REFORMING LIBOR: WHEATLEY VERSUS THE ALTERNATIVES

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The London Interbank Offered Rate (LIBOR) is the trimmed average interest rate for interbank loans by a panel of leading London banks. LIBOR is the most widely used benchmark rate. An estimated $350 trillion in financial products are based on the LIBOR rate.

In late June 2012, a major scandal broke when Barclays PLC—one of the panel banks whose rates went into calculating LIBOR—agreed to pay $453 million in fines to U.K. and U.S. regulators to settle allegations that Barclays had attempted to manipulate the LIBOR rate. The probe by multiple national regulators around the world quickly spread to include several other global banks.

In response, the U.K.'s Chancellor of the Exchequer charged a commission led by Martin Wheatley with conducting an independent review of the setting and usage of LIBOR. In September 2012, Wheatley released a report proposing a comprehensive 10-point reform plan. In October, the U.K. Government announced that it accepted "the recommendations of Martin Wheatley's independent review of LIBOR in full."

Even though Wheatley's recommendations likely will have been implemented by the time this article appears in print, they are still deserving of analysis. First, changes and amendments may be necessary to further improve the process, perhaps including some of those suggested in this Article. Second, while LIBOR is one of the most important benchmark rates, it is not the only such rate. Some of these other benchmarks are already under scrutiny. Assessing the merits of various LIBOR reforms therefore may be helpful as regulators evaluate whether these other benchmark rates require similar reform.

In light of LIBOR's systemic importance as a global interest rate benchmark and the compelling evidence of rate manipulation by panel banks, reforming LIBOR was both a political and economic incentive. This Article explores a number of alternatives that were available to the U.K. government.

The Article concludes that leaving the problem to market forces had failed and, moreover, was politically unfeasible. Switching to a

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government-supplied alternative benchmark was both impractical and unwise as a policy matter, as was installing a government agency as a replacement for the British Bankers' Association (BBA) as the LIBOR administrator. Although vesting the LIBOR administrator with sufficiently strong intellectual property rights to ensure an adequate stream of licensing fees to provide adequate incentives for the administrator and panel banks is an important part of a reform package, but—contrary to what some commentators have suggested—is not viable as a stand-alone reform.

In contrast to the alternatives, the Wheatley Review provides a comprehensive reform package that has proven politically attractive and seems likely to significantly enhance LIBOR's credibility and attractiveness as an interest rate benchmark. To be sure, the Wheatley regime is not perfect. To the contrary, this Article suggests a number of ways in which it can be expanded and improved. Overall, however, the analysis of the Wheatley Review herein strongly suggests that it will prove a viable starting point as a blueprint for reforming LIBOR and other interest rate benchmarks.

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When two banks lend money to one another, the interest charged typically is set by reference to some benchmark rate.[1] In addition to setting the market rate for interbank lending, these benchmarks are often used to set the interest rate on riskier investments. A finance company, for example, might lend to low-risk debtors at the benchmark rate plus 100 basis points and to more risky borrowers at the benchmark plus 350 basis points.[2] Increasingly, moreover, benchmark rates play an important role in the structuring and pricing of complex derivative instruments.[3]

The most widely used benchmark rate is the London Interbank Offered Rate (LIBOR),[4] which is the average interest rate charged on interbank loans by a panel of leading London

1. *See* TONY VAN GESTEL & BART BAESENS, CREDIT RISK MANAGEMENT: BASIC CONCEPTS: FINANCIAL RISK COMPONENTS, RATING ANALYSIS, MODELS, ECONOMIC AND REGULATORY CAPITAL 19 (2008) (discussing the use of benchmark rates in interbank lending).

2. *See* 1 JUSTIN GOODERL LONGENECKER ET AL., SMALL BUSINESS MANAGEMENT: AN ENTREPRENEURIAL EMPHASIS 251 (13th ed. 2006) (noting that lenders typically state interest rates as a benchmark plus some additional number of basis points).

3. *See, e.g.*, JOHN C. HULL, OPTIONS, FUTURES, AND OTHER DERIVATIVES 148-54 (8th ed. 2012) (discussing use of LIBOR in interest rate swaps); *see also id.* at 173-75 (discussing other LIBOR-based swaps).

4. Yoram Keinan, *United States Federal Taxation of Derivatives: One Way or Many?*, 61 TAX LAW. 81, 94 n.70 (2007). Some sources spell LIBOR using all capital letters, while others use only an initial capital letter. Because LIBOR's creator uses the former, that will be the spelling used herein. *See* BBALIBOR, *Welcome to BBALIBOR* (Nov. 1, 2012), http://www.bbalibor.com (referring to the "BBA LIBOR rate"). For the sake of internal consistency herein, where a quotation or the title of a citation used only an initial capital letter, I have changed the spelling to all capitals without using brackets or otherwise so indicating in each instance. Likewise, for the sake of uniformity in spelling and grammar, I have taken the liberty of standardizing quotations from British sources to U.S. spelling and usage without so indicating in each instance.

banks.[5] An estimated $350 trillion in financial products are based on the LIBOR rate.[6]

In late June 2012, a major scandal broke when Barclays PLC—one of the panel banks whose rates went into calculating LIBOR—agreed to pay $453 million in fines to U.K. and U.S. regulators to settle allegations that Barclays had attempted to manipulate the LIBOR rate.[7] The wrongdoing allegedly had taken place for over four years, often on a daily basis.[8] The probe by multiple national regulators around the world quickly spread to include several other global banks.[9] The failure of both U.S. and U.K. banking regulators to prevent the manipulation generated considerable criticism, especially in light of allegations that some top regulatory officials were aware of—and may even have condoned—the manipulative practices.[10] Numerous private lawsuits were filed against allegedly offending banks, which could cost the defendant banks "anywhere from under $10 billion to nearly $200 billion, collectively."[11]

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5. James E. Byrne, *The Four Stages in the Electrification of Letters of Credit*, 3 GEO. MASON J. INT'L COM. L. 253, 275 n.6 (2012). Technically, there are 150 LIBOR rates for loans having fifteen different durations and made in ten different currencies. *Reforming LIBOR: The $300 Trillion Question*, ECONOMIST, Sept. 29, 2012, http://www.economist.com/node/21563743. For purposes of this article, however, it is unnecessary to draw fine distinctions between the various versions of the LIBOR rate.

6. Dana Flayelle, *Royal Bank Served with LIBOR Subpoena*, TORONTO STAR, Oct. 27, 2012, at S13.

7. *See* Jean Eaglesham & Max Colchester, *Interest Rate Probe Escalates: Barclays Agrees to Pay Record Fine; Emails Show Traders Tried to Manipulate LIBOR*, WALL ST. J., June 28, 2012, at A1.

8. *Id.*

9. *See* Cassell Bryan-Low & David Enrich, *LIBOR Probe Widens in U.K.: Serious Fraud Office Inquiry Isn't Limited to Barclays; Potential Criminal Charges*, WALL ST. J., July 7, 2012, at B2.

10. *New York Fed to Barclays: "Mm hmm,"* WALL ST. J., July 17, 2012, at A14 ("[T]he question is not what did regulators know, and when did they know it. They knew it all along.").

11. David Reilly, *Big Banks' $29 Billion Cookie Jar*, WALL ST. J., Sept. 5, 2012, at C26. "Back-of-the-envelope estimates suggest that fraudulent interest rates could have generated *billions* of dollars in illicit profits for the scheme's perpetrators and transferred more than a *trillion* dollars from the scheme's victims." Gabriel Rauterberg & Andrew Verstein, *Index Theory: The Law, Promise and Failure of Financial Indices*, 30 YALE J. ON REG. 1, 4 (2013) (emphasis in original; footnotes omitted).

Not surprisingly, the need for major LIBOR reform soon became generally accepted.[12] The United Kingdom's Chancellor of the Exchequer charged a commission led by Martin Wheatley, who was then the managing director of the U.K.'s Financial Services Authority (FSA) and the CEO-designate of the new Financial Conduct Authority (FCA), with conducting an independent review of the setting and usage of LIBOR.[13] In September 2012, Wheatley released a report proposing a comprehensive 10-point reform plan.[14] In October, the U.K. Government announced that it accepted "the recommendations of Martin Wheatley's independent review of LIBOR in full."[15] Implementing legislation was effected by amendments to a Financial Services Bill then pending before Parliament.[16]

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12. *See* Angela Monaghan, *U.S. Steps up LIBOR Inquiry*, DAILY TELEGRAPH, Aug. 16, 2012, at Bus. 2 (noting that it was by then "was widely accepted that the current system, based on subjective submissions from banks, is no longer viable"). Leaving the problem to market forces was not a viable solution. First, as demonstrated by the repeated and pervasive nature of the LIBOR scandals, as to which see *infra* Part I, the essentially unregulated prior regime had withstood correction by market forces such as product competition. For a theoretical argument that market forces alone cannot adequately prevent manipulation of benchmark interest rates and other financial indices, see Rauterberg & Verstein, *supra* note 11, at 42-45. Second, given the incentive regimes to which politicians and regulators are subject, new regulation is an inevitable consequence of high-profile financial scandals. *See infra* Part III.B.2.a) (describing regulatory and legislative responses to financial crises and scandals). Accordingly, even if leaving LIBOR unregulated except by market forces was economically optimal, doing so was not politically viable.

13. Press Release, Her Majesty's Treasury, The Wheatley Review [hereinafter July Press Release] (July 30, 2012), http://www.hm-treasury.gov.uk/press_68_12.htm. The FSA is in the process of being replaced by two successor organizations, the FCA and the Prudential Regulation Authority (PRA). *Regulatory Reform – background*, FIN. SERVS. AUTH., http://www.fsa.gov.uk/about/what/reg_reform/background (last visited Mar. 20, 2013). The process had not concluded as of this writing and is therefore ignored herein.

14. THE WHEATLEY REVIEW OF LIBOR: FINAL REPORT 8 (Sept. 2012), *available at* http://cdn.hm-treasury.gov.uk/wheatley_review_libor_finalreport_280912.pdf (summarizing the plan) [hereinafter cited as WHEATLEY REPORT].

15. Press Release, Her Majesty's Treasury, Government Accepts Recommendations from the Wheatley Review of LIBOR in Full [hereinafter October Press Release] (Oct. 17, 2012), http://www.hm-treasury.gov.uk/press_94_12.htm.

16. *See id.* For the sake of consistency, descriptions and discussions herein of the pre-Wheatley LIBOR system will be phrased in the past tense, while

Even though Wheatley's recommendations likely will have been fully implemented by the time this article appears in print, they are still deserving of analysis. First, changes and amendments may be necessary to further improve the process, perhaps including some of those suggested in this Article. Second, while LIBOR is one of the most important benchmark rates, it is not the only such rate. The Euro Interbank Offered Rate (EURIBOR), for example, is the analogous benchmark rate for interbank lending in Euros.[17] Similarly, the Shanghai Interbank Offer Rate (SHIBOR) is the benchmark rate for interbank lending in renminbi and is set using a panel bank system similar to that previously used for LIBOR.[18] Some of these other benchmarks are already under scrutiny. The European Commission, for example, is examining whether reforms are necessary with respect to EURIBOR.[19] Likewise, the Hong Kong Association of Banks (HKAB) is undertaking a review of the Hong Kong Interbank Offered Rate (HIBOR).[20] Accordingly, as the Wheatley Review's initial discussion paper noted, the concerns raised by the LIBOR scandal "have broader implications for a range of other benchmarks."[21] Assessing the merits of various LIBOR reforms therefore may be helpful as regulators evaluate whether these other benchmark rates require similar reform.

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the Wheatley Review's recommendations will be described using the future tense.

17. BELAL E. BAAQUIE, INTEREST RATES AND COUPON BONDS IN QUANTUM FINANCE 19 (2009).

18. Priscilla Liang et al., *The RMB Debate and International Influences on China's Money and Financial Markets*, *in* CHINA'S EMERGING FINANCIAL MARKETS: CHALLENGES AND OPPORTUNITIES 267, 287 (James R. Barth ed., 2009) (describing process for setting SHIBOR).

19. *See* THE WHEATLEY REVIEW OF LIBOR: INITIAL DISCUSSION PAPER 4 (Aug. 2012), http://www.hm-treasury.gov.uk/d/condoc_wheatley_review.pdf [hereinafter cited as INITIAL WHEATLEY PAPER]. In December 2012, European Union regulators announced that Barclays PLC had admitted to falsifying some of its EURIBOR submissions. David Enrich, *Banking Industry Squirms over European Rate Probe*, WALL ST. J., Dec. 10, 2012, at A1. At least a dozen other banks were being investigated, at least four of whom allegedly colluded with Barclays. *Id.*

20. *See* TREASURY MARKETS ASSOCIATION, REPORT ON THE REVIEW OF HONG KONG INTERBANK OFFERED RATE (Nov. 2012), *available at* https://www.tma.org.hk/PubFile/HIBOR%20Review%20Report%20-%20English.pdf.

21. INITIAL WHEATLEY PAPER, *supra* note 19, at 4.

Part I of this article provides background by reviewing the development of LIBOR and the scandals involving alleged manipulation of the rate by panel banks. Part II summarizes and critiques the Wheatley Review's main recommendations. Finally, Part III examines the key alternatives rejected by Wheatley, focusing on two polar extremes. First, Part III examines the merit of a public solution in which a government agency—most likely a central bank—would provide estimates of interbank offering rates or would take over the role of administering the existing LIBOR process. Second, it discusses an almost wholly privatized approach relying on granting the LIBOR administrator a strong property right in the rate.

I.
LIBOR SCANDALS

The British Bankers' Association (BBA) is a trade association for the U.K. banking and financial services industries, representing over 200 member banks.[22] It created LIBOR in 1986 to serve as the benchmark interest rate for commercial bank lending on the London interbank money market.[23] Rates were calculated for loans of multiple durations, ranging from overnight to 12 months, with the three-month rate being the most important because it was the one most widely used as a reference rate in the derivatives market.[24]

LIBOR was calculated by posing the following question to a panel of banks chosen by the BBA: "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?"[25] The panel for dollar-denominated loans consisted of 18 global banks, with most being based in Europe.[26] The banks self-reported the answer to the question and their

22. *About Us*, BRITISH BANKERS' ASSOC. (last visited Mar. 14, 2013), http://www.bba.org.uk/about-us.

23. BAAQUIE, *supra* note 17, at 18. In practice, LIBOR thus was the lowest rate at which the most creditworthy commercial banks could borrow from one another, typically being just above the rate at which such banks can borrow from national central banks. LARRY ALLEN, THE ENCYCLOPEDIA OF MONEY 271-72 (2d ed. 2009).

24. BAAQUIE, *supra* note 17, at 19.

25. INITIAL WHEATLEY PAPER, *supra* note 19, at 10.

26. *See* U.S. *Dollar Panel*, BBALIBOR, http://www.bbalibor.com/panels/usd (last visitied Apr. 29, 2013) (listing the banks in the U.S. dollar panel).

answers were non-binding.[27] In other words, the banks' submissions were based on their individual estimates rather than on any actual commercial transactions.[28] In calculating LIBOR, the BBA trimmed the average by discarding the highest and lowest submissions and averaging the remainder.[29]

In addition to its use in the interbank lending market, LIBOR quickly became the benchmark rate for the growing number of new financial derivatives, such as forward rate agreements, which also required a standardized benchmark interest rate.[30] By 2012, LIBOR was used as a benchmark in syndicated loans, floating rate notes, interest rate swaps, futures and options, and forward rate agreements totaling in excess of $300 trillion in value.[31] Although calculated in London under the auspices of a British trade association, LIBOR thus took on global significance as financial instruments "converged to a single internationally recognized benchmark."[32]

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27. ALLEN, *supra* note 23, at 272.

28. *Id.*

29. *Id.* For panels of 18 banks, such as the U.S. dollar panel, the BBA excludes the four highest and 4 lowest reports and averages the middle 10. *See The Basics,* BBALIBOR, http://www.bbalibor.com/bbalibor-explained/the-basics (last visited Apr. 29, 2013) [hereinafter cited as *LIBOR Basics*]. The BBA outsourced the actual collection of submissions and publication of the final calculated rate to Thomson Reuters. INITIAL WHEATLEY PAPER, *supra* note 19, ¶ 2.25.

30. INITIAL WHEATLEY PAPER, *supra* note 19, ¶ 2.6. For a detailed economic analysis of how benchmarks such as LIBOR are used in derivative contracts, see Rauterberg & Verstein, *supra* note 11, at 11-12.

31. INITIAL WHEATLEY PAPER, *supra* note 19, ¶ 2.7.

32. *Id.* ¶ 2.9. As the Wheatley Review explained:

> The increasing global integration of financial markets has meant that contracts have converged to a single internationally recognized benchmark, and LIBOR in particular has benefited from a combination of the rise of the euro markets and the convenient time zone in which London sits. Additionally, as the prevalence of LIBOR-linked contracts increased, there were network effects that made it more attractive for other products to link to LIBOR: for example, adjustable rate mortgages in local markets moved from being linked to niche measures of cost of funds to the more widely recognized and more easily hedged LIBOR.

Id. This network effect arose because the more a benchmark is used the more liquid the market for products linked to that benchmark becomes and the easier it becomes to hedge exposures. WHEATLEY REPORT, *supra* note 14, ¶ 6.17. For a detailed economic analysis of how parties benefit from using

Unfortunately, the method by which LIBOR was calculated gave banks considerable room for strategic behavior. First, because banks self-reported, there was no system for verifying their answers. Indeed, because LIBOR was based on the panel banks' estimates rather than actual transaction data, there was nothing to verify.[33] Second, the key term "reasonable market size" was "intentionally left broadly defined,"[34] which again created opportunities for banks to make strategic tweaks in their estimates by varying what they regarded as a reasonable loan size. Third, because the panel size was relatively small, misreporting by even a few participating banks could shift the LIBOR benchmark.[35] Fourth, because each panel bank's submission was made public almost immediately, it was easy for conspiring banks to ensure that their partners had complied with the agreement to move the benchmark in a particular direction.[36] Even in the absence of outright collusion, real-time publication made it possible for a single bank to make good estimates of where their submission needed to be set in order to influence the outcome of the benchmarking process.[37]

In April 2008, *The Wall Street Journal* reported suspicions that some of the LIBOR panel banks were taking advantage of

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benchmarks such as LIBOR as a contractual reference, see Rauterberg & Verstein, *supra* note 11, at 9-11.

33. The BBA justified this practice on grounds that "not all banks will require funds in marketable size each day in each of the currencies/ maturities they quote and so it would not be feasible to create a suite of LIBOR rates if this was a requirement." *LIBOR Basics, supra* note 29. As interbank lending dried up in the post-2008 financial crisis, however, the extent to which LIBOR depended on expert judgment rather than actual transaction data had become a growing concern. See INITIAL WHEATLEY PAPER, *supra* note 19, at 11-12 (discussing uncertain long-term impact of structural changes in the interbank lending market occasioned by the financial crisis).

34. *LIBOR Basics, supra* note 29.

35. *See* Rosa M. Abrantes-Metz, Why and How Should the Libor be Reformed? 2 (Jun. 26, 2012), http://ssrn.com/abstract=2094542 ("If only five banks report—perhaps independently, perhaps sincerely—either unusually high or unusually low LIBOR quotes, they will necessarily move the LIBOR average for that day.").

36. *See id.* (discussing ability and incentive of banks to collude).

37. *See infra* notes 164-165 and accompanying text (discussing problems with real-time publication).

these opportunities for strategic misbehavior.[38] During the financial crisis of 2007-2008, some banks allegedly did not want to report the high interest rates they were being charged for interbank loans because they did not want to alert regulators and markets of the full extent of the economic difficulties in which those banks found themselves.[39] Prompted by the *Journal*'s reporting and regulatory pressure, the BBA undertook an expedited review to determine whether such banks had been filing false reports.[40] Inferential evidence that at least some banks had been fudging their numbers was provided by the substantial upward jump in the LIBOR rate that occurred concurrently with announcement of the review.[41]

If true, such underreporting had pervasive and global effects on a variety of financial markets. Although presumably undertaken to conceal how desperate the panel banks were to raise funds during the worst parts of the financial crisis,[42] the misreporting of the LIBOR data may actually have made the banking crisis worse in the long term. Because a wide range of commercial loans and residential mortgages were set by reference to LIBOR, artificially low LIBOR rates benefitted borrowers who paid less on their loans than they would have in an honest market at the expense of banks who were not fully compensated for the risks they were bearing.[43] In addition, artifi-

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38. *See* Carrick Mollenkamp, *LIBOR Fog: Bankers Cast Doubt on Key Rate amid Crisis*, WALL ST. J., Apr. 16, 2008, at A1 (describing emerging scandal).

39. *Id.* As the Wheatley Review explained:

> [A]lthough a bank's daily LIBOR submission does not necessarily reflect increased counterparty risk, it may be interpreted by external observers as an indication of the creditworthiness of that particular bank. During periods of market stress there is therefore an incentive to lower submissions in order that perception of that bank's relative creditworthiness is not negatively affected.

INITIAL WHEATLEY PAPER, *supra* note 19, ¶ 2.21.

40. Carrick Mollenkamp, *LIBOR Surges After Scrutiny Does, Too: Banks May Be Reacting as BBA Speeds Probe; Impact on Borrowers*, WALL ST. J., Apr. 18, 2008, at C1.

41. *See id.* (noting that "UBS AG strategist William O'Donnell suggested that banks were responding to the heightened scrutiny").

42. *See* Carrick Mollenkamp & Mark Whitehouse, *Study Casts Doubt on Key Rate: WSJ Analysis Suggests Banks May Have Reported Flawed Interest Data for LIBOR*, WALL ST. J., May 29, 2008, at A1 ("If any bank submits a much higher rate than its peers, it risks looking like it's in financial trouble.").

43. *See id.* ("Fibbing by banks could mean that millions of borrowers around the world are paying artificially low rates on their loans. That's good

cially low LIBOR rates resulted in losses for many investors, "such as mutual funds that invest in mortgages and certain hedge funds that use derivative contracts tied to LIBOR."[44]

In May 2008, the *Journal* reported the results of an analysis of the difference between the LIBOR rate as reported by the panel banks and an alternative estimate of their interbank lending costs based on data derived from the market for credit default swaps (CDS).[45] The study concluded that five of the then-sixteen members of the LIBOR panel—Citigroup Inc., WestLB, HBOS PLC, J.P. Morgan Chase & Co., and UBS AG—may have been providing artificially low LIBOR estimates.[46] In addition, the study suggested possible collusion among panel member banks, because "banks reported similar borrowing rates even when the default-insurance market was drawing big distinctions about their financial health."[47]

In response to the concerns flagged by the *Journal*, the BBA in June 2008 made several changes to the way in which LIBOR was calculated. First, the number of panel members was increased to the current 18.[48] Second, the BBA announced plans to police the accuracy of the reported estimates more carefully.[49] Broader changes, including changes to the

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for borrowers, but could be very bad for the banks and other financial institutions that lend to them."); *see also* Peter Eavis, *Making It Easier to Estimate LIBOR Losses*, DEALBOOK (Dec. 20, 2012), http://dealbook.nytimes.com/2012/12/20/making-it-easier-to-estimate-libor-losses/ (reporting that Freddie Mac and Fannie Mae alone may have lost up to $3 billion in a two-year period as a result of LIBOR manipulation).

44. *See* Mollenkamp & Whitehouse, *supra* note 42, at A1.

45. *Id.*

46. *Id.* Interestingly, it is estimated that "a coalition of just five banks can be *guaranteed* to be able to move the rate." Rosa M. Abrantes-Metz & David S. Evans, *Will the Wheatley Recommendations Fix LIBOR?*, CPI ANTITRUST CHRON., Nov. 2012, at 4.

47. Mollenkamp & Whitehouse, *supra* note 42, at A1. *See also* Connan Snider & Thomas Youle, Does the LIBOR Reflect Banks' Borrowing Costs? 2 (Apr. 2, 2010), http://ssrn.com/abstract=1569603 (providing "three types of evidence that banks' LIBOR quotes may not reflect true borrowing costs").

48. ALLEN, *supra* note 23, at 272. For a list of current LIBOR submitters, see FIN. SERVS. AUTH., CP 12/36, THE REGULATION AND SUPERVISION OF BENCHMARKS 21 (2012) [hereinafter REGULATION AND SUPERVISION OF BENCHMARKS], *available at* http://www.fsa.gov.uk/static/pubs/cp/cp12-36.pdf.

49. ALLEN, *supra* note 23, at 272.

definition of LIBOR, however, were rejected.[50] Indeed, the BBA's critics dismissed the changes as minor tweaks unlikely to change the fundamental problems with how LIBOR was set.[51]

The inadequacy of the BBA's reforms was laid bare in June 2012, when Barclays PLC admitted to having manipulated its LIBOR reports for several preceding years and paid U.S. and U.K. regulators fines totaling $453 million.[52] By October, a global probe by U.S. state and federal agencies and regulators from other countries had expanded to include 16 banks, which included most of the LIBOR dollar panel.[53] Because of the large amounts of financial contracts referencing LIBOR and the leverage inherent in the use of options and other derivatives, even very small changes in the LIBOR rate could earn a bank's trading desk significant profits.[54] Evidence was emerging that Barclays derivatives traders pushed the bank employees who reported its LIBOR quote to provide high or

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50. Laurence Norman, *Changes to LIBOR Rejected: U.K. Bankers Group Sticks to Definition of Rate Benchmark*, WALL ST. J., Aug. 6, 2008, at C2.

51. *See* Carrick Mollenkamp & Laurence Norman, *British Group Largely Maintains LIBOR Procedures*, WALL ST. J., May 31, 2008, at B6 (discussing such criticisms); *see also* Rosa M. Abrantes-Metz, *supra* note 35, at 3 (observing that the BBA's actions were "little more than a token response"); Justin T. Wong, Note, *LIBOR Left in Limbo; A Call for More Reform*, 13 N.C. BANK. INST. 365, 366-67 (2009) (arguing that "the BBA's modifications to LIBOR were minor and do not fundamentally address the significant reliability issues related to the perceived ability of banks to manipulate data").

52. Jean Eaglesham & Max Colchester, *Interest Rate Probe Escalates: Barclays Agrees to Pay Record Fine; Emails Show Traders Tried to Manipulate LIBOR*, WALL ST. J., June 28, 2012, at A1.

53. Reed Albergotti & Jean Eaglesham, *9 More Banks Subpoenaed Over LIBOR*, WALL ST. J., Oct. 26, 2012, at C3. In December 2012, UBS AG agreed to pay a fine of $1.5 billion to settle charges by U.S., U.K., and Swiss authorities that the banking conglomerate had engaged in LIBOR manipulation "described as . . . 'epic in scale' with dozens of traders and managers [participating] in a UBS-led ring of banks and brokers . . . ." David Enrich & Jean Eaglesham, *UBS Admits Rigging Rates in "Epic Plot,"* WALL ST. J., Dec. 20, 2012, at A1.

54. *See* Abrantes-Metz & Evans, *supra* note 46, at 4 (noting that "nudging the LIBOR to the second decimal point can matter a lot"); Jean Eaglesham, *Bank Made Huge Bet, and Profit, on LIBOR*, WALL ST. J., Jan. 10, 2013, at A1 ("Deutsche Bank calculated that as of Sept. 30, 2008, it could gain or lose as much as about _68 million for each one-hundredth of a percentage point change in the gap between different rates related to LIBOR and the euro interbank offered rate . . . ."); *see also* Rauterberg & Verstein, *supra* note 11, at 32 ("If one bank lends more with contracts referencing LIBOR than it borrows, then it will profit if LIBOR goes up, and vice-versa.").

low estimates depending on which would produce higher profits.[55] In some cases, Barclays traders appear to have colluded with traders at other banks, so as to ensure that LIBOR would move in the desired direction.[56] In others, however, Barclays acting alone was able to affect the LIBOR rate.[57]

As *The Economist* reported, however, there was a second—and potentially more troubling in the long term—reason Barclays misreported its LIBOR figures. During the financial crisis, both government and private sector actors viewed a high LIBOR submission as a sign of financial weakness on the part

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55. Matt Levine, *LIBOR Was Whatever Barclays Wanted It to Be*, DEALBREAKER (June 27, 2012, 12:31 PM), http://dealbreaker.com/2012/06/libor-was-whatever-barclays-wanted-it-to-be/. As The Wheatley Review explained:

> [Panel members had] private economic incentives [to manipulate the LIBOR rate]: contributing banks are both users of and contributors to LIBOR and will therefore have assets and liabilities with substantial sensitivities to changes in LIBOR. This then gives traders within banks a clear incentive to seek to affect the overall LIBOR rate for the benefit of a particular trading exposure. Further, the possibility of collusion between contributing banks exists.

INITIAL WHEATLEY PAPER, *supra* note 19, ¶ 2.21. *See also* Snider & Youle, *supra* note 47, at 3 (reporting that "several banks in the U.S. LIBOR panel have very large interest rate derivative portfolios, have significant unhedged exposures to U.S. interest rates, and have profited from their interest rate derivative portfolios during the rapid descent of the LIBOR during 2009").

56. *See* Jean Eaglesham & David Enrich, *Rate Probe Expands to Bank Traders: Groups from at Least Nine Institutions Allegedly Worked Together to Rig Key Global Interest Rates*, WALL ST. J., July 24, 2012, at C1. UBS AG later admitted that its traders had colluded with traders at four other panel member banks to manipulate the LIBOR benchmark. Enrich & Eaglesham, *supra* note 53, at A1.

57. As one news account explained:

> Of the daily submissions by 16 banks for U.S. dollar LIBOR, the top and bottom four, known as the first and last quartiles, were excluded and an average of the remaining eight entries calculated. . . . By making a submission too high to be included in the average, a single lender can push a previously excluded rate back into the pack to send the average higher. By submitting a rate that falls too low to be included, the average can be nudged down as a previously excluded rate re-enters the pack.

Liam Vaughan & Katie Linsell, *LIBOR Flaws Allowed Banks to Rig Rates Without Conspiracy*, BLOOMBERG (Jul. 16, 2012), http://www.bloomberg.com/news/2012-07-16/libor-flaws-allowed-banks-to-rig-rates-without-conspiracy.html.

of the submitting bank.[58] Barclays admitted to having reduced the rates it submitted so that its submission fell within the mid-range of the panel banks.[59] Internal Barclays documents showed that top Barclays managers had expressed concern throughout the financial crisis that Barclays' relatively high LIBOR submissions were attracting negative media attention and raising questions about the bank's creditworthiness.[60] This led to a directive being issued by a senior bank manager to Barclays' LIBOR submitters that the bank "should not stick its head above the parapet."[61]

Troublingly, Barclays "released evidence that can be interpreted as an implicit nod from the Bank of England (and Whitehall mandarins)" approving of the bank's practice of fudging its LIBOR submissions.[62] During the crisis, the U.K. government—like many others—was "desperate to bolster confidence in banks and keep credit flowing. The suspicion is that at least some banks were submitting low LIBOR quotes with tacit permission from their regulators."[63]

The same may have been true of other key global regulators. In the U.S., for example, the New York Federal Reserve Bank—then run by Timothy Geithner, who subsequently served as Treasury Secretary in the first Obama administration—reportedly was aware as early as August 2007 of possible LIBOR manipulation but failed to aggressively respond.[64]

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58. *How Britain's Rate-Fixing Scandal Might Spread—And What to Do About It*, ECONOMIST (July 7, 2012) [hereinafter *Rate-Fixing Scandal*], http://www.economist.com/node/21558260; *see also* Wong, *supra* note 51, at 372 ("Reporting high borrowing [costs] suggests that a bank is too financially strained to borrow money at a rate comparable to its peers.").

59. *Rate-Fixing Scandal, supra* note 58.

60. Jun Anthony Garcia, *'Fixing the Benchmark'—Wheatley Considers LIBOR Overhaul*, FIN. REG. INT'L, Oct. 2012, at 1, *available at* http://www.financialregulationintl.com/financial-industry/banking/fixing-the-benchmark—wheatley-considers-libor-overhaul-58800.htm?origin=internalSearch

61. *Id.*; *see also* Wong, *supra* note 51, at 373 (noting that "banks are reluctant to report rates higher than their peers for fear of appearing in financial distress").

62. *Rate-Fixing Scandal, supra* note 58.

63. *Id.*

64. Rachelle Younglai & Pedro da Costa, *Geithner Says Did All He Could to Address LIBOR Problem*, CHI. TRIB. (July 26, 2012), http://articles.chicagotribune.com/2012-07-26/news/sns-rt-us-usa-geithnerbre86o0vc-20120725_1_libor-responsibility-for-market-manipulation-british-bankers-association.

In July 2012, the U.K. Treasury announced that the Chancellor of the Exchequer had commissioned prominent U.K. banking and financial services expert and regulator Martin Wheatley to undertake a review of the framework for the setting of LIBOR and make recommendations for reforming that framework.[65] Wheatley issued an initial discussion paper in August 2012.[66] His final report was published in late September 2012.[67] In October 2012, the U.K. Treasury announced that the government accepted Wheatley's recommendations "in full" and would begin implementing them immediately.[68]

The lesson of the LIBOR scandal is that significant improvements in the process were necessary if LIBOR was to regain credibility as a benchmark. In particular, I conclude from the review in this section that the following measures were essential:

1. Consider whether LIBOR is so discredited as to necessitate creation of a new benchmark
2. Replacement of the BBA with a more credible administrator
3. Improved internal controls at panel banks
4. Improved ability to detect fraudulent LIBOR submissions by an individual bank
5. Improved ability to detect collusion by panel banks
6. Improvements in the process to make it harder for banks—individually or in groups—to manipulate the benchmark
7. Criminalization of LIBOR manipulation so as to increase the deterrents against doing so

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65. July Press Release, *supra* note 13. For Wheatley's biography, see *Martin Wheatley*, WIKIPEDIA, http://en.wikipedia.org/wiki/Martin_Wheatley (last visited Nov. 2, 2012).

66. INITIAL WHEATLEY PAPER, *supra* note 19.

67. WHEATLEY REPORT, *supra* note 14.

68. October Press Release, *supra* note 15. In November 2012, the U.K. Treasury issued a report on its implementation of the Wheatley Review. HM TREASURY, IMPLEMENTING THE WHEATLEY REVIEW: DRAFT SECONDARY LEGISLATION 3 [hereinafter IMPLEMENTING THE WHEATLEY REVIEW] (Nov. 2012), http://www.hm-treasury.gov.uk/d/implementing_wheatley_review281112.pdf. As of that time, amendments to the pending Financial Services Bill had been introduced in Parliament to implement key Wheatley recommendations. *Id.* at 3. At the same time, the U.K. Treasury promulgated draft regulations implementing other elements of the Wheatley Review. *Id.*

8. Incentivize the panel banks and administrator to produce a more honest and credible LIBOR benchmark

II.
WHEATLEY'S RECOMMENDATIONS

The Wheatley Review rejected out of hand the option of retaining LIBOR unchanged.[69] The initial discussion paper emphasized that "the scale of identified weaknesses and the loss of credibility" suffered by LIBOR required comprehensive reforms intended to significantly strengthen LIBOR.[70]

Although some commentators proposed replacing LIBOR with a new benchmark, and some banks went so far as to test alternatives,[71] that option never gained significant traction. Huge costs would have resulted from overturning long-settled reliance expectations in multiple markets, because numerous types of financial instruments and contracts with a total value in excess of $300 trillion reference LIBOR.[72] Accordingly, Wheatley opined "that a transition to a new benchmark or benchmarks would pose an unacceptably high risk of significant financial instability, and risk large-scale litigation between parties holding contracts that reference LIBOR."[73] In addition, Wheatley concluded that there was "no immediately obvious alternative" to LIBOR.[74] As a result, attention focused on developing what Wheatley called "a comprehensive and far-reaching program of reform" of the existing benchmark.[75]

A broad range of reform options was available to Wheatley. At one extreme, the review could have proposed a wholly public solution in which the benchmark was set by some governmental agency, such as a central bank. At the other extreme, the review could have proposed a wholly private solution, leaving the regulation of LIBOR exclusively to market forces. In the end, the Wheatley Review opted for neither of these extremes. Instead, it opted for a mixed system in which a

69. INITIAL WHEATLEY PAPER, *supra* note 19, at 3.

70. *Id.*

71. Katy Burne & Matt Phillips, *Lining up LIBOR Alternatives: Banks Are Testing Replacements amid Growing Scrutiny of the Benchmark Rate*, WALL ST. J., July 3, 2012, at C2.

72. WHEATLEY REPORT, *supra* note 14, ¶¶ 1.11-.12.

73. *Id.* ¶ 1.12.

74. *Id.* ¶ 1.13.

75. *Id.* ¶ 1.12.

private administrator will retain primary responsibility for LIBOR but subject to considerably greater regulatory oversight.[76] To effect that proposal, Wheatley made 10 specific recommendations, grouped into 5 broad areas.[77] As noted, the U.K. government accepted all of the recommendations.[78]

A. *Creation of a Statutory Regulatory Scheme*

Under the prior regime, the process of setting the LIBOR rate had been essentially unregulated. The jurisdiction of the key U.K. regulator—the FSA—is largely confined to so-called "regulatory activities" as specified in the Financial Services and Markets Act of 2000 (FSMA).[79] Because none of the actions involved in setting LIBOR fell within the definition of a regulatory activity, the FSA lacked authority to supervise and regulate the LIBOR system.[80] In addition, because the LIBOR process did not include regulated activities, the persons involved in setting LIBOR were not subject to FSA enforcement and discipline.[81]

1. *The New Regulatory Regime for Panel Banks*

Creating a statutory scheme for regulating LIBOR panel banks and the submission process is the Wheatley Review's first recommendation.[82] Submissions by the panel banks and setting the rate will become regulated activities under the FSMA.[83] As a result, the FSA will have the power to establish

76. *See* WHEATLEY REPORT, *supra* note 14, at 7-8 (discussing the Review's conclusions "that market participants should continue to play a significant role in the production and oversight of LIBOR" and that the government "should introduce statutory regulation of administration of, and submission to, LIBOR").

77. *See id.* at 8-9 (providing summary tables listing the main recommendations).

78. *See supra* note 68 and accompanying text (describing the U.K. government's response to the Wheatley Report).

79. *See* INITIAL WHEATLEY PAPER, *supra* note 19, ¶ B.2 (describing FSA's regulatory remit).

80. *See id.* (setting forth limitations of FSA's jurisdiction over LIBOR).

81. *Id.* ¶ B.7.

82. *See* WHEATLEY REPORT, *supra* note 14, at 11-12 (setting forth regulatory recommendation).

83. *See id.* ¶ 2.5 (concluding "that, as the highest risk of misconduct occurs in the contribution of submissions to LIBOR, there is a strong case to support making submitting to LIBOR a regulated activity").

rules governing the LIBOR process, supervise firms and persons involved in that process, and take civil actions—censure or fines—against violators.[84] In addition, the Review recommends that the FSMA be amended to create a new criminal offense applicable to "individuals who intentionally or recklessly make a false or misleading statement in relation to the setting of a benchmark."[85]

A key consequence of this recommendation is bringing LIBOR within the FSMA's controlled functions and approved persons regimes. A controlled function is one, "relating to the carrying on of a regulated activity by a firm, which is specified, under section 59 of [FSMA] (Approval for particular arrangements), in the table of controlled functions."[86] In other words, controlled functions are specified aspects of how firms carry out regulated activities.[87] "An approved person is an individual who has been approved by the FSA to perform one or more 'controlled functions' on behalf of an authorized firm."[88] The FSA may only approve such persons as it deems fit and proper to carry out the controlled function.[89] "When considering a candidate's fitness and propriety, the FSA considers (i) honesty, integrity and reputation; (ii) competence and capability; (iii) financial soundness."[90]

The Wheatley Review recommends that the FSA designate the management of a panel bank's LIBOR submission as the controlled function.[91] As a result, the bank manager responsible for supervising the submission process—rather than the individuals who actually submit the rates—must be an approved

84. *See id.* ¶ 2.7 (describing FSA powers). In addition to proposing new civil regulatory powers for the FSA, the Wheatley Report also endorsed EU-level efforts at expanding existing market manipulation criminal laws to encompass efforts to manipulate LIBOR and other benchmark rates. *See id.* at 15-17 (describing EU legislative developments).

85. *Id.* ¶ 2.54.

86. *Glossary Definition of Controlled Function,* FIN. SERVS. AUTH., http://fsahandbook.info/FSA/glossary-html/handbook/Glossary/C?definition=G224 (last visited Mar. 13, 2013).

87. *Controlled Functions,* FIN. SERVS. AUTH., http://www.fsa.gov.uk/doing/regulated/approved/persons/functions (last visited Mar. 13, 2013).

88. *Approved Persons,* FIN. SERVS. AUTH., http://www.fsa.gov.uk/doing/regulated/approved/persons (last visited Mar. 13, 2013).

89. *Id.*

90. *Id.*

91. WHEATLEY REPORT, supra note 14, ¶ 2.23.

person.[92] This requirement extends to foreign banks, as well as those based in the U.K.[93] The effect is to give the FSA the right to review and approve the key bank personnel involved in supervising the LIBOR process, as well as giving the FSA regulatory and enforcement powers over those personnel.[94]

In addition to these personnel regulations, panel banks will be required to have periodic reviews of their LIBOR processes by both their internal and external auditors.[95] The external auditor must report to the FSA annually on the bank's compliance with the rules governing LIBOR.[96] In addition, the panel banks must maintain records of the data used to determine their submissions.[97]

One issue that has not received as much attention as it deserves is the need to insulate panel bank personnel with LIBOR submission duties and roles from internal pressure from the bank's traders and from senior managers worried about public perceptions of the bank's creditworthiness. As we saw in Part I, both sorts of pressure were at the root of the LIBOR scandals.[98]

A simple way of eliminating pressure from traders would be to ban panel banks from trading for their own account in the relevant markets. In light of the pervasiveness of the LIBOR benchmarks, however, such a ban would significantly impede the banks' trading activities. In turn, such a limitation and reduction in trading profits would encourage banks to discontinue their membership in the LIBOR panels, perhaps forcing the government to use its powers to compel submissions. Accordingly, an outright ban seems inappropriate. Indeed, allowing banks to trade in LIBOR-sensitive instruments will give them information about the functioning of those markets and allow them to identify suspicious activities by other panel banks. To take advantage of this peer monitoring ability,

92. *Id.*

93. *Id.* ¶ 2.24.

94. *See id.* ¶ 2.18 (explaining consequences of bringing the LIBOR process into the approved persons regime).

95. REGULATION AND SUPERVISION OF BENCHMARKS, *supra* note 48, ¶ 3.4.

96. *Id.* App. 2 ¶ 8.2.11.

97. *Id.* ¶ 3.8.

98. *See supra* notes 54-64 and accompanying text (discussing incentives of banks to manipulate the benchmark).

the FSA requires panel banks to report "reasonable suspicions about the activities of other submitters."[99]

Instead, panel banks should be required to erect an insulation wall between any approved persons connected with the LIBOR submission process and the banks' traders.[100] The absence of such walls doubtless was a critical factor in allowing LIBOR manipulation to become virtually routine.[101] The settlement between Barclays and the CFTC requires the former to erect insulation walls between its LIBOR submitters and de-

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99. REGULATION AND SUPERVISION OF BENCHMARKS, *supra* note 48, ¶ 3.9.

100. Such walls were formerly known in colloquial legal speech as "Chinese walls." As a California appellate judge aptly noted, however:

> "Chinese Wall" is [a] piece of legal flotsam that should be emphatically abandoned. The term has an ethnic focus that many would consider a subtle form of linguistic discrimination. Certainly, the continued use of the term would be insensitive to the ethnic identity of the many persons of Chinese descent. . . .
>
> Aside from this discriminatory flavor, the term "Chinese Wall" is being used to describe a barrier of silence and secrecy. . . . [But] "Chinese Wall" is not even an architecturally accurate metaphor for the barrier to communication created to preserve confidentiality. Such a barrier functions as a hermetic seal to prevent two-way communication between two groups. The Great Wall of China, on the other hand, was only a one-way barrier. It was built to keep outsiders out—not to keep insiders in.

Peat, Marwick, Mitchell & Co. v. Superior Court, 245 Cal. Rptr. (App. 1988) (Low, P.J., concurring). In law firms, terms such as "ethical wall" or "ethical screen" are emerging as alternatives. *See, e.g.*, Ronald R. St. John, *When an Ethical Screen Can Be Used to Avoid Vicarious Disqualification of a Law Firm Remains Unsettled*, L.A. LAWYER, Feb. 2005, at 29 ("This technique has been referred to in the past as a Chinese wall and is now commonly called an ethical screen."). In the present context, however, the term "insulation wall" seems superior. *Cf.* Bernard Shapiro & Neil D. Wyland, *Ethical Quandaries of Professionals in Bankruptcy Cases*, C836 ALI-ABA 15 (1993) (noting "the recently politically correct expression 'insulation wall'"). First, it does not connote the professional responsibility aspects associated with the ethical wall terminology. Second, it provides a more exact "architecturally accurate metaphor" than does ethical wall, because it connotes the need to isolate the LIBOR submitters from pressure and to prevent them from providing information about the submission to traders or executives.

101. *See, e.g.*, George Hay, *Barclays' LIBOR Penalty Goes Beyond the Financial*, SLATE (July 27, 2012, 2:35 PM), http://www.slate.com/blogs/breakingviews/2012/06/27/barclays_libor_penalty_goes_beyond_the_financial_.html ("Derivatives traders and those submitting LIBOR bids should have been divided by so-called Chinese walls. Instead, between 2005 and 2009, 14 [Barclays] traders submitted 257 requests [to the bank's LIBOR submitters] to try to rig the rate in their favor.").

rivatives traders.[102] This requirement should be extended to all LIBOR panel banks via the new regulatory scheme.[103]

Key features of such a wall would include organizational and physical separation of traders and LIBOR submitters, prohibitions against and penalties for discussing confidential matters with unauthorized personnel or in locations where such discussions could be overheard, procedures for preventing unapproved personnel from accessing confidential information and files, delinking approved personnel compensation from trading profits, and regular training of personnel on their legal and commercial responsibilities.[104] Additional components could be designed by drawing on the analogous developments in insulation walls between traders and analysts at investment banks. These developments were driven in the U.S. by adoption of § 15D of the Sarbanes-Oxley Act, which was promulgated "to separate research analysts from investment bankers and insulate the analysts from the bankers' salesman-

102. Paul Armstrong, *Diamond's Exit Shows LIBOR Only What Each Bank Says It Is*, BLOOMBERG (July 4, 2012, 8:12 AM), http://www.bloomberg.com/news/2012-07-03/diamond-s-exit-shows-libor-only-what-each-bank-says-it-is.html.

103. Whether such insulation walls should be erected between the LIBOR submitters and the bank's senior management presents a difficult question. On the one hand, such a wall would be useful in preventing the sort of LIBOR manipulation that occurred when banks sought to avoid sending distress signals during the height of the financial crisis. On the other hand, senior management needs to be able to hold LIBOR submitters accountable and ensure that the submission process is compliant with enterprise risk management goals. In addition, both senior management and the LIBOR submitters will need to have contact with the bank personnel actually engaged in interbank lending operations. Any insulation wall between senior management and the LIBOR submitters thus would have to be carefully constructed.

104. *See* Henriksen v. Great Am. Sav. & Loan, 14 Cal. Rptr. 2d 184 (App. 1992) (discussing key elements of an insulation wall in a law firm). On the origin and development of insulation walls, see Stanislav Dolgopolov, *Insider Trading, Chinese Walls, and Brokerage Commissions: The Origins of Modern Regulation of Information Flows in Securities Markets*, 4 J.L. ECON. & POL'Y 311 (2008). To be sure, insulation walls often are imperfect. *See* H. Nejat Seyhun, *Insider Trading and the Effectiveness of Chinese Walls in Securities Firms*, 4 J.L. ECON. & POL'Y 369 (2008) (reporting on a study of investment banks with representatives on client boards of directors and concluding that the insulation walls at these banks were "porous"). But this is an argument for improving the wall, rather than doing away with it.

ship pressure."[105] Pursuant to the instructions issued by Congress therein, the SEC and the stock exchanges have imposed rules banning analysts from marketing transactions, participating in road shows used to market offerings, accompanying bankers to meetings with investors, or soliciting business for the investment bank from issuers.[106] Analogous restrictions could be developed for LIBOR panel banks.[107]

Additional panel bank responsibilities will be promulgated by a code of conduct to be issued by a newly created independent oversight committee.[108] The code of conduct will consist of a lengthy set of detailed governance rules concerning the procedures by which panel banks develop and transmit their LIBOR submissions, requiring internal controls to be developed by panel banks in order to prevent and detect abuses, ensure record keeping, and manage the auditing of panel bank processes.[109] A number of the code requirements will specifically address the failures in the prior regime. Derivative traders, for example, must receive training in what types of contacts with the LIBOR submitter are improper.[110] The code is to be amended as needed to meet changing market condi-

105. James Fanto, *A Social Defense of Sarbanes-Oxley*, 52 N.Y.L. SCH. L. REV. 517, 530 (2008).

106. *Id.* at 531.

107. Frank Partnoy has suggested an innovative mechanism for preventing banks from submitting false estimates. Under it, the bank that submits the lowest estimate in a given period would be required to lend the LIBOR administrator a significant amount of money—Partnoy suggests $1 billion—at the submitted rate. The bank that submits the highest estimate would be required to borrow the same amount at its submitted rate. The intent is to penalize outliers by requiring them, in effect, to eat what they quote. As a result, Partnoy explains, a "bank submitting an estimate that differed substantially from its actual borrowing or lending costs would, in effect, pay an instantaneous fine for a false submission." Frank Partnoy, *Make Banks Pay if They Cheat on LIBOR*, FIN. TIMES (July 15, 2012, 7:09 PM), http://www.ft.com/intl/cms/s/0/910218ce-cce4-11e1-9960-00144feabdc0.html#axzz2O0OjWG5j.

108. *See infra* text accompanying note 189 (describing oversight committee duties); *see generally infra* Part II.D (discussing the new oversight committee's role in the LIBOR process).

109. *See* WHEATLEY REPORT, *supra* note 14, ¶¶ 4.19-.31 (detailing requirements for code of conduct).

110. *Id.* ¶ 4.20.

tions.[111] The code will be regarded as best practice, rather than a legal mandate.[112]

Finally, so as to ensure panel bank compliance with these new duties, the new regulatory regime will get new teeth by creation of new criminal offenses penalizing the sorts of behavior that gave rise to the LIBOR scandals of the past. In particular, as the Wheatley Review recommended,[113] the making of false or misleading statements or creating false or misleading impressions with respect to LIBOR will now be a crime.[114]

2. *Costs and Benefits of the Proposed Regulatory Regime*

Whether creation of a new regulatory regime is appropriate is the foundational question on which the validity of the new Wheatley regime depends. As noted in the Introduction, some commentators argued for a market-based system with no new regulatory body.[115] As we shall see in Part III.B below, however, the Wheatley Review properly rejected that alternative. Accordingly, it is difficult to quibble with the broad outlines of the plan.

Turning to the details, however, some argue that the specifics of the proposed regulatory regime will create "a cumbersome and heavy process, supervised by lawyers and compliance officers worried about satisfying the regulations and covering their rears."[116] They claim that involvement of such risk averse compliance officers and lawyers will "reduce the power of LIBOR to adjust to predicted changes in the cost of today's borrowing which were not present when the previous transactions took place."[117] Obviously, enhanced internal controls and compliance programs have costs. In addition, to the extent the new regulatory regime increases institutional and personal liability exposure for participating banks, LIBOR submitters likely will become even more risk averse.

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111. REGULATION AND SUPERVISION OF BENCHMARKS, *supra* note 48, ¶ 2.14.

112. *See id.* at 12 (describing nature of code).

113. *See supra* text accompanying note 85 (discussing Wheatley recommendation).

114. IMPLEMENTING THE WHEATLEY REVIEW, *supra* note 68, at 12.

115. *See infra* Part III.B.1 (describing proposal by Gabriel Rauterberg and Andrew Verstein).

116. Abrantes-Metz & Evans, *supra* note 46, at 6.

117. *Id.*

The U.K. Treasury estimates that first year costs for implementing the new regime will be £46.3 million, of which £44 million will be borne by LIBOR panel banks.[118] Thereafter, aggregate annual "running costs" for panel banks are estimated to be £5.8 million.[119] The LIBOR administrator is expected to incur annual running costs of £0.3 million and the regulator will incur additional expenses of £0.4 million.[120]

Although these costs are not insignificant, the critics' concerns seem overstated. First, the relevant question is not whether regulations are costly but whether the benefits of those regulations outweigh their costs.[121] It is not obvious that the compliance costs imposed by the Wheatley regime outweigh the potentially significant benefits of a more accurate

118. IMPLEMENTING THE WHEATLEY REVIEW, *supra* note 68, Annex D ¶ 29. These are estimates of additional costs over and above those incurred in running the prior system. *Id.* ¶ 28. A slightly different set of cost estimates is contained in REGULATION AND SUPERVISION OF BENCHMARKS, *supra* note 48, App. 1 ¶¶ 12-31, although the figures are roughly comparable.

119. IMPLEMENTING THE WHEATLEY REVIEW, *supra* note 68, Annex D ¶ 28.

120. *Id.* ¶ 30. To be sure, actual costs may be significantly different from the U.K. Treasury's estimates. In a famous case, the SEC underestimated the costs firms would face in complying with the Sarbanes-Oxley Act's internal control obligations by two orders of magnitude. *See* STEPHEN M. BAINBRIDGE, CORPORATE GOVERNANCE AFTER THE FINANCIAL CRISIS 159 (2011) (summarizing SEC errors in estimating those costs).

In particular, the U.K. Treasury's estimates focus on direct costs incurred by the panel banks. The estimates do not appear to take into account the costs that would be incurred if the panel bank were obliged to submit estimates suggesting the bank was experiencing financial distress. If a high submission raised concerns among the bank's counterparties, other creditors, and regulators there could be a host of negative consequences, including collateral calls, higher funding costs, greater regulatory scrutiny, and, at the extreme, an effective run on the institution. A related potential cost is that regulators, fearful of such downward spirals, may feel obliged to intervene in costly ways to avoid the risk of a bank having to send such a signal. One could imagine, for example, the Bank of England feeling obliged to provide excess liquidity as an indirect means of reducing the demand for—and thus cost of—interbank funds. If required to implement a broad-based program to indirectly help a few specific banks, the cost might be exceptional relative to the benefit.

121. *See* Frank Partnoy, *Financial Derivatives and the Costs of Regulatory Arbitrage*, 22 J. CORP. L. 211, 239 (1997) (arguing that "costly regulation of financial markets creates potentially substantial deadweight losses and, therefore, can be justified as efficient only if the regulation also creates some greater benefit, e.g., ameliorates some existing market failure").

LIBOR number free from gaming by participating banks.[122] Although it may be difficult to quantify the value of enhancing LIBOR's credibility and the integrity of the process, increased accuracy and greater market confidence in the benchmark should both contribute to an increase in the value of contracts using LIBOR as a reference rate.[123] Second, if the new regulatory regime in fact results in the desired outcome of more closely linking the LIBOR benchmark to actual transaction data,[124] the ability of LIBOR to adjust to changing market conditions should be enhanced rather than reduced. Indeed, to the extent the LIBOR benchmark becomes more closely wedded to actual transaction data, the increase in compliance costs may be nominal. After all, it presumably is less costly to verify actual transaction numbers than to assess the validity and merit of a quote divorced from actual transactions. Third, the bulk of the costs will be incurred in the first year of the new regime, with annual running costs being significantly lower.

3. *Panel Bank Incentives*

Of course, one must not only consider the overall social balance of costs and benefits, but also the incentives created by the allocation of those costs and benefits. In this context, most of the benefits of the improvements to the LIBOR process will flow to end users of the benchmark, while the compliance costs will be borne entirely by the panel banks. At present, banks appear to have determined that the benefits of the new regulatory regime will outweigh its likely costs. As the U.K. Treasury noted, panel banks had "made it clear that they are likely to consider leaving the process if LIBOR remains self-regulated."[125] The adverse reputational consequences of par-

122. The Wheatley Review considered that the burdens of "increased compliance costs for firms" and increased supervision by the regulator "are outweighed by the benefits of regulating these activities." WHEATLEY REPORT, *supra* note 14, ¶ 2.11.

123. REGULATION AND SUPERVISION OF BENCHMARKS, *supra* note 48, App. 1 ¶ 33 (discussing such benefits); IMPLEMENTING THE WHEATLEY REVIEW, *supra* note 68, Annex D ¶ 26 (same).

124. As discussed below, see *infra* notes 160-161, the Wheatley Review proposes governance reforms intended to anchor LIBOR to observable and verifiable real world transactions.

125. IMPLEMENTING THE WHEATLEY REVIEW, *supra* note 68, Annex D ¶ 26.

ticipating in a game widely perceived to be rigged presumably account for the banks' willingness to accept new regulations.[126] Over time, however, the running costs of participating in the process may discourage banks from doing so, especially if those costs turn out to be significantly higher than the U.K. Treasury estimates.

From an individual bank's perspective, the total costs and benefits of participating in the LIBOR process depend in the first instance on whether the bank's quote is based on actual transactions or estimates. In the former case, the LIBOR quote is a byproduct of the bank's interbank lending operations.[127] The bank will need to know that rate regardless of whether it is a member of the LIBOR panel. As such, the cost of being a panel member is merely the incremental cost of complying with the LIBOR regulatory scheme. In the latter case, however, the cost of panel membership will also include those elements associated with developing a credible estimate. The move towards increasing reliance on actual transaction data that will result from implementing the Wheatley recommendations thus should prove beneficial.

The analysis is somewhat complicated because banks also use LIBOR in profitable multi-bank operations. In syndicated lending, for example, the loan rate formerly was based on an average of the cost of funds for all syndicate members.[128] Because determining aggregate funding costs for each transaction was costly, adoption of LIBOR as a proxy benchmark reduced transaction costs.[129] Similar savings were achieved when uses for LIBOR expanded to include other forms of short-term lending and derivatives sold by banks.[130] While banks benefit from the cost savings LIBOR thus offers, the necessity for collective action in producing the benchmark introduces the

126. *See id.* (discussing the hit to the reputation of the financial sector caused by LIBOR scandals).

127. *See* Rauterberg & Verstein, *supra* note 11, at 25 (describing LIBOR as a byproduct benchmark, whose producers create it "as an incident to some other profit-making activity").

128. *Id.* at 37-38.

129. *See id.* at 30 (explaining that LIBOR "proved an attractive shortcut in syndicated lending, largely approximating the funding costs for the participant banks but at much lower cost and greater liquidity").

130. *Id.*

temptation for banks to free ride on the process.[131] If the LIBOR rate is public knowledge, all banks benefit from using it regardless of whether they participate in the panel process.

Because participation in the LIBOR process currently is voluntary, if banks bear all the costs but share in few of the benefits of the improved LIBOR regime, banks may opt out of participating. In the post-Wheatley environment, the problem thus will be to incentivize panel member banks to bear the incremental compliance costs imposed by the new regulatory regime, while at the same time discouraging them from opting out of the process in order to free ride on the efforts of those banks that remain panel members.

Anticipating that banks might in fact consider opting out of the process, the Wheatley Review recommended vesting the FSA with reserve powers to compel banks to make LIBOR submissions on a long-term, continuing basis.[132] A better solution would be for the LIBOR administrator to compensate or otherwise reward participating banks. Unfortunately, neither the Wheatley Review nor the U.K. government's implementation efforts envision such a solution.

Developing a solution must begin by recognizing that LIBOR has some qualities of a public good. A public good is a product subject to non-rivalrous and non-excludable consumption.[133] The former condition is met when multiple users may consume the product without depleting it.[134] In most in-

131. "Free riding" is defined as "as any act that a competitor or another market participant undertakes with the intention of directly exploiting another person's industrial or commercial achievement for his own business purposes without substantially departing from the original achievement." WORLD INTELLECTUAL PROPERTY ORGANIZATION, PROTECTION AGAINST UNFAIR COMPETITION 55 (1994). Economist Mancur Olson famously argued that the "logic of collective action" gives rational actors an incentive to free ride so as to reap the benefits of group membership without contributing to the group in return. MANCUR OLSON, THE LOGIC OF COLLECTIVE ACTION: PUBLIC GOODS AND THE THEORY OF GROUPS 66-97 (1971).

132. WHEATLEY REPORT, *supra* note 14, at ¶¶ 5.27-.28.

133. *See* Christopher S. Yoo, *Rethinking the Commitment to Free, Local Television*, 52 EMORY L.J. 1579, 1594 n.21 (2003) (summarizing the development of the classic definition of a public good).

134. RICHARD CORNES & TODD SANDLER, THE THEORY OF EXTERNALITIES, PUBLIC GOODS, AND CLUB GOODS 8 (2d ed. 1996).

stances, information satisfies this condition.[135] The latter condition is met where the producer is unable to cost effectively prevent non-payers from using the product.[136] In an unregulated market, information generally meets this condition, although intellectual property legal regimes can redress this problem.[137]

Like other forms of information, LIBOR thus resembles a public good.[138] It certainly meets the non-rivalrous consumption condition, as demonstrated by its widespread use by countless users with respects to many disparate forms of financial products sold in multiple markets around the world. Indeed, to the contrary, LIBOR is a network product whose value increases as more users consume it.[139]

As for the excludability condition, because of the relative ease with which users can free ride on benchmarks like LIBOR, their publishers presumably are unable to capture the

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135. Dan L. Burk & Mark A. Lemley, *Policy Levers in Patent Law*, 89 VA. L. REV. 1575, 1604-05 (2003) (stating that "information is a public good for which consumption is nonrivalrous that is, one person's use of the information does not deprive others of the ability to use it").

136. Patrick Croskery, *Institutional Utilitarianism and Intellectual Property*, 68 CHI.-KENT L. REV. 631, 632 (1993).

137. *See* Dan L. Burk & Brett H. McDonnell, *The Goldilocks Hypothesis: Balancing Intellectual Property Rights at the Boundary of the Firm*, 2007 U. ILL. L. REV. 575, 583 (2007) ("A key point of intellectual property is to help lessen the public good nature of new ideas by giving creators the ability to legally exclude others from using the ideas.").

138. *See* Rauterberg & Verstein, *supra* note 11, at 37 ("Indices resemble public goods, because everyone can enjoy them without diminishing the benefits to others, and because they are nearly non-excludable, with index providers facing difficulties in preventing consumption of their goods and services.").

139. *See supra* note 32 (explaining LIBOR's network effects). Rauterberg and Verstein suggest that byproduct benchmarks—such as LIBOR—avoid the collective action problem because "[i]f an index must be produced in order to pursue other profitable business, then its provider need not find some way to charge for the index itself." Rauterberg & Verstein, *supra* note 11, at 38. In the case of LIBOR, however, this argument overlooks the fact that it is an aggregate product many of whose benefits depend upon collective action. An individual bank need not generate a LIBOR quote to engage in such profitable lines of business as syndicated lending or derivatives. *See supra* text accompanying notes 128-130 (discussing use of LIBOR in such markets). Accordingly, the free rider problem persists in those markets. *See supra* text accompanying note 131 (discussing free rider problem in connection with the LIBOR process).

full economic value of the index.[140] Having said that, however, licensing fees traditionally have been the principal source of profit for index publishers.[141] One thus infers that licensing fees provide a sufficient incentive for index publishers to generate their products despite the losses they suffer to free riders.[142] In turn, this suggests that intellectual property rights can at least partially solve the problem of excluding non-payers and thus avoid the underproduction concerns associated with true public goods.[143]

The Wheatley Review seemingly contemplates that the new benchmark administrator will charge licensing fees, in that it recommends allowing the new benchmark administrator to consider ways of capturing some of LIBOR's market value.[144] This recommendation could be extended to require the administrator to share licensing fees with the panel banks.

In addition, it may be possible to induce participation by either panel banks if they derive significant reputational or other non-pecuniary benefits from doing so. Behavioral economists have identified a number of reasons why real world ac-

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140. *See* CFA INSTITUTE, INVESTMENT PERFORMANCE MEASUREMENT: EVALUATING AND PRESENTING RESULTS 105 (Phillip Lawton & Todd Jankowski eds., 2009) (noting that the index publisher faces "various free-rider problems").

141. *See id.* ("Licensing fees are the source of profit in the index business.").

142. *Cf.* Richard A. Posner, *Misappropriation: A Dirge*, 40 HOUS. L. REV. 621, 622 (2003) (explaining that although someone's copying of intellectual property "may reduce my income from the work because I have lost the exclusive use of my property, . . . the reduction may not be great").

143. As discussed below, vesting the information providers with intellectual property law rights allowing them to force users to pay for the privilege of using their products is a widely recognized means of encouraging private actors to produce informational public goods. *See infra* notes 224-227 and accompanying text (discussing relationship between intellectual property law and production of public goods). For an argument that "index providers' practice of imposing licensing fees on secondary exchanges for ETFs is without support in market regulation law, trademark law, or economic policy," see Peter N. Hall, *Bucking the Trend: The Unsupportability of Index Providers' Imposition of Licensing Fees for Unlisted Trading of Exchange Traded Funds*, 57 VAND. L. REV. 1125, 1128 (2004). For an overview of current U.S. law on the subject, see Onnig H. Dombalagian, *Licensing the Word on the Street: The SEC's Role in Regulating Information*, 55 BUFF. L. REV. 1, 16-22 (2007).

144. *See infra* text accompanying note 181 (quoting WHEATLEY REPORT, *supra* note 14, ¶ 3.15).

tors voluntarily contribute to production of public goods.[145] While such reasons as altruism may seem irrelevant to the behavior of large banks, the prestige that comes from being part of a select group chosen to help set such a systemically important benchmark seems a more plausible motivator for such institutions.[146]

4. *On the Advisability of a Sunset Provision*

The sunset provisions advocated by Roberta Romano with respect to U.S. financial reforms suggest an alternative solution to the cost-benefit problem. Observing that "[i]t is far easier to draft legislation in times of crisis founded on good intentions that produce unintended consequences and impose substantial costs on firms, impeding economic growth, than it is to correct such legislative blunders thereafter," Romano advocates including a sunset provision in such legislation that would repeal the law after a certain period of time.[147] Before renewing any such legislation, the legislature should commission a blue ribbon panel of experts to determine whether the legislation has had unintended adverse consequences and whether its benefits have outweighed its costs.[148] If the regulatory burden imposed by the new Wheatley regime proves to be

145. *See generally* Glynn S. Lunney, *The Death of Copyright: Digital Technology, Private Copying, and the Digital Millennium Copyright Act*, 87 VA. L. REV. 813, 860-68 (2001).

146. *See* Martin J. McMahon, Jr. & Alice G. Abreu, *Winner-Take-All Markets: Easing the Case for Progressive Taxation*, 4 FLA. TAX REV. 1, 65 (1998) (positing that "corporate CEOs . . . may respond more to nonpecuniary factors, such as personal gratification and prestige, than to changes in their after-tax compensation"); *cf.* Brent Fisse, *Sanctions Against Corporations: The Limitations of Fines and the Enterprise of Creating Alternatives*, *in* CORRIGIBLE CORPORATIONS & UNRULY LAW 137, 147 (Brent Fisse & Peter A. French eds., 1985) (arguing that corporate executives fear the loss of institutional prestige from adverse publicity even if their firm's profits did not suffer); Brent Fisse, *Reconstructing Corporate Criminal Law: Deterrence, Retribution, Fault, and Sanctions*, 56 S. CAL. L. REV. 1141, 1153 (1982) ("Corporations value their prestige so highly that they subsidize image-making as an extensive light industry.").

147. Roberta Romano, *Does the Sarbanes-Oxley Act Have a Future?*, 26 YALE J. ON REG. 229, 303 (2009).

148. *Id.* at 303-04. Romano argues that "armchair speculation that sunsetting financial-market regulation will adversely affect business planning would not seem to be particularly plausible, as there was no want of innovation in derivatives products, and indeed, those markets flourished under an agency subjected to a sunset provision." *Id.* at 304.

as high as the critics predict and the benefits turn out to be modest or nil, such a sunset provision would force the regulators to develop a more viable alternative.

B. *A New Administrator*

The Wheatley Review proposed that a new administrator replace the BBA, and assume responsibility "for compiling and distributing the rate, as well as providing credible internal governance and oversight."[149] The administrator will run daily checks on LIBOR submissions by panel banks and inquire into suspect submissions.[150] As discussed below, however, most of the specifics are being left to the chosen administrator to develop.[151]

The new administrator will be a private sector entity to be selected through a tendering process conducted by an independent committee established jointly by the U.K. Government and the FSA.[152] The committee would include representatives of the relevant governmental authorities, the BBA, and "a variety of other market participants."[153] Once chosen, the administrator employee responsible for processing benchmark submissions must qualify with the FSA as an approved person, as must the administrator's top management, including the CEO and directors.[154]

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149. WHEATLEY REPORT, *supra* note 14, at 21. For a discussion of whether the new administrator should continue using a version of the BBA's current "trimmed arithmetic mean" to calculate the LIBOR rate or adopt an alternative, such as the "middle fixing pair" proposed by the Wheatley review, see Garcia, *supra* note 60, at 2-4.

150. *See* IMPLEMENTING THE WHEATLEY REVIEW, *supra* note 68, at Annex D ¶ 36 (summarizing administrator duties).

151. *See id.* ¶ 39 (explaining that criteria for selecting the new administrator "will be based heavily around the new systems that prospective bidders intend to implement in order to ensure the credibility of LIBOR in the future").

152. *See* WHEATLEY REPORT, *supra* note 14, ¶ 3.13 (recommending "that the BBA delegates the tendering process to an independent committee, convened by the Government and the FSA"). The new administrator's role thus will be similar to "the arrangements in place for the London Stock Exchange where the FTSE is responsible for the production and publication of the FTSE 100 and other equity, fixed income and investment indices." Garcia, *supra* note 60, at 5.

153. WHEATLEY REPORT, *supra* note 14, ¶ 3.13.

154. REGULATION AND SUPERVISION OF BENCHMARKS, *supra* note 48, ¶¶ 2.27-.28.

The desirability of a new private administrator follows logically from the analysis in Part III below rejecting both a public administrator and a purely market-based system. The inclusion of the BBA in the process of selecting its replacement, however, jumps out as a troubling aspect of the specific proposal. The BBA "acts as the lobby organization for the same submitting banks that they nominally oversee, creating a conflict of interest that precludes strong and credible governance."[155] The BBA's response to the 2008 scandal proved wholly inadequate.[156] The BBA's oversight of the LIBOR process was "insufficiently independent," "insufficiently robust," and lacked transparency.[157] If the BBA is so discredited as to justify ousting it from its role in the LIBOR process, as surely is the case, why should it be represented on the committee that will select the new administrator?

C. *Administrator Duties*

Although the new administrator will have flexibility with respect to designing new governance and oversight processes, the Wheatley Review recommends that several "high-level elements" to be required of the new administrator be included in the criteria by which that body is chosen.[158] These include not just day-to-day administration of the process, but a commitment to robust scrutiny of panel member submissions.[159] In particular, both ex ante verification and ex post comparisons of submissions against verifiable data, "encompassing interbank and other unsecured deposit transactions, as well as other relevant financial data."[160] This requirement provides at

155. WHEATLEY REPORT, *supra* note 14, ¶ 3.2.

156. *See supra* notes 48-57 and accompanying text (reviewing BBA reforms and their failure).

157. INITIAL WHEATLEY PAPER, *supra* note 19, ¶ 3.27; *see also* Garcia, *supra* note 60, at 5 (noting "the weak governance and oversight at the BBA level").

158. WHEATLEY REPORT, supra note 14, ¶¶ 3.20-.22 (detailing those elements).

159. *See id.* ¶¶ 3.23-.29 (describing responsibilities of new administrator).

160. *Id.* ¶ 3.26. Specifically, the Wheatley Review recommends that LIBOR submissions be based on a hierarchy of transaction types. The panel bank first should look to its own transactions in the inter-bank deposit market, in other deposit markets such as commercial paper, and finally in other related markets such as derivatives. *Id.* at 28. In the absence of good data from such transactions, a panel bank should next look to its observations of third party transactions in those markets. *Id.* The third tier of the hierarchy consists of

least a partial solution to the disconnect that developed between LIBOR and actual market transactions in recent years. If successful in anchoring LIBOR to real transactions subject to observation and verification, this would mark a significant improvement.[161]

A related change contemplates that individual panel bank LIBOR submissions would no longer be made available to the public in real time.[162] Instead, publication of that data will be delayed for three months.[163] Real time publication of data made it much easier for participating banks to game their submissions by making it possible to more accurately assess how their submission related to the pack as a whole.[164] In addition, real time publication gave banks an incentive to game their submissions because market participants and government actors would perceive a high rate as a signal that the submitting bank was in financial difficulty.[165] Delayed publication should make collusion more difficult, by making it harder for colluding banks to monitor one another, and removing the incentive for banks to game the system by sending false creditworthiness signals.

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third party quotes to panel member banks in those markets. *Id.* Only in the absence of any such transaction data should a panel member rely on an estimate in making its LIBOR submission. *Id.*

In order to further strengthen the link between LIBOR and actual transaction data, the number of currencies and maturities for which a LIBOR benchmark is quoted are to be reduced by eliminating currencies and maturities traded in particularly thin markets. *Id.* ¶ 5.4. If fully implemented, this recommendation would eliminate LIBOR benchmarks several currencies entirely and bring the total number of LIBOR benchmarks down from 150 to 20. *Id.* ¶ 5.10. Because the Review recognized that many contracts rely on benchmarks to be eliminated, a one-year transition phase was proposed. *Id.* ¶ 5.12.

161. *See* Gary Gensler, *How Global Benchmark Rates Failed and Can Recover*, HARVARD LAW SCHOOL FORUM ON CORPORATE GOVERNANCE AND FINANCIAL REGULATION (Oct 14, 2012, 9:25 AM), http://blogs.law.harvard.edu/corpgov/2012/10/14/how-global-benchmark-rates-failed-and-can-recover/ ("It's through real transactions between arm's length buyers and sellers coming together in a marketplace that prices are discovered and set.").

162. WHEATLEY REPORT, *supra* note 14, ¶ 5.16.

163. *Id.*

164. *Id.* ¶ 5.15.

165. *See id.* ("Real-time publication of submissions can create incentives to submit a lower rate than would otherwise have been submitted.").

Likewise, the Review recommended that the administrator increase the number of participating banks.[166] Commentators had complained that even after the BBA's 2008 increase in the panel size the number of participating banks remained small enough to facilitate collusion and to allow even a single bank to game the system.[167] Larger panels should mean that each individual bank has less ability to affect the outcome of the process by gaming its submission and make the benchmark more representative of actual transactions. On the other hand, finding reputable banks with sufficient creditworthiness and high enough levels of activity in the relevant currency markets to be able to rely on actual transactions may prove difficult, especially if the administrator continues to rely on voluntary participation. Caution therefore must be exercised in expanding panel sizes so as to ensure the credibility and integrity of the process.

The new administrator's most onerous and challenging obligation will be monitoring and validating submissions from panel banks. This is the administrator's core responsibility.[168] The U.K. Treasury anticipates that this task will require a team of five members and a manager,[169] which seems remarkably small given the task at hand. Among other concerns, the small size of the team will make it difficult for the administrator to engage directly with large panels of up to 20 or more banks.

The administrator will be able to rely on a number of metrics, however, which should facilitate detection of manipulation. In a competitive market, a bank's funding costs should be proportional to its perceived riskiness.[170] During the financial crisis, however, significant anomalies emerged that were suggestive of LIBOR submission manipulation. For example, Ci-

166. *See id.* ¶ 5.23 (noting that "large panel sizes would benefit the accuracy and credibility of the benchmark").

167. *See supra* text accompanying notes 35-37 (discussing such concerns).

168. *See* REGULATION AND SUPERVISION OF BENCHMARKS, *supra* note 48, ¶ 2.9 ("The administrator will then be required to arrange for the monitoring and validation of those submissions.").

169. IMPLEMENTING THE WHEATLEY REVIEW, *supra* note 68, Annex D ¶ 36. The FSA likewise assumes a manager and team of five, but adds an IT support staff of unspecified number and a compliance officer. REGULATION AND SUPERVISION OF BENCHMARKS, *supra* note 48, App. 1 ¶ 17. In addition, the FSA assumes that the administrator will have additional managers available to assist with investigation of cases of suspicious behavior. *Id.*

170. Snider & Youle, *supra* note 47, at 3.

tigroup's CDS spreads were significantly higher than those of the Bank of Tokyo-Mitsubishi, suggesting that the market perceived Citigroup to be riskier, but Citigroup persistently submitted lower LIBOR quotes than did Mitsubishi.[171] With appropriate information technology (IT), the administrator should be able to detect such patterns relatively easily, especially if banks are required to submit several metrics of their funding costs in addition to their LIBOR figure.

During the financial crisis panel members also commonly quoted a higher LIBOR rate than another bank in one currency, while reporting a lower rate than the other bank in a different currency.[172] If LIBOR quotes accurately and truthfully reflected the banks' borrowing costs, their relative funding costs should be the same in all currencies.[173] Again, this sort of disparity will be readily observable by the administrator.

A third source of information that should be made available to the administrator will be the panel banks' portfolio exposure to LIBOR. In the U.S., banks are required to disclose their interest rate derivative holdings and revenues to the FDIC.[174] The new LIBOR administrator should require similar disclosures from all panel banks, so as to identify—and therefore closely monitor—those banks with the strongest trading incentives to manipulate their submissions.

Finally, as noted above, panel banks must have periodic reviews of their LIBOR processes by both their internal and external auditors.[175] The administrator also should have access to all of these reviews. In addition, when necessary to investigate suspicious quotes, the administrator should have access to the panel banks' records relating to the LIBOR process.

In sum, the new administrator has available to it a number of tools to detect possible manipulation of quotes by panel banks. Ideally, of course, the new administrator should have experience with using such tools to administer a benchmark rate or other financial index. In putting itself forward as a possible LIBOR administrator, for example, the NYSE Euronext

171. *Id.* at 4.
172. *Id.* at 5.
173. *Id.*
174. *Id.* at 10.
175. *See supra* notes 95-97 and accompanying text (discussing panel bank obligations with respect to routine audits and record keeping).

observed that "it is well placed to fulfil [sic] the role of such an administrator, given that it is accustomed to operating in a highly regulated environment and is a proven, independent and trusted provider of services to market participants."[176]

But what incentives does a new administrator have to use those tools? Curiously, neither the Wheatley Review nor the U.K. Treasury devoted much attention to this problem. The latter, for example, blithely asserts that "providing regulatory oversight will provide the administrator with incentives to detect and act on potential issues in the submission of LIBOR."[177]

As with panel banks, reputation and prestige might be important motivations for an administrator.[178] Assuming the new administrator is a private, for profit enterprise, however, the profit motive will be it principal incentive.[179] The Wheatley Review touched on this concern, but only in passing. It acknowledged that a new administrator "may not" be willing "to take ownership of the benchmark in absence of a financial incentive,"[180] which surely is a gross understatement. Why would a private body be willing to undertake the regulatory burdens and liability exposure entailed in acting as the LIBOR administrator without compensation? But the Wheatley Review contented itself with suggesting that "the new administrator

176. *NYSE Euronext's Response to the European Commission Services' "Consultation Document on the Regulation of Indices: A Possible Framework for the Regulation of the Production and Use of Indices Serving as Benchmarks in Financial and Other Contracts"* 11, NYSE EURONEXT (Nov. 13, 2012), http://ec.europa.eu/internal_market/consultations/2012/benchmarks/registered-organisations/nyse-euronext_en.pdf.

177. REGULATION AND SUPERVISION OF BENCHMARKS, *supra* note 48, Annex 1 ¶ 39.

178. *See supra* notes 145-146 and accompanying text (discussing role of non-pecuniary incentives for panel banks).

179. Choosing a nonprofit organization to serve as the administrator will not solve the problem, because nonprofits also require—and respond to—incentives. To assume otherwise is to assume that managers of nonprofits "are altruistic enough to care about the quality of a product when it is not tied in any way to their compensation." Michelle Scholastica Paul, Note, *Bridging the Gap to the Microfinance Promise: A Proposal for a Tax-Exempt Microfinance Hybrid Entity*, 42 N.Y.U. J. INT'L L. & POL. 1383, 1398 (2009-2010). This assumption "is likely inaccurate in many cases, because human behavior, especially when money is involved, is generally selfish before it is altruistic." *Id.*

180. WHEATLEY REPORT, *supra* note 14, ¶ 3.15.

should be permitted to explore the commercial viability of LIBOR."[181]

As with the problem of incentivizing panel banks to participate, a licensing fee regime seems a logical solution. The BBA in fact currently charges some users licensing fees, although these apparently are too low to cover the BBA's running costs.[182] The new administrator will need to raise licensing fees to a profitable level, which may require vesting the administrator with additional intellectual property rights strong enough to enable it to force more LIBOR users to pay for the privilege of using the benchmark.[183]

The administrator will face a trade off between charging higher licensing fees than the BBA was able to do without raising them so high that users would have an incentive to look for lower cost or free alternatives.[184] Because banks produce LIBOR quotes as a byproduct of their own lending operations, they could rely on their own internal estimates rather than paying for LIBOR. Syndicates could revert to using a transaction-by-transaction aggregate of member banks' funding costs instead of using LIBOR. Creators of derivative securities could use public reference rates. And so on.

D. *An Independent Oversight Committee*

In addition to replacing the BBA with a new benchmark administrator, the Wheatley Review proposed creating a new external oversight committee separate from and independent of the new administrator.[185] The committee will be selected

181. *Id.*

182. George Hay, *Fix-Up Job: How to Make Money out of Fixing LIBOR (Legally)*, BUSINESS STANDARD (Sept. 29, 2012), http://www.business-standard.com/article/opinion/fix-up-job-112092900005_1.html.

183. *See supra* notes 143-144 and accompanying text (discussing using intellectual property rights to incentivize panel banks).

184. *See* Hay, *supra* note 182 (explaining that "if users have to pay, that might give them an extra incentive to find alternatives"). In October 2012, for example, Vanguard announced that it was switching "out of MSCI indices in several funds and ETFs, in favor of benchmarks managed by FTSE and the University of Chicago's Center for Research in Security Prices (CRSP)," so as to reduce the licensing fees paid to use the indices. John Spence, *ETF Fee Wars Spill into Index-Licensing Business*, ETF TRENDS (Oct. 2, 2012, 1:17 PM), http://www.etftrends.com/2012/10/etf-fee-wars-spill-into-index-licensing-business/.

185. WHEATLEY REPORT, *supra* note 14, ¶ 3.30.

from a wide range of sources, specifically including LIBOR end users.[186] The Financial Services Authority also recommends that the committee include at least two independent members.[187] To implement that recommendation, the FSA proposes an oversight committee with 12 members, including a chairman and two executive directors from the administrator, six non-executive directors representing benchmark submitters and users, and two independent directors.[188]

The committee will oversee "the definition, scope and context of LIBOR as a benchmark," scrutinize panel bank submissions, impose "low-level sanctions" on participating banks that violate the code, and, as noted above, develop a code of conduct for LIBOR participants.[189] As to the first of these tasks, the committee will be charged with conducting periodic reviews of the process by which the benchmark is set and the composition of the submitting panels.[190]

The oversight committee is perhaps the least well-developed and least well-justified aspect of the Wheatley reform package. First, a committee with only two independent members is not truly independent and falls far short of governance best practices.[191] Instead, as its configuration is proposed, members with conflicts of interest will dominate the committee. The administrator's representatives will face pressures from their employer to advance its interests. The stakeholder representatives likewise will feel pressure from their constituencies to advance the latter groups' interests.[192]

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186. *Id.* ¶ 3.36.

187. REGULATION AND SUPERVISION OF BENCHMARKS, *supra* note 48, ¶ 2.11.

188. *Id.* Annex 1 ¶ 18.

189. WHEATLEY REPORT, *supra* note 14, ¶¶ 3.32-.35.

190. REGULATION AND SUPERVISION OF BENCHMARKS, *supra* note 48, ¶ 2.12.

191. In the United Kingdom, the Combined Code for Corporate Governance calls for at least half of a corporation's board of directors to be comprised of independent non-executive members. Combined Code on Corporate Governance, 2003, ¶ A.3.2 (U.K.), *available at* http://www.ecgi.org/codes/documents/combined_code_final.pdf.

192. *Cf.* Janet E. Kerr, *The Financial Meltdown of 2008 and the Government's Intervention: Much Needed Relief or Major Erosion of American Corporate Law? The Continuing Story of Bank of America, Citigroup, and General Motors*, 85 ST. JOHN'S L. REV. 49, 92 (2011) (noting that, in the corporate context, so-called "constituency directors or representative directors . . . may feel a responsibility to serve the constituency that helped them obtain their position") (internal quotation marks omitted).

Second, it is nowhere explained why the functions assigned to the new oversight committee could not be better served either by the administrator or the regulator. As the party with the most direct control over and vested interest in the success of the benchmark, the administrator presumably would do a better job of setting LIBOR's definition and scope.[193] For the same reasons, the administrator is in a better position than any outside committee to detect and, accordingly, to sanction—subject to regulatory oversight—violations by the panel banks.[194] Likewise, the same reasons suggest that the administrator is best positioned—again, subject to regulatory oversight—to review the LIBOR process and the composition of the panels.

In sum, the oversight committee is unnecessary, redundant, and ill equipped to carry out its assigned tasks. It simply creates an additional layer of bureaucracy, which offers only costs and no apparent benefits. It should be eliminated from the reform package and its duties reassigned.

III.
ROADS NOT TAKEN

A. *Going Governmental*

1. *A Government Supplied LIBOR Substitute*

Under normal economic conditions, low risk benchmarks such as LIBOR tend to be highly correlated with risk free benchmarks such as short-term Treasury bills.[195] This observation suggests that a benchmark provided by a government agency or central bank could serve as a LIBOR substitute. Indeed, despite the convergence in many financial markets on

193. *See supra* notes 178-183 and accompanying text (discussing issuer incentives).

194. *See supra* notes 170-176 and accompanying text (discussing issuer tools for detecting LIBOR manipulation).

195. "Between 2000 and 2006, for instance, LIBOR quotes for borrowing on terms of up to one year closely followed the rates on comparable-maturity U.S. government securities, as has historically been the case. During this time, in fact, the six-month LIBOR was almost perfectly correlated with the six-month U.S. Treasury bill rate, with only a slight differential (0.25 percentage point on average) separating the two . . . ." Mark Schweitzer & Guhan Venkatu, *Adjustable-Rate Mortgages and the LIBOR Surprise*, FED. RESERVE BANK OF CLEVELAND (Jan. 21, 2009), http://www.clevelandfed.org/research/commentary/2009/012109.cfm.

LIBOR as the preferred benchmark, many financial contracts in various markets still use such alternatives as the Treasury bill rate or the federal funds rate.[196] The latter would seem particularly appropriate as a LIBOR substitute, because it is also a measure of interbank funding costs.[197]

A government-provided substitute does have several advantages. First, as suggested by the evidence that central bankers in both the U.S. and U.K. may have winked at LIBOR manipulation during the height of the credit crisis,[198] financial benchmarks have great systemic importance. Using such winks and nods to regulate systemic risk is hardly a model of good governance. A government provided benchmark would be more transparent. Second, a government benchmark would not be vulnerable to the sort of manipulation to which LIBOR has been subjected. Third, because not all LIBOR users are engaged in interbank lending, a government benchmark not based on interbank funding costs might provide a more appropriate reference interest rate for such users.[199]

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196. *See* HOWARD CORB, INTEREST RATE SWAPS AND OTHER DERIVATIVES 27 (2012) (noting that the federal funds rate is used as the reference rate in U.S. dollar-denominated overnight index swaps).

197. *See* WILLIAM L. MEGGINSON & SCOTT B. SMART, INTRODUCTION TO CORPORATE FINANCE 166 (2008) ("The equivalent of LIBOR in the United States is the federal funds rate . . . .").

198. *See supra* text accompanying note 10 (noting charges that bank regulators gave tacit permission to LIBOR submitters to manipulate the rate so as to preserve market confidence).

199. *See* INITIAL WHEATLEY PAPER, *supra* note 19, ¶ 4.6 ("It may be that for some market participants and contracts, LIBOR may not be the most appropriate interest rate reference."). "For example, many users of derivative contracts that reference LIBOR may be using them to manage exposure to interest rate changes, and therefore do not need an inter-bank credit and liquidity risk aspect in the contract." WHEATLEY REPORT, *supra* note 14, ¶ 6.6.2. Indeed, as the Wheatley Report pointed out, under the market conditions that have predominated in recent years, LIBOR may no longer be optimal even as a measure of interbank funding costs:

> [I]n the current environment inter-bank lending rates are dominated by credit risk and there is a large dispersion in the perceived creditworthiness of banks. This, together with the low volume of interbank unsecured lending transactions, arguably means that the concept of an average inter-bank rate derived from a panel of diverse banks has less meaning as a measure of bank funding costs.

INITIAL WHEATLEY PAPER, *supra* note 19, ¶ 2.17.

In light of such advantages, it is not surprising that some of the responses to the Wheatley Review's initial discussion paper in fact suggested "that the authorities should take ownership of the rate, including rate-setting . . . ."[200] On close examination, however, the disadvantages of the plausible government provided benchmarks appear to outweigh the advantages of moving to a LIBOR substitute.

First, moving to a government supplied LIBOR substitute raises the thorny question of which government would take the lead. It is speculated that, "in globally integrated capital markets," it does not make "sense to have different benchmark borrowing rates for domestic U.S. and international dollar loans."[201] If a single global rate is desired, even though LIBOR is a U.S. dollar rate, it makes more sense to have the alternative continue to be produced by a London-based government agency or central bank. This is so because it is widely recognized that one of LIBOR's major advantages was that the London time zone allowed it to straddle the Asian and U.S. markets.[202] But U.S. politicians are already balking at the use of a London-based private sector benchmark.[203] Control over such a systemically important rate by either the U.K. Treasury or the Bank of England presumably would meet even more political hostility in the U.S. More generally, in an increasingly globalized market, control over such a systemically important benchmark by any single government likely would be a source of on-going tension and perhaps would trigger an arms race of sorts in which all of the major financial center nations seek to privilege their domestic benchmark.

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200. WHEATLEY REPORT, *supra* note 14, ¶ B.31.

201. Krishna Guha, *LIBOR Boost as Fed Casts Doubts on New York*, FIN. TIMES, May 4, 2008, http://www.ft.com/cms/s/0/b48753da-1a24-11dd-ba02-0000779fd2ac.html.

202. *Id.* ("LIBOR rates are released at 11am London time—in the middle of the European trading day and in-between the Asian and North American trading day.").

203. *See, e.g.*, Press Release, Senator Chuck Grassley, Grassley, Kirk Place Hold on Treasury Nominee Over Agency's Lack of Response on LIBOR (Nov. 14, 2012) ("Grassley and Kirk concluded, 'In the wake of this scandal, we believe that it is essential to undertake steps to consider the creation of an American-based interest rate index. If U.S. investors and borrowers have suffered financial harm from our dependence on an index set in London, they have the right to expect the country's leaders to support better alternatives.'").

Second, like other interbank offering rate benchmarks, LIBOR submissions combine three components: (1) compensation to the lender for the time value of money, (2) compensation for the risk that the counterparty bank will default, and (3) a liquidity premium reflecting market transaction costs.[204] This combination has proved highly useful for lenders. It allows lenders to pass on changes in their funding costs to borrowers and thus minimize basis risk, for example, by pegging the borrower's interest rate to LIBOR plus an appropriate risk premium reflecting the borrower's creditworthiness.[205] As such, if the lending bank's funding rate rises, so too will the rate the borrower must pay, ensuring that the lending bank will continue to receive the full risk premium.

While it is true that LIBOR is used by many users for purposes other than interbank lending, the success of LIBOR in other markets presumably reflected, at least in part, an assessment by participants in those markets that the particular combination of elements and premia represented by LIBOR was superior to the alternatives, including the widely available government benchmarks.[206] If so, government substitutes such as Treasury bills—or their U.K. equivalent—would be inapt for the purpose, because they incorporate different elements or different premia, reflecting their different purposes.[207]

The federal funds rate is an interbank funding cost rate, of course, but it is an overnight rate and therefore may be inapt for the sorts of contracts that currently reference longer term LIBOR maturities.[208] In addition, of course, the federal

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204. Abrantes-Metz & Evans, *supra* note 46, at 3. The liquidity premium is defined as the "difference in price between two otherwise identical securities with differing levels of liquidity." John Hibbert et al., *Liquidity Premium: Literature Review of Theoretical and Empirical Evidence* 4, BARRIE & HIBBERT (Sept. 2009), http://www.barrhibb.com/documents/downloads/Liquidity_Premium_Literature_Review.PDF. This difference exists because "illiquid assets must offer higher returns relative to more liquid assets." *Id.*

205. Abrantes-Metz & Evans, *supra* note 46, at 3. The basis risk reflects the difference between the rate a bank charges the borrower and the cost of the bank's own funds. *Id.*

206. *See id.* (noting that "market participants . . . presumably have believed that LIBOR was conceptually the best rate to rely on and that it was superior to other readily available benchmarks").

207. *Id.*

208. Mark E. Schweitzer & Guhan Venkatu, *Alternatives to LIBOR in Consumer Mortgages*, FED. RESERVE BANK OF CLEVELAND (Oct. 11, 2012), http://

funds rate is subject to manipulation by the Federal Reserve to achieve the central bank's monetary policy as it changes from time to time,[209] as would be the case for the Bank of England's equivalent rate. While this is a different form of manipulation than that to which the LIBOR was subjected, it nevertheless creates an inherent conflict between the interests of benchmark users and the central bank.[210]

Finally, the difference between interbank offering rates like LIBOR and potential government substitutes becomes particularly pronounced during periods of economic uncertainty or crisis. In such periods, there is a flight to quality by investors that drives down the rates on presumptively risk free investments like Treasury bills.[211] Conversely, as was the case in the post-Lehman Brothers crisis, banks become less creditworthy and liquidity in the interbank lending market dries up.[212] In such periods, accordingly, benchmarks based on government or central bank funding costs would be especially inappropriate alternatives to one based on interbank offering rates.

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www.clevelandfed.org/research/Commentary/2012/2012-14.cfm ("Perhaps the largest disadvantage of the federal funds rate is that it is an overnight rate, so it does not reflect the term premium associated with lending over a longer horizon, like LIBOR does."). Rauterberg and Verstein present evidence that the U.S. federal government manipulated the consumer price index (CPI) so as to achieve political policy goals. *See* Rauterberg & Verstein, *supra* note 11, at 19-21 (presenting the argument).

209. *See generally* N. GREGORY MANKIW, PRINCIPLES OF MACROECONOMICS 481 (Jack W. Calhoun et al. eds., 5th ed. 2008) (describing how the Federal Reserve uses the federal funds rate to effect monetary policy).

210. *Cf.* Rauterberg & Verstein, *supra* note 11, at 38 (noting that "many market participants flocked to LIBOR precisely to avoid government controlled indices").

211. Abrantes-Metz & Evans, *supra* note 46, at 3.

212. *See* Uwe Vollmer & Ralf Bebenroth, *The Financial Crisis in Japan*, 9 EUR. J. COMP. ECON. 51 (2012) (explaining that "after the collapse of Lehman Brothers, all central banks reacted immediately by injecting liquidity into the market, knowing that a collapse of the interbank markets might result in a domino effect and systemic financial instability"); Brent Horton & Jack Vrablik, *The Troubled Asset Relief Program (TARP): Uses and Abuses*, 29 BANKING & FIN. SERVICES POL'Y REP. 24, 24 (2010) (quoting Henry M. Paulson, Jr., U.S. Sec'y of Treasury, Remarks at the Ronald Reagan Presidential Library (Nov. 20, 2008), http://www.treasury.gov/press-center/press-releases/Pages/hp1285.aspx) ("Credit markets froze, and banks substantially reduced interbank lending.").

2. *A Government Administrator*

The analysis in the preceding section casts doubt on whether a government alternative to a benchmark based on private sector interbank funding costs would be a viable replacement for LIBOR. But why not have the government take over administration of the existing LIBOR system? A simple answer is that choosing to institute a government administrator would pose the same thorny problem of deciding which government should take the lead as would be the case with a government supplied benchmark.

Even if that hurdle could be overcome, however, there are a number of problems that would be posed by assigning responsibility for administering LIBOR to any government agency. The Wheatley Review, for example, expressed concern that "public ownership" would reduce the ability of LIBOR to adapt to changing needs of users.[213] The profit motive gives a private actor an incentive to respond to changing conditions in the markets for its product.[214] In contrast, government agencies and state-owned enterprises lack that incentive.[215]

An analogy may be drawn here to the rich literature on the role that private actors increasingly play in standard setting, implementation, and enforcement functions traditionally carried out by governments. Where specialized expertise is required to develop appropriate standards, which is more likely to be found among industry participants than government agencies, legislatures often delegate the standard setting task to private organizations.[216]

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213. WHEATLEY REPORT, *supra* note 14, ¶ 3.7.

214. *See* Jody Freeman, *Extending Public Law Norms Through Privatization*, 116 HARV. L. REV. 1285, 1289 (2003) (discussing prior work arguing that "for-profit firms, and a host of 'intermediary institutions,' including non-profit, professional, religious, and public-interest organizations, can contribute technical innovation, ingenuity, cost-savings, quality, and diversity in the performance of arguably public functions"); Michael P. Vandenbergh, *The Private Life of Public Law*, 105 COLUM. L. REV. 2029, 2079-80 (2005) (noting that private actors "are subject to market pressure" to efficiently perform "monitoring and enforcement" tasks).

215. *See* D. Daniel Sokol, *Competition Policy and Comparative Corporate Governance of State-Owned Enterprises*, 2009 BYU L. REV. 1713, 1727 (noting that "SOEs are not necessarily profit maximizers").

216. Eleanor D. Kinney, *Rule and Policy Making Under Health Care Reform*, 47 ADMIN. L. REV. 403, 413 (1995). For a concise overview of the economics of standard setting, see Bruce H. Kobayashi & Joshua D. Wright, *Intellectual*

Although the claim is not wholly uncontested, it is generally believed that private actors tend to develop standards that "are likely to be more flexible in their terms and application than government regulations, allowing for adaptation to changing conditions."[217] Accordingly, as the Wheatley Review opined, it seems reasonable to expect that a private administrator "is likely to have a greater incentive to ensure that the benchmark . . . evolves to meet the changing needs and nature of the market."[218] Among other things, private producers compete with one another.[219] Profit-maximizing private actors have both immediate knowledge of declining licensing fees for their product and an incentive to respond to such declines by improving the product, neither of which is true of government agencies.[220] Although network effects and other market imperfections may make it difficult for LIBOR competitors to displace the current benchmark, even imperfect competition provides private providers with better incentives to continue improving the product than those possessed by government agencies.[221]

In addition, the Wheatley Review concluded that a private administrator "is likely to have a greater incentive to ensure that the benchmark is fit for purpose . . . ."[222] Again, experience with standards set by private actors shows that they tend

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Property and Standard Setting 3-4 (George Mason L. & Econ. Research Paper No. 09-40, 2009), *available at* http://ssrn.com/abstract_id=1460997. For a more detailed treatment, see Mark A. Lemley, *Intellectual Property Rights and Standard-Setting Organizations*, 90 CAL. L. REV. 1889, 1896-1901 (2002).

217. Vandenbergh, *supra* note 214, at 2080.

218. WHEATLEY REPORT, *supra* note 14, ¶ 3.7.

219. *Cf.* Daniel M. Häusermann, *The Case Against Statutory Menus in Corporate Law* 11 (U. of St. Gallen L. & Econ., Working Paper No. 2012-01, 2012), *available at* http://ssrn.com/abstract=2024876 ("Publishers of corporate form contracts compete for licensing revenue, and organizations that offer form contracts for free compete for the attention of potential clients or for reputation."),

220. *See id.* ("Commercial publishers are able to gauge the demand for their menus by looking at the sales or download figures of their form contracts. This information is unavailable to legislatures.").

221. *See* John H. Shenefield, Remarks in Tribute to Alfred E. Kahn on the Occasion of Presentation of the American Antitrust Institute Antitrust Achievement Award (June 24, 2003), http://www.antitrustinstitute.org/node/10267 (explaining that Kahn taught that "competition, even imperfect competition, is better than imperfect regulation").

222. WHEATLEY REPORT, *supra* note 14, ¶ 3.7.

to be carefully tailored to address the specific problems requiring regulation.[223] This is particularly true of standard setting in highly technical areas, where private actors with experience in the relevant industry are likely to have "superior knowledge of the subject compared to a government agency."[224]

B. *Relying on Stronger Property Rights*

As explained above, LIBOR—like many other types of valuable information—partially resembles a classic public good.[225] As such, it is subject to risks of underproduction and malproduction.[226] Vesting the producer of informational public goods with intellectual property rights in that information is widely regarded as an efficient means of addressing those risks, by allowing producers to exclude non-payers from using the information.[227]

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223. Vandenbergh, *supra* note 214, at 2080.

224. Douglas C. Michael, *Federal Agency Use of Audited Self-Regulation as a Regulatory Technique*, 47 ADMIN. L. REV. 171, 181-82 (1995).

225. *See supra* notes 133-143 and accompanying text (mapping LIBOR's characteristics to those of a public good).

226. *See* JAMES BOYLE, SHAMANS, SOFTWARE & SPLEENS xi (1996) ("In market terms, information has significant 'public good' qualities; it is often expensive to create or generate, but cheap to copy. Economic theory tells us that 'public goods' will be underproduced because there will be too little incentive to create them.").

227. *See, e.g.*, WILLIAM M. LANDES & RICHARD A. POSNER, THE ECONOMIC STRUCTURE OF INTELLECTUAL PROPERTY LAW 18-20 (2003) (using public good nature of information to explain intellectual property rights); Stephen P. Anway, *Mediation in Copyright Disputes: From Compromise Created Incentives to Incentive Created Compromises*, 18 OHIO ST. J. DISP. RESOL. 439, 452 (2003) (explaining that "the government can alter the non-excludable nature of a work by affording it copyright protection"); Mark A. Lemley, *The Economics of Improvement in Intellectual Property Law*, 75 TEX. L. REV. 989, 993-1000 (1997) (setting out standard theory of intellectual property rights); Mark A. Lemley, *A New Balance Between IP and Antitrust*, 13 SW. J.L. & TRADE AMS. 237, 241 (2007) (explaining that "government has created IP rights in an effort to give authors and inventors control over the use and distribution of their ideas, and therefore encourage them to invest efficiently in the production of new ideas and works of authorship"); Kobayashi & Wright, *supra* note 216, at 4 ("In the absence of property rights to standards, the adoption of a uniform standard may create incentives for free riding and suppress incentives for firms to improve on the current standard or create alternative standards."); Richard Smith, *Trade, TRIPS, and Pharmaceuticals*, 373 LANCET 684, 685 (2009) ("Information is a public good, meaning that it is impossible to exclude anyone from consuming it once it is produced, providing no market

There are precedents for private providers of financial indices to profit by licensing the rights to use their indices. Index mutual funds are willing to pay a licensing fee in order to use the trademarks and data of financial indices such as the S&P 500, to cite but one example.[228] As noted above, the BBA likewise earned licensing fees from data providers who used the LIBOR rate, although these seemingly were modest.[229] Despite these examples, however, current intellectual property law provides only limited protections for producers of benchmark interest rates and other financial indices.[230]

In an article that received considerable attention, Gabriel Rauterberg and Andrew Verstein argue that the appropriate response to the LIBOR scandal therefore is to strengthen the intellectual property rights of those who create financial benchmarks.[231] As part of an overall package of reforms, such as those recommended by the Wheatley Review, stronger intellectual property rights may be necessary for the administrator to charge sufficiently high licensing fees from a sufficiently large number of users to provide it and panel banks with the economic incentive to produce a credible LIBOR benchmark.

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incentive for its production. Intellectual-property rights—and patents more specifically—grant legal excludability to information to remove this disincentive.").

228. *See* Rauterberg & Verstein, *supra* note 11, at 27-28 (discussing the marketing of financial indices by their producers).

229. *See supra* text accompanying note 182 (discussing LIBOR licensing fee system under BBA administration).

230. *See* Steven P. Pokotilow & Ian G. Dibernardo, *Protection for Financial Indexes, ETFs, Other Products*, N.Y. L.J., Sept. 29, 2006, at 21 ("Although proprietary rights in financial indexes and certain of uses of indexes do exist, . . . recent decisions make clear that the creator of an index will not be able to prevent all uses."); Rauterberg & Verstein, *supra* note 11, at 51 ("[C]ourts are increasingly finding that the Federal Copyright Act preempts state law index protections, but provides none of its own.").

231. Rauterberg & Verstein, *supra* note 11, at 1. For representative media and blogosphere commentary, see, for example, Terence Corcoran, *The Big Liebor*, FP COMMENT (July 10, 2012, 4:06 PM), http://opinion.financialpost.com/2012/07/10/the-big-liebor/ (discussing Rauterberg and Verstein's proposal); David Zarig, *Legal Scholarship on LIBOR*, CONGLOMERATE (July 12, 2012), http://www.theconglomerate.org/2012/07/legal-scholarship-on-libor.html (same).

My focus herein is exclusively on the merits of Rauterberg and Verstein's proposal as it applies to LIBOR and similar interest rate benchmarks. I take no position on the merits of their proposal as applied to other types of financial indices, such as stock or bond market indices.

As a stand-alone reform, however, it is both theoretically and politically untenable.

1. *Rauterberg and Verstein's Proposal*

Rauterberg and Verstein estimate that the BBA could generate revenues of about $100 billion if it were able to charge derivatives issuers that use LIBOR as a reference rate a mere 3 basis points (0.03%) of the notional value of their instruments as an annual fee.[232] If this revenue stream were shared between the BBA and the panel banks, Rauterberg and Verstein claim, the BBA and the banks would have stronger incentives to prevent the sorts of scandals that have plagued LIBOR in recent years.[233] Having said that, however, Rauterberg and Verstein decline "to define the contours of the optimal intellectual property regime for financial indices."[234] Instead, they content themselves with noting some of the key features such a regime might possess. Herein, I shall do likewise.

Rauterberg and Verstein suggest, for example, that the new protections should be enacted at the federal level rather

232. Rauterberg & Verstein, *supra* note 11, at 57. It is curious that Rauterberg and Verstein seemingly contemplate a continued role for the BBA as LIBOR administrator. Given how widely discredited the BBA is as a result of the scandals, neither markets nor regulators likely would accept allowing it to remain the LIBOR administrator. *See supra* notes 155-157 and accompanying text (discussing BBA's failures). As we have seen, the Wheatley Review recommends ousting the BBA from any further role in the LIBOR process once the new administrator is chosen. *See supra* note 149 and accompanying text (discussing Wheatley recommendation). Yet, Rauterberg and Verstein fail to address any of these points. Even more curiously, nowhere do Rauterberg and Verstein discuss the Wheatley Review or the U.K. government's plans to implement Wheatley's recommendations. Given that those recommendations will form the basis for the new LIBOR regulatory regime, it is odd that Rauterberg and Verstein do not evaluate them.

233. *See* Rauterberg & Verstein, *supra* note 11, at 58 ("They would have adequate incentives to prevent indexing risks, investing in governance and systems to prevent employee manipulation."). As Rauterberg and Verstein note, there is an active debate in the intellectual property community, "which increasingly criticize[s] the propertization" of information. *Id.* They offer several reasons why financial indices should be exempt from that critique. *Id.* at 58-59. This debate is beyond the scope of this article, however, as I do not believe it is necessary for me to take a position on it herein in order to show why Rauterberg and Verstein's proposal in untenable.

234. *Id.* at 59. Rauterberg and Verstein imply that future work may do so. *See id.* at 159 n.287 ("In ongoing research, we are exploring the relationships among financial information, financial indices, and intellectual property.").

than at that of the states.[235] In the case of LIBOR, however, this suggestion makes no sense. LIBOR is based on quotes made in the London financial market and is principally derived from U.K.-based banks.[236] While the U.S. government obviously has an interest in such a globally and systemically important benchmark, as illustrated by the various enforcement proceedings the U.S. authorities initiated in response to the LIBOR scandals, it nevertheless makes more sense for any new intellectual property protections to come from LIBOR's home base rather than the U.S. At the same time, however, given the global nature of the markets in which LIBOR is used, transnational legal rules would be required to fully protect the rights of the BBA and the panel banks. Yet, experience in other areas of intellectual property law teaches that achieving international protection of property rights in information is quite difficult.[237]

2. *The Case Against Relying Solely on Stronger Property Rights*

As we have seen, licensing fees are the principal way in which the new administrator and the panel banks will be compensated for producing the LIBOR benchmark.[238] Enhanced intellectual property right protections may prove useful in strengthening the incentives provided by licensing fees. In this section, however, I argue that they cannot work as a standalone reform. Instead, they need to be part of the broader package contemplated by the Wheatley Review.

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235. *Id.* at 59.

236. *See supra* text accompanying note 5 (explaining what LIBOR is).

237. *See, e.g.*, Scott A. Cromar, Note, *The Location of the Contemplated Sale as the Ultimate Guide in "Offer to Sell" Transnational U.S. Patent Infringement Cases*, 2012 U. ILL. L. REV. 1755, 1757 (noting "the difficulties faced by businesses that would like protection of their intellectual property internationally"); Burton Ong, *The Trademark Law Provisions of Bilateral Free Trade Agreements*, *in* TRADEMARK LAW AND THEORY: A HANDBOOK OF CONTEMPORARY RESEARCH 229, 234-35 (Graeme B. Dinwoodie & Mark D. Janis eds., 2008) (discussing the difficulties faced in reaching an international consensus with respect to trademark laws).

238. *See supra* notes 140-144 & 182-184 and accompanying text (discussing role of licensing fees in compensating banks and the administrator, respectively).

a. Regulation is the inevitable response to financial crises and scandals

The history of securities regulation in both the United Kingdom and the United States teaches that new regulation is an inevitable political response to financial crises and scandals. In a bubble period, such as the one that preceded the financial crisis of 2007-2008, major regulatory initiatives are relatively rare, because interest groups like shareholders and consumers are lulled into inaction by the seemingly ever-rising value of their portfolios.[239] At the same time, however, the stage is being set for a post-bubble burst of regulation. In the euphoria associated with a bubble, regulators and private gatekeepers tend to let their guard down, potential fraudsters see an explosion of opportunities, and investors become both more greedy and trusting.[240] The net effect is a boom in fraud during bubbles, especially towards the end, when everybody is trying to keep the music going. When the bubble inevitably bursts, investigators reviewing the rubble begin to turn up evidence of speculative excess and even outright rampant fraud.[241] Investors burnt by losses from the breaking of the bubble and outraged by evidence of misconduct by corporate insiders and financial bigwigs create populist pressure for new regulation.[242]

It is in the post-bubble environment, "when scandals and economic reversals occur" and grab the attention of the public, that regulators and legislators act.[243] This is hardly surprising, because such periods typically involve an upswing in populist anger and accompanying intense public pressure for action.[244] Larry Ribstein and Roberta Romano have

239. *See* Larry E. Ribstein, *Bubble Laws*, 40 HOUS. L. REV. 77, 79 (2003).

240. *See generally* Erik F. Gerding, *The Next Epidemic: Bubbles and the Growth and Decay of Securities Regulation*, 38 CONN. L. REV. 393 (2006) (discussing the relationship between bubbles and fraud).

241. *See generally* CHARLES P. KINDLEBERGER, MANIAS, PANICS AND CRASHES: A HISTORY OF FINANCIAL CRISES 73-90 (4th ed. 2000) (discussing fallout of bubbles).

242. *See* Ribstein, *supra* note 239, at 79 (explaining that after a crash reformers can draw on populism and envy of the rich).

243. Mark J. Roe, *Washington and Delaware as Corporate Lawmakers*, 34 DEL. J. CORP. L. 1, 7 (2009).

244. Roberta Romano, *The Sarbanes-Oxley Act and the Making of Quack Corporate Governance*, 114 YALE L.J. 1521, 1591 (2005).

independently demonstrated that this pattern is a reoccurring phenomenon in American law, going back even before the New Deal.[245] Indeed, according to Stuart Banner, the same pattern of boom, bust, and regulation can be seen in both American and British legal history far back into the Nineteenth Century.[246]

With the repeated LIBOR scandals bracketing the major financial crisis of 2007-2008, political pressure for regulation thus was inevitable. In the unlikely event that the U.K. government had withstood such pressures, the U.S. Congress likely would have insisted on an American response.[247] New intellectual property rights laws, standing alone, likely would not have satisfied the demands of the post-scandal environment. As such, even if it had merit as a stand-alone reform, Rauterberg and Verstein's proposal surely is unrealistic in terms of practical politics.[248]

b. The need for fair and non-discriminatory access to the benchmark

New financial regulations adopted in a post-crisis environment often "impose regulation that penalizes or outlaws potentially useful devices and practices and more generally discourages risk-taking by punishing negative results and reducing the rewards for success."[249] Stuart Banner has traced this phenomenon in Anglo-American law back as far as the 17th Century.[250]

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245. Ribstein, *supra* note 239, at 90-94; Romano, *supra* note 244, at 1591-94.

246. STUART BANNER, ANGLO-AMERICAN SECURITIES REGULATION: CULTURAL AND POLITICAL ROOTS, 1690-1860, at 257 (1998).

247. *See supra* note 203 and accompanying text (noting critical response of U.S. legislators to the LIBOR scandal).

248. Conversely, an intellectual property rights regime standing alone would be problematic because "the prospect of a new property right creates strong incentives for interested parties to lobby for too strong protections, and even without that, a legislature may not be competent enough to enact an efficient intellectual property regime . . . ." Häusermann, *supra* note 219, at 10 n.47. Getting Rauterberg and Verstein's proposal through a legislature thus may well have resulted in a suboptimal regime even if the basic idea of stand alone property rights were politically viable.

249. Ribstein, *supra* note 239, at 83.

250. *See* BANNER, *supra* note 246, at 9 (explaining that "new regulation tended to come immediately after price declines").

> Banner contends that the reason for the association is that deep-seated popular suspicion of speculation comes in bad financial times to dominate otherwise popular support for markets, resulting in the expansion of regulation. That is to say, financial exigencies embolden critics of markets to push their regulatory agenda. They are able to play on the strand of popular opinion that is hostile to speculation and markets because the general public is more amenable to regulation after experiencing financial losses.[251]

In general, this is an argument for modest and incremental rather than sweeping reforms. While that may seem to suggest that Rauterberg and Verstein's proposal would have been preferable to the broader package put forward by the Wheatley Review, in this instance the latter in fact was the preferable—as well as the politically feasible—solution.

In the intellectual property literature, there is long-standing recognition of the need to effect a balance between providing incentives to produce information and the social benefit of making information broadly available.[252] As Richard Posner argues, for example, "while theft is very rarely productive, unauthorized copying of inventions and expressive works often is."[253] This is certainly the case with LIBOR. Free riders are using LIBOR in creating valuable new financial assets, such as mortgages and derivatives.

In addition, without countervailing regulation, strong intellectual property rights allow their holder to arbitrarily withhold licenses from some prospective users for its own commercial advantage.[254] Likewise, the holder of such rights may price discriminate amongst users.[255] Whether price discrimination ought to be regulated is a matter of considerable academic debate,[256] of course, and well beyond the scope of this article. What seems beyond peradventure, however, is that politicians

251. Romano, *supra* note 244, at 1593.

252. Dombalagian, *supra* note 143, at 4.

253. Posner, *supra* note 142, at 624.

254. Dombalagian, *supra* note 143, at 34.

255. *Id.*

256. *See generally* F. Scott Kieff & Troy A. Paredes, *The Basics Matter: At the Periphery of Intellectual Property*, 73 GEO. WASH. L. REV. 174, 180-83 (2004) (discussing debate with specific reference to intellectual property law).

view it with a jaundiced eye[257] and that a regime allowing price discrimination thus will not attract support from legislators and regulators.[258]

The Wheatley Review thus correctly noted that, "where benchmarks are subject to intellectual property provisions, there may be an incentive to prevent fair and non-discriminatory access to those benchmarks through licensing agreements."[259] Wheatley argued that such access "is particularly important for systemically relevant benchmarks,"[260] such as LIBOR. To be sure, the Wheatley Review was not endorsing free riding,[261] but its insistence on such access likely will result in tradeoffs between access and exclusion.[262] At a minimum,

257. *See* Michael E. Levine, *Price Discrimination Without Market Power*, 19 YALE J. ON REG. 1, 4 (2002) (discussing how "political pressure generated by resentment of price discrimination" is expressed).

258. In the somewhat analogous context of private party standard setting, strong property rights in standards raise important antitrust considerations. *See generally* Kobayashi & Wright, *supra* note 216, at 13-45 (discussing multiple antitrust problems posed by intellectual property rights in standards); Lemley, *supra* note 216, at 1927-48 (same). This is another factor limiting the utility of intellectual property rights as a stand-alone reform.

259. WHEATLEY REPORT, *supra* note 14, ¶ 7.12.

260. *Id.*

261. *See id.* ¶ 7.13 (explaining that "benchmarks which are systemically relevant should be available to all market participants on a fair and non-discriminatory basis with reasonable commercial terms"). In the somewhat analogous context of private standard setting, standard setting organizations commonly require "intellectual property rights be licensed on 'reasonable and nondiscriminatory terms' or 'fair, reasonable and nondiscriminatory.'" Kobayashi & Wright, *supra* note 216, at 12; *see also* Lemley, *supra* note 216, at 1913 ("One of the most common requirements imposed on IP owners [by standard-setting organizations] is an obligation to license IP rights on reasonable and nondiscriminatory terms."). This requirement provides an apt precedent for doing so with respect to financial indices.

262. Judge Posner argues that tradeoffs allowing free riding where the gain to the free rider exceeds the cost to the publisher are especially common where transaction costs are high. Posner, *supra* note 142, at 624. Given the global nature and diversity of the markets in which LIBOR is used, the transaction costs of extracting licensing fees from all users likely would be extremely high. In addition, Kobayashi and Wright note that such tradeoffs are "most acute when intellectual property rights confer significant market power to the holder of these rights." Kobayashi & Wright, *supra* note 216, at 2. Given the market dominance of LIBOR, *see supra* notes 30-32 and accompanying text (discussing global convergence on LIBOR as the dominant benchmark in multiple product markets), vesting additional property rights in the LIBOR administrator would raise this concern. *See* Kobayashi &

Wheatley requires that the administrator make LIBOR available to all prospective users on "reasonable commercial terms."[263]

Regulatory precedents for such a regime can be found in various aspects of U.S. securities law. Acting indirectly through its oversight powers over the stock exchanges, the SEC has explored efforts at compulsory licensing and rate regulation.[264] Likewise, certain SEC disclosure rules can be understood as efforts to promote nondiscriminatory access to information.[265] The latter approach likely is preferable to either compulsory licensing schemes or regulatory rate setting, as it is less distortive of the market, while still helping ensure fair and nondiscriminatory access.[266]

Again, the point is not that licensing fees and, therefore, intellectual property rights are not an important element of LIBOR reform. Instead, I am making two different points. First, some amount of free riding is inevitable and will need to be tolerated, which implies bounds on the scope and strength of the administrator's rights in the LIBOR benchmark. Second, a property rights-based regime is incomplete. The administrator's exercise of its intellectual property rights will—and should—be subject to regulatory oversight by the FSA to ensure fair access to LIBOR for all users on commercially reasonable terms.

Wright, *supra* note 216, at 5 ("If the standard is successful and is widely adopted, a firm that owns intellectual property that covers the standard or an essential component may possess significant *ex-post* market power.").

263. WHEATLEY REPORT, *supra* note 14, ¶ 7.13. The political importance of fair and nondiscriminatory access to financial indices and benchmarks is illustrated by the European Commission's opposition to the proposed 2011 merger between NYSE Euronext and Deutsche Börse Group, in which European Competition Commissioner Joaquin Almunia raised concerns with respect to, *inter alia*, "exclusive access to license indexing." Christina D. Cress, *The Failed NYSE Euronext-Deutsche Börse Group Merger: Foreshadowing Future Consolidation of the Global Stock Exchange Market?*, 16 N.C. BANKING INST. 365, 391 (2012). "NYX and DB Group offered concessions on this issue, but ultimately the European Commission was unsatisfied." *Id.* at 392.

264. *See generally* Dombalagian, *supra* note 143, at 69-72 (discussing SEC efforts in these areas).

265. *See id.* at 72-76 (discussing SEC rules in this area).

266. *See id.* at 73 ("The virtue of such approaches is that they permit the intellectual property owner to license the requested intellectual property at a fee set by market forces, rather than regulatory fiat.").

c. The risk of lemons

Rauterberg and Verstein argue that the revenue stream provided by stronger intellectual property rights would give the administrator and the panel banks "adequate incentives to prevent . . . manipulation," because they will not wish to risk "damage to a valuable revenue stream."[267] Due to information asymmetries and collective action problems, however, benchmark users and other stakeholders may not be able to tell if the administrator is cheating. It presumably would not be cost-effective, for example, for individual users to determine the credibility of the LIBOR rate. Indeed, the infeasibility of doing so is suggested by the fact that LIBOR manipulation occurred over such an extended period and ultimately was discovered by academics, journalists, and regulators rather than stakeholders in the process.[268] Market failures caused by such collective action problems are well established in welfare economics as a justification for regulation.[269] The Wheatley Review's insistence on creating a regulatory regime with government oversight of the administrator thus was the correct decision.

Turning to the panel banks, their relationship to the administrator may create a problem analogous to that found in markets for lemons.[270] If a panel bank believed it could cheat without being detected, the bank would be tempted to do so in order to reap the dual benefits of sharing in the stream of revenue from the licensing fee scheme and profiting from cheating. This temptation might prove irresistible in periods of financial crisis, when reporting high LIBOR quotes could have existential consequences.

Addressing this risk requires two responses, both of which are features of the Wheatley Review's proposed regime. First, the relationship between the administrator and the panel banks needs to be grounded on ex post governance mechanisms rather than ex ante contract rights. Governance substi-

267. Rauterberg & Verstein, *supra* note 11, at 58.

268. *See supra* Part I (describing LIBOR scandals and their discovery).

269. *See generally* CASS R. SUNSTEIN, AFTER THE RIGHTS REVOLUTION: RECONCEIVING THE REGULATORY STATE 47-60 (1990) (discussing how market failures such as collective action problems justify government regulation).

270. The classic statement of the market for lemons phenomenon is George A. Akerlof, *The Market for "Lemons": Qualitative Uncertainty and the Market Mechanism*, 84 Q.J. ECON. 488 (1970).

tutes for contract when it becomes prohibitively costly to draft complete contracts. Uncertainty arises in business relationships because it is difficult to predict the future conditions the parties will face. Opportunism arises because parties to a contract are inevitably tempted to pursue their own self-interest at the expense of the collective good, which in market transactions leads to breaches requiring resort to costly enforcement mechanisms. Complexity arises when the parties attempt to contractually specify how they will respond to a given situation. As the relationship's term lengthens, it necessarily becomes more difficult to foresee the needs and threats of the future, which in turn presents an ever-growing myriad of contingencies to be dealt with.[271] The more contingencies to be accounted for, and the greater the degree of uncertainty that is present, the more difficult it becomes for the parties to draft completely specified contracts.[272] Indeed, the phenomenon of bounded rationality, which becomes important in the presence of uncertainty and complexity, implies that making complete contracts is at best costly and may prove impossible.[273] Given the limits on cognitive competence implied by bounded rationality, incomplete contracts are the inevitable result of uncertainty and complexity, which in turn leave greater room for opportunistic behavior, and thus inexorably lead to the need for ex post governance mechanisms.[274] The governance regime created by the Wheatley Review thus is an essential part of a workable solution to the problem of LIBOR rate manipulation.

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271. For a discussion of the practical effects of complexity on business organizations, which introduce the need for coordination of the team's effort, see JOHN F. WITTE, DEMOCRACY, AUTHORITY, AND ALIENATION IN WORK: WORKERS' PARTICIPATION IN AN AMERICAN CORPORATION 128 (1980).

272. *See* OLIVER E. WILLIAMSON, MARKETS AND HIERARCHIES 23 (1975) (explaining that, under conditions of uncertainty and complexity, it becomes "very costly, perhaps impossible, to describe the complete decision tree").

273. *See generally* OLIVER E. WILLIAMSON, THE ECONOMIC INSTITUTIONS OF CAPITALISM: FIRMS, MARKETS, RELATIONAL CONTRACTING 30-32, 45-46 (1985) (defining bounded rationality and describing its effects on the contracting process).

274. *See generally* Oliver D. Hart, *Incomplete Contracts and the Theory of the Firm*, 4 J.L. ECON. & ORG. 119, 121-25 (1988) (arguing that transaction costs are pervasive and large, which leads to a theory of governance premised on transaction cost minimization).

Second, where the expected benefits to either the administrator or panel banks of LIBOR manipulation exceeds the expected sanction associated with a detected violation, basic economic theory suggests that rational actors will not be deterred from violating the rules in question.[275] In estimating the expected sanction it faces, such an actor discount the nominal penalty by the probability of conviction.[276] Providing regulatory oversight by a government agency will increase the likelihood of detecting and successfully violations.[277] In the specific context at hand, the Wheatley Review opined "that it is sensible that the FSA is also able to use its statutory powers of investigation and bring prosecutions" where LIBOR is suspected of being manipulated.[278] Likewise, criminal sanctions provide a significant increase in the nominal sanction faced by LIBOR manipulators. As the Wheatley Review explained in conjunction with recommending new criminal penalties, "perpetrators of such behavior are likely to be conscious of the dishonesty of their conduct, and civil sanctions under either the regulatory code of conduct or the civil market abuse regime may not therefore be sufficient to prevent such behavior in all cases."[279]

In light of these concerns, it seems unlikely that the revenue stream provided by licensing fees would be an adequate constraint on bank and administrator incentives to manipulate the LIBOR rate. Intellectual property rights standing alone thus will not provide an adequate remedy. Instead, the system

275. *See generally* Gary Becker, *Crime and Punishment: An Economic Approach*, 76 J. POL. ECON. 169 (1968) (providing a classic statement of the economics of deterrence).

276. *See* Stephen M. Bainbridge, *Incorporating State Law Fiduciary Duties into the Federal Insider Trading Prohibition*, 52 WASH. & LEE L. REV. 1189, 1262 (1995) ("The expected sanction . . . is a function of the nominal sanction and the probability of conviction."); Thomas S. Ulen, *Firmly Grounded: Economics in the Future of the Law*, 1997 WIS. L. REV. 433, 442 (explaining that "society might raise the expected cost of crime by increasing the probability of detection, arrest, and conviction or by raising the level of the sanction imposed").

277. *See* Bainbridge, *supra* note 276, at 1263-66 (discussing how regulatory bodies, such as the U.S. Securities and Exchange Commission have comparative advantages over private parties in detecting and prosecuting securities frauds such as insider trading).

278. WHEATLEY REPORT, *supra* note 14, ¶ 2.50.

279. *Id.* ¶ 2.49.

of governance rules and sanctions proposed by Wheatley must be a part of the solution.

IV.
CONCLUSION

In light of LIBOR's systemic importance as a global interest rate benchmark and the compelling evidence of rate manipulation by panel banks, reforming LIBOR was both a political and economic imperative. Leaving the problem to market forces had failed and, moreover, was politically unfeasible.[280] Switching to a government-supplied alternative benchmark was both impractical and unwise as a policy matter,[281] as was installing a government agency as a replacement for BBA as the LIBOR administrator.[282] Although vesting the LIBOR administrator with sufficiently strong intellectual property rights to ensure an adequate stream of licensing fees to provide adequate incentives for the administrator and panel banks is an important part of a reform package, it is *not*—contrary to what some commentators have suggested—viable as a stand-alone reform.[283]

In contrast to the alternatives, the Wheatley Review provides a comprehensive reform package that has proven politically attractive and seems likely to significantly enhance LIBOR's credibility and attractiveness as an interest rate benchmark. At the end of Part I, this Article identified a number of key areas in which improvements appear advisable. In most of those areas Wheatley gets high marks, although several remain incomplete:

1. *Consider whether LIBOR is so discredited as to necessitate creation of a new benchmark.* Wheatley's decision to reform rather than replace LIBOR made sense given

280. *See supra* note 12 (discussing why leaving LIBOR essentially unregulated was unwise as a matter of economic policy and politically unrealistic).

281. *See supra* Part III.A.1 (discussing infeasibility of a government-supplied alternative to LIBOR).

282. *See supra* Part III.A.2 (discussing infeasibility of a government LIBOR administrator).

283. *See supra* Part III.B (explaining the infeasibility of an intellectual property right-based stand-alone reform).

the enormous transitional costs entailed in adopting an alternative.[284]

2. *Replacement of the BBA with a more credible administrator.* Wheatley gets full marks here, as transfer of the process to a new administrator is a centerpiece of the reform package.[285]
3. *Improved internal controls at panel banks.* Wheatley gets high marks here as well, although some room for improvement remains. The requirements for periodic audits and improved record keeping should make it easier for bank compliance officers to detect misconduct by LIBOR submitters.[286] As the panel bank code of conduct continues to evolve, however, it should be expanded to require a strong insulating wall between the LIBOR submitters and the bank's traders and senior management.[287]
4. *Improved ability to detect and prevent fraudulent LIBOR submissions by an individual bank.* Wheatley gets high marks in this category. Making the key LIBOR submitters approved persons under the FSMA should improve the quality of the responsible personnel, as well as giving the FSA greater oversight and enforcement powers with respect to such persons.[288] The requirement that panel banks report suspicious activity by other panel members may prove beneficial, provided banks are willing to "rat" on one another.[289] Requiring that the LIBOR submission be based on documentable transactions will make it harder for banks to game their submissions so as to manipulate the benchmark.[290]

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284. *See supra* text accompanying notes 71-75 and accompanying text (discussing decision and the costs that went into it).

285. *See supra* Part II.B (discussing Wheatley's proposal to replace the BBA with a new administrator).

286. *See supra* notes 95-97 and accompanying text (discussing panel bank obligations with respect to routine audits and record keeping).

287. *See supra* notes 100-106 (discussing need for an insulation wall at panel banks).

288. *See supra* notes 86-94 and accompanying text (discussing extension of the FSMA's approved persons regime to the LIBOR process).

289. *See supra* text accompanying note 99 (discussing requirement).

290. *See supra* text accompanying note 124 (discussing effect of basing LIBOR on real world transactions rather than estimates).

5. *Improved ability to detect collusion by panel banks.* Wheatley gets an incomplete grade in this category, because the relevant changes seem rather modest in nature. Delayed publication of LIBOR submission data will make it harder for banks to collude because they will be unable to monitor one another's compliance with a manipulation plan.[291] Increasing the number of panel banks may also make it harder for a bank conspiracy to affect the benchmark.[292]
6. *Improvements in the process to make it harder for banks—individually or in groups—to manipulate the benchmark.* Setting aside the changes noted in the preceding paragraphs, Wheatley gets an incomplete in this category as well. Many of the contemplated improvements were left undefined and are to be effected in the code of conduct.
7. *Criminalization of LIBOR manipulation so as to increase the deterrents against doing so.* In this category, Wheatley again gets full marks, as the FSMA will be amended to make LIBOR manipulation an offense.[293]
8. *Incentivize the panel banks and administrator to produce a more honest and credible LIBOR benchmark.* In this category, Wheatley again gets an incomplete grade. Although Wheatley acknowledged that financial incentives "might" be necessary,[294] it provided no mechanism for incentivizing either the administrator or panel bank.

As this analysis suggests, the Wheatley regime is not perfect. Overall, however, this Article's analysis of the Wheatley Review strongly suggests that it will prove a viable starting point as a blueprint for reforming LIBOR and other interest rate benchmarks.

Yet, the jury remains out on LIBOR's long-term prospects. Even if the reforms discussed herein lead to a more accurate

291. *See supra* text accompanying notes 162-165 (discussing effect of delayed publication of LIBOR submissions).

292. *See supra* text accompanying notes 166-167 (discussing effect of increasing the number of panel banks).

293. *See supra* notes 84-85 and accompanying text (discussing U.K. and E.U. efforts to criminalize LIBOR manipulation).

294. *See supra* notes 180-181 (quoting from the Wheatley Review's discussion of administrator incentives).

LIBOR benchmark free from manipulation, LIBOR could still fail if the market for interbank lending remains so depressed as to be unable to generate a sufficient number of actual transactions against which the benchmark can be anchored.[295] Because the Wheatley Review focused only on the former, completing the reform process will require ongoing inputs from monetary policymakers.

295. *See* Gensler, *supra* note 161 (observing that "even if we address the issues of governance and conflicts of interest, we will still need to address the fundamental issue – that the underlying market for unsecured interbank borrowing has largely diminished").