public Diplomacy and Soft Power*, 616 *Ann. Am. Acad. Polit. SS.* 2, 94 (2008), 94–5, and at the very least in this example would require the acronym ‘Libor’ to be self-identifying as to its source.

⁷¹ An unsurprising response given that the capacity of the banking sector ‘to perform its crucial role [...] has been eroded by a profound loss of trust born of profound lapses in banking standards’, see Parliamentary Commission on Banking Standards, ‘Changing Banking for Good’, Vol. I, HC 175–I (12 June 2013), 8, a loss occasioned by ‘an environment with insufficient personal responsibility [in which t]op bankers dodged accountability [...] by claiming ignorance or hiding behind collective decision-making’, *ibid.*, which became clear when ‘[t]he financial crisis, and multiple conduct failures [...] exposed serious flaws in governance. [...] illustrated by the rarity of whistle-blowing [...] even where, such as in the case of Libor manipulation, prolonged and blatant misconduct has been evident, *ibid.*, at 10, moreover, ‘regulatory failure has contributed to the failings in banking standards. [...] in part because of the slowness and inadequacy of the regulatory response’, *ibid.*, at 11.

⁷² *Ibid.* A similarly expansive US enquiry described the crisis occurring with ‘a systemic breakdown in accountability and ethics’, suggesting a decline in standards of conduct, and proposing that this and past crises share a form of cyclical ‘erosion of standards of responsibility and ethics’, see National Commission on the Causes of the Financial and Economic Crisis in the United States, ‘Final Report’ (Washington DC, US Government Printing Office, 2011), xxii, however the remarks are merely assertions and given no support or amplification. Despite this forceful preface, the words ‘ethics’, ‘ethical’ and their synonyms appear in the 662 page report only six times, in three cases as quotations from past enquiries. An earlier wide-ranging UK regulator’s analysis made no mention whatever of ethical conduct, nor whether those engaged in finance need observe ethical standards, despite professing an interest in recasting the objectives of finance as societal wants, see A. Turner, *The Turner Review: A Regulatory Response to the Global Banking Crisis* (London, FSA, 2009).

⁷³ As one element in ‘a deepening crisis of public trust directed at even at our most familiar institutions’, see O. O’Neill, *A Question of Trust* (Cambridge, Cambridge University Press, 2002), 8.

among professional parties in organised markets that require participants to have viable expectations of the conduct of those with whom they contract.

As the principal instigator in legal scholarship of the relational theory of contract, Ian Macneil saw trust as synonymous with ‘social solidarity’ or ‘a state of minds’ among parties to an exchange,⁷⁴ the presence of which renders that exchange feasible by making each party sufficiently confident of the other’s actions, a view derived from his conception of contracting as a societal construct facilitating exchange.⁷⁵ Trust signifies expectations as to the behaviour of parties within a social system, including any established commercial setting,⁷⁶ and is distinguished within developed financial systems from the assessment of creditworthiness because that process is always subjective,⁷⁷ even though permeated by common practices. Ten years after the 2007–08 crisis the assessment of moral philosopher Onora O’Neill is similar. Societal accountability requires a culture of trust as indispensable to the functioning of public or private law and regulation, since:

The ways in which rules and standards are embedded and lived in institutional life also demand cultures that can discipline and shape the interpretation and enactment of rules and standards, and provide the means for participants to judge one another’s claims and proposals, and their trustworthiness. Trustworthy cultures that permit, shape and foster good judgement [...] are required if law and regulation are to work well.⁷⁸

While cultural failure is associated not with ‘broad civilizations’ but:

[...] often found in enclaves or silos within which narrower political, institutional, professional or commercial cultures or subcultures prevent or prohibit control, or limit discussion and communication, for example by imposing rigid hierarchical structures,

⁷⁴ Emphasis added, see I. Macneil, *Exchange Revisited: Individual Utility and Social Solidarity*, 96 *Ethics* 3, 567 (1986), 572. Macneil suggests that exchange not only requires trust but since it involves reciprocity will itself reinforce trust or social solidarity, *ibid.*, at 568.

⁷⁵ See I. Macneil, *The New Social Contract: An Inquiry into Modern Contractual Relations* (New Haven CT, Yale University Press, 1980), 1–3.

⁷⁶ See O’Neill, *op. cit.* n.73. Adam Smith considered that any society will fail if its members do injury to each other, that is, in the absence of trust, since ‘[i]f there is any society among robbers and murderers, they must at least [...] abstain from robbing and murdering one another’, see A. Smith, *The Theory of Moral Sentiments*, 1759 (Oxford, Clarendon Press, 1976), 86. This leaves unclear how a modern whistleblower is judged by peers and in law, as with Barclays Bank’s disclosing the 2008 benchmarking scandal, *supra* nn.20–2 and accompanying text. The review commissioned by Barclays directors noted a general loss of trust in the banking sector, see Salz & Collins, *op. cit.* n.20 at ss.2.6–7, while puzzling that the bank suffered more reputational damage than its competitors despite being a cooperative whistleblower, *ibid.*, at s.2.39.

⁷⁷ See Liu, Lejot & Arner, *op. cit.* n.4 at 218–9.

⁷⁸ See O. O’Neill, *Accountable Institutions, Trustworthy Cultures*, 9 *Hague J Rule Law* 2, 401 (2017), 407.

by creating and maintaining firewalls, or by imposing excessive or unintelligent forms of control, or by requirements for secrecy.⁷⁹

An equivocal description, indicating both the value of self-generated rules and the risks associated with their abuse.⁸⁰ One example is the Tokyo trader convicted of conspiracy to defraud by attempting to influence Libor for his own purposes, who claimed to have been unaware of engaging in misconduct, a cultural relativism in taking silence or lack of attention as a signal that his actions were tacitly supported or condoned.⁸¹ The trial also revealed cultural failure in benchmark collation, with the BBA's nominal 'Libor manager' failing to see any significance in its neglect of responsibility.⁸²

Trust for O'Neill and Macneil is thus based on a shared understanding of behavioural norms.⁸³ If for the financial sector it implies a capacity and willingness to cooperate, then would the collapse of exogenous trust – the trust in finance of others – erode the favourable externalities associated with professional clustering in financial centres,⁸⁴ or would material harm follow a collapse of trust *within* finance among professional intermediaries, for example if it involves expectations of a failure to follow generally-accepted rules?⁸⁵ Could continuing popular enmity lead to political demands for restrictions on cooperation and reciprocity among financial actors as unacceptable forms of collusion, despite there being no reliable evidence of banks colluding in misconduct?⁸⁶

A post-crisis decline in trust among financial sector participants has been shown as short-lived and limited in effect.⁸⁷ Evidence is equally sparse of commercial results with similar

⁷⁹ Emphasis added, *ibid.*, those enclaves including 'businesses and banks', *ibid.* O'Neill recalls Smith's suspicion of the self-serving monopolistic merchant guild, see A. Smith, *An Inquiry into the Nature and Causes of the Wealth of Nations* 1776 (London, Penguin, 1999), Book I Ch.9 Part III 358–9.

⁸⁰ And similar to the caustic language of the UK's 2013 enquiry into banking standards, *supra* n.71.

⁸¹ See *R v. Hayes* *supra* n.18, s.8. The conviction rested on conduct being unlawful in its intention rather than whether it was successful in influencing Libor fixings or creating gains for the trader, any such gains being unknown to UBS during the period concerned, *ibid.*, at s.69, but almost certainly exaggerated by the trader being allowed to create and manage his own pricing and valuation models, see Enrich, *op. cit.* n.55 at 35, 62–3 & 88. Note that the regulatory settlements and court documents cited here commonly refer to 'profits' resulting from misconduct, that is, a trader's mark-to-market gains or losses from one day to the next, and is not synonymous with the bank's fully-attributed net income, see also *supra* n.4.

⁸² Evidence of J. Ewan, cited in Vaughan & Finch, *op. cit.* n.22 at 161–3. Neither the BBA nor the FSA as its competent regulator acted on Barclays' whistleblower information as to the veracity of the Libor process, see *re Barclays PLC, Barclays Bank PLC and Barclays Capital Inc.*, *op. cit.* n.16 at 21–3.

⁸³ Reinforced by financial regulation, as with the use of credit ratings in the Basel capital accords and in certain jurisdictions by statute; see also Lejot, *op. cit.* n.3 at ss.4.5.1–2.

⁸⁴ See O'Neill, *op. cit.* n.73.

⁸⁵ Including but not limited to Hugh Collins's identification of rules intended to protect contract enforceability, see H. Collins, *Regulating Contracts* (Oxford, Oxford University Press, 1999), 212–8.

⁸⁶ See *supra* s.3.

⁸⁷ Given that it is distinguished from counterparty credit risk concerns that may ordinarily be mitigated, transferred or substituted; see also *infra* s.6.

implications from a fall in trust in the entrenched institutions of the financial sector, whether in law, regulation or commercial practices.⁸⁸ Benchmarks that were subject to misconduct have not suffered observable losses of use except during a general hiatus in transactional activity after 2007, albeit that their popularity also indicates little trust in alternatives.⁸⁹ Popular disenchantment may be fierce and continuing but its probable impact largely confined to prompting secondary legislative initiatives, for example to heighten supervision or compliance guidelines. Whether a fall in external trust has influenced commercial conduct *among* intermediaries is accordingly nebulous, for conduct is more likely to respond to changes in law or regulation, even as indirect reactions to public discontent.⁹⁰ A further consequence of FSB-led reforms is a proliferation of detailed sectoral codes of conduct, the breach of which can be made contrary to law through secondary rule-making,⁹¹ and which has been the preferred formula for misconduct enforcement actions since mid-2012.

⁸⁸ A recent withdrawal from correspondent banking and trade finance as a precautionary response to sanctions against terrorist financing and money-laundering is explained by banks lacking confidence that their distant counterparties will observe commercial norms, see International Finance Corporation (IFC), ‘De-Risking and Other Challenges in the Emerging Market Financial Sector’, *IFC Insights* (1 September 2017), available at <https://ifcextapps.ifc.org/IFCExt/Pressroom/IFCPressRoom.nsf/0/D8D50C9EB72B2A3E85258194004BD4DA> (accessed 3 January 2018), notwithstanding correspondent banking sharing certain relational qualities with substantive hub-centred activities. Correspondent banking and trade finance are founded on a hub bank’s willingness to maintain ‘vostro’ accounts for those operating remotely, see Liu, Lejot & Arner, *op. cit.* n.4 at 224. Early in 2017 the IFC surveyed 306 established correspondents operating in 92 emerging markets, finding *inter alia* that 27 per cent had lost access to vostro accounts due to such ‘de-risking’, *op. cit.* at 26–8. Although this threatens remote activity its results are arguably negligible in substantive centres, indeed such de-risking can be characterised as clustered banks seeking to protect their reputations among other clients and peers.

⁸⁹ A point made by respondents to consultations conducted for the Wheatley review and acknowledged in the ensuing report, see Wheatley, *op. cit.* n.11 at 71–2; see also *supra* n.60 and accompanying text.

FSB guidance from 2014 requires national regulators to oversee the replacement of subjective interest benchmarks such as Libor and Euribor with recorded transactional data, but the task is complex and financial sector participants are wary of abandoning a simple and accepted metric, see E. Duncan, ‘Plenty in market want Libor to stay: survey’, *International Financing Review* (25 October 2017). The FSB has since complained of the slowness of migration despite lacking full insight into the contractual uncertainty that many fear it will create, *ibid.*, and see Financial Stability Board (FSB), ‘Reforming Major Interest Rate Benchmarks: Progress report on implementation of July 2014 FSB recommendations’ (10 October 2017), available at <https://www.fsb.org/2017/10/reforming-major-interest-rate-benchmarks-4/> (accessed 3 January 2018), 2–3.

⁹⁰ Or among professional clients, see C. Hill & R. Painter, *Better Bankers, Better Banks: Promoting Good Business Through Contractual Commitment* (Chicago IL, University of Chicago Press, 2015), 3. The authors’ solution is to deter ‘irresponsible banking’ with contractual incentives directed at individuals, on the premise that making misconduct or recklessness potentially costly for the banker is more likely than legal sanctions to influence their behaviour, *ibid.*, at 146 *et. seq.*, although the professed weakness of the law in this regard is said to result from its being overly rule-based, which is both US-centric and explained only cursorily. The proposition is sound given that most penalties for misconduct since 2012 were met ultimately by bank shareholders (who are seldom able or inclined to force changes in conduct), but Hill and Painter give no attention to the secondary consequences of reintroducing unlimited liability for bankers, for example on general access to credit and financial services.

⁹¹ Contrasting legislation making an offense of benchmark manipulation, for example, see *supra* n.35.

This is not to characterise a loss of trust in finance as having no material or deleterious implications, the span of which was described expansively by the FSB's chair while misconduct revelations were appearing,⁹² nor to ignore evidence of an individual propensity among those professionally engaged in finance to tolerate or engage in misconduct.⁹³ Perhaps as a result the FSB and IOSCO are promoting and helping to draft sectoral codes of conduct to which regulated intermediaries will be required to follow or adopt formally as internal practices, even though there may merely augment existing legal sanctions for misconduct. Albeit with few convictions for benchmark misconduct or fraud as comparators,⁹⁴ the failure of other criminal actions in the UK, US and elsewhere suggests difficulties in locating reliable evidence rather than inadequacies of law, which codes of conduct and additional compliance resources may eventually mitigate, although at a considerable cost:

By pursuing a set of rules requiring ethical compliance, international financial regulators appear to believe that their cross-border architecture has the capability of being robust, but only if it is paired with an industry populated by people inclined towards compliance. Creating ethical bankers across the globe is therefore the softest sort of softball regulation, but it illustrates the critical role of, at least as regulators see it, constructing attitudes towards compliance as a real component for semi-legal obligation.⁹⁵

The implication being that compliance staff are paid to enforce ethical conduct that their revenue-seeking colleagues are prone to neglect, or which cannot always be identified.

By requiring banks to act ethically, according to similar principles that all bankers are meant to uphold, one of the consequences of regulation by ethics is the creation of a modest enforcement mechanism, without resorting to a dispute resolution process, or tribunal, which can be politically complicated and if it takes a treaty, almost impossible to implement.⁹⁶

⁹² See M. Carney, 'Rebuilding trust in global banking', remarks to the Thomas d'Aquino Lecture on Leadership, Richard Ivey School of Business, Western University, London, Ontario (25 February 2013), enumerating the high-level costs of trust being lost between banks and their depositors, investors and regulators, as well as 'clients', although the meaning of the latter is not explained.

⁹³ Behavioural experiments sought to test the honesty of 128 bankers with an average of 11.5 years' experience by having those individuals complete simple tasks in either their professional capacity or (as an experimental control) or personal guises found evidence that:

[...] the prevailing business culture in the banking industry favours dishonest behaviour and thus has contributed to the loss of the industry's reputation. In contrast to their public image, however [...], bank employees behave honestly on average in the control condition', that is when tasked to behave.

see A. Cohn, E. Fehr & M.A. Maréchal, *Business Culture and Dishonesty in the Banking Industry*, 516 *Nature* 86 (4 December 2014), 88.

⁹⁴ See *R. v Hayes*, supra n.4.

⁹⁵ D. Zaring, *The International Campaign to Create Ethical Bankers*, 3 *J. Financ. Reg.* 2, 187 (2017), 206.

⁹⁶ *Ibid.*, at 208, and see Cohn, Fehr & Maréchal, op. cit. n.93.

The core intention of adopting expansive codes of conduct may be to clarify and highlight what constitutes misconduct, and create scope for offenses for breaches of conduct rules by empowering financial regulators.⁹⁷ Compared to existing practice this approach risks denying the means to correct or compensate for future regulatory failure.

6. Conclusions

Available evidence shows that Euribor and Libor submissions were subject in 2005–10 to unethical conduct by individuals that in some instances was illegal or contrary to law; to an indifferent unawareness among senior bank executives that resulted from the submission process having always been treated as a cost-consuming function; that collusion in misconduct between banks has not been shown to have taken place; that no substantive locational nexus existed in the period concerned between the Libor process and misconduct occurring in London compared to elsewhere; and that while general trust in the financial sector was certainly damaged inter alia by Libor misconduct, trust among intermediaries was not materially affected in terms of reciprocity in their commercial dealings.⁹⁸

Freely-available interest rate benchmarks using Libor's panel model were created as a response to disutilities in the customary but more private contractual model developed in the Eurocurrency credit markets. That migration is acknowledged as providing a trusted foundational metric for financial derivatives, as well as ready and even-handed access to rate fixings for all interested parties and observers. Current reforms instigated by the FSB and IOSCO that largely adopt the Wheatley recommendations are intended to restore external confidence by substituting recorded transaction data for subjective estimates, but in some respects neglect the faults that led to the mid-1980s shift. It is acknowledged by regulators that

⁹⁷ See for example A. Bailey, FCA Chief executive, 'The future of LIBOR', speech at Bloomberg London, 27 July 2017, available at <https://www.fca.org.uk/print/news/speeches/the-future-of-libor> (accessed 31 December 2017), stating inter alia that '[w]e at the FCA have regulated LIBOR since April 2013. Since then, significant improvements have been made', all of which relate to conduct with none requiring changes in law. New York Federal Reserve Bank analysis suggests that banks 'underinvest in cultural capital' and therefore tolerate misconduct, which calls for a qualitative change in supervision to help correct, see S. Chaly, J. Hennessy, L. Menand, K. Stiroh & J. Tracy, *Misconduct Risk, Culture, and Supervision*, Federal Reserve Bank of New York White paper, December 2017, available at <https://www.newyorkfed.org/medialibrary/media/governance-and-culture-reform/2017-whitepaper.pdf> (accessed 3 January 2018).

⁹⁸ Transaction league tables in 2007–16 show Barclays Bank consistently among the leading six international bond arrangers and except in one of three categories in one year no lower than fourth, and in all but one year among the leading ten arrangers of syndicated loans by amounts raised, see *International Financing Review*, Thomson–Reuters League Tables 2000–16 (copies on file with author). Barclays is identified due both to its misconduct and since the bank disclosed misreporting of Libor because it believed other benchmark submitters to be understating their borrowing costs, and might have been more likely than other to encounter hostility from counterparties. Barclays is currently the sole UK-domiciled bank of 20 Euribor panellists, see <https://www.emmi-benchmarks.eu/euribor-org/panel-banks.html> (accessed 3 January 2018).

a complete switch to using transactional data will be difficult to implement, despite the accepted aim of replacing a flawed model, and the concern therefore exists that the reforms found most feasible will be more likely to recreate the disutility that interest benchmarks were created to remove. Wheatley's analysis was detailed but its recommendations limited to a high-level sketch — replace the fictional for the real — rather than a workable solution, and it is suggested with respect that this partly reflects the background of the figure from whom the study takes its eponymous title, in organised exchanges and securities regulation. Wheatley may have encouraged an unnecessarily hasty conclusion without regard for the practicalities of its adoption, while the use of commercial data and profit-seeking collators are certain to lead to the results becoming less freely available than at present, to the detriment of many users.