The History of the London Inter-Bank Offer Rate (Libor): Financial Fraud and Market Manipulation

Libor'ing Under the Market Illusion

By Ramaa Vasudevan
Global Research, January 11, 2013
Monthly Review
Theme: Global Economy

Sandwiched between revelations of mounting losses ($5.8 billion and rising) at JP Morgan in the face of bungled bets by a trader known as the London Whale, and allegations of money laundering for Mexican drug cartels and breaches of U.S. sanctions by HSBC, the disclosures of deliberate rigging of the Libor rate by Barclay's Bank might appear mundane and a trifle boring in comparison. It is, however, this scandal about an arcane interest rate that most starkly exposes the rotten core of the global financial system.

Barclays paid a fine of $450 million and saw the ignominious exit of its CEO Bob Diamond in a deal with U.S. and British regulatory agencies that involves an agreement to defer prosecution and drop criminal charges in two years if the bank does not commit any federal crimes "after the execution of this agreement." But this might just be the tip of the iceberg. About twenty other global banks are currently being probed, and the full scale of the scandal is yet to be seen. The *Economist*, while decrying the "casual dishonesty" revealed in the email exchanges of the "banksters" (including promises of expensive champagne in return for favors!), pronounced this global finance's "tobacco moment," when it is forced to acknowledge its destructive practices, with potentially huge settlement costs, reminiscent of the settlements of around $200 billion made by U.S. tobacco companies in 1998 following a protracted lawsuit.[1] But the scandal is not simply one of colossal greed and hubris. It is about systemic failure. It is about the fictions and illusions that form the basis of today's complex global financial system.

The Libor is the London Inter-Bank Offer Rate—the rate at which leading banks can borrow from each other in the London markets. It is, however, not simply the banking system's cost of borrowing or obtaining funds; it has emerged as the anchor of about $800 trillion worth of international financial transactions.[2] A brief outline of the history of the process by which the Libor has become a fulcrum of the global financial system is necessary if we are to understand the significance of the current scandal.

The Libor and the Dawn of Neoliberalism

The origin of the Libor is rooted in the explosion of private financial flows in the international monetary system and more specifically the Eurodollar market (constituted by dollar-denominated bank deposit liabilities held in foreign banks or foreign branches of U.S. banks) in the 1970s. This explosion was itself an outcome of the resurgence of finance and the rise of neoliberalism. The sharp hike in interest rates in the United States in 1979—the Volcker anti-inflation shock, aimed in part at lowering wage rates by increasing unemployment—signaled the aggressive promotion of financial openness and integration as a way out of the crisis of the 1970s.[3] This agenda served to buttress the growing power of U.S. corporate and financial capital globally. This "coup of finance" hinged on preserving and extending the pivotal place of the United States in international financial markets, and securing the global hegemony of the dollar after the collapse of the Bretton Woods system of fixed exchange rates.[4]

The Eurodollar market emerged even as the U.S. government was attempting to restrict capital outflows to reduce growing balance of payments deficits. U.S. banks resorted to the Eurodollar markets (primarily in London) as a way of evading restrictive capital controls and protecting their earnings. This offshore market was also a profitable place for Germany and Russia to park their dollar surpluses. Although international financial business was now based more on dollars than sterling, Eurodollar deposits helped to preserve London as a financial center in the face of the erosion of sterling's importance as an international reserve. At the same time, its ties to the international hegemony of the dollar were cemented[5] and the United Kingdom was drawn more closely "into the American imperial embrace."[6]

The Big Bang reforms of 1986 in Britain were an important milestone in this process. In the United States, financial deregulation had been set in motion with the Deregulation of Monetary Control Act of 1980. This culminated almost two decades later with the final dismantling of the regulatory framework of the Glass-Steagall Act (legislated in response to the Great Depression, it had separated commercial from investment banking) by means of the Gramm-Leach-Bliley Act of 1999, giving legislative sanction to the erosion of the regulatory firewall between security traders and deposit bankers. This deregulatory agenda was echoed in the Big Bang reforms of banking in Britain in 1986. These reforms blurred the distinction between stockbrokers, investment advisers, and "jobbers" who created the markets in shares. Britain's permissive regime brought an influx of U.S. banks and huge bonanzas for bankers. The stodgy world of banking was transformed into a heady world of cutthroat deal-making.

Through the 1970s, the oil surpluses of the OPEC countries were channeled through the Eurodollar markets and recycled to developing countries, especially Latin America, in the form of syndicated offshore dollar loans. The floating of the dollar in 1973 also fostered the growth of futures and swaps: derivatives that allowed international investors to hedge the risks of exchange rate and interest rate fluctuations. The investors and bankers who sought to rake in earnings and fees in these rapidly growing markets for new and exotic instruments of loan syndication and financial derivatives found themselves in desperate need of a benchmark against which to price their deals. The payments in the syndicated sovereign loan market, for instance, were based on some measure of a benchmark risk-free borrowing rate *plus* a risk premium based on assessments of the borrowing country's capacity to repay the loan.

A key requirement of a benchmark is that it must bear a stable relationship to the prices of other securities and that it be liquid.[7] The U.S. Treasury bill rate was one such price, but the volatility of this market in the late 1970s, a period of high inflation in the United States, prompted a search for new benchmarks around which bankers could structure their deals. Futures contracts on the three-month U.S. Treasury bill were introduced in this context as a way to tame the turbulence of the U.S. Treasury bill markets. Even as the Latin American debt crisis brought the bonanza of syndicated sovereign loans to an abrupt halt in the 1980s, U.S. financial markets were further jolted by the failure of the Continental Illinois Bank in 1984. The sudden surge in demand for safe U.S. Treasury bills led to huge losses for those who had used them as hedges for their purchases of private financial assets (since the price of Treasury bills rose while that of private financial assets fell). Such episodes underscored finance's search for an alternative benchmark more aligned with the prices of private assets.8

Eurodollar futures contracts had begun to be traded in London in the early 1980s. In 1982 the volume of three-month Eurodollar futures transactions (at around $8 billion) was about one-third the volume of futures transactions in three-month U.S. Treasury bills (around $25 billion). By 1986 the volume of Eurodollar futures had risen to about $50 billion (about ten times the volume of corresponding U.S. Treasury bill futures transactions).9 The percentage share of Eurodollar transactions to all money market transactions—from where the wider financial system draws its short-term liquidity funds—rose from less than 5 percent in 1980 to about 50 percent by 1985.10 Since Eurodollar deposits were emerging as a major source of short-term funding for banks, the offshore Eurodollar borrowing rate emerged as an obvious anchor (the risk-free rate) for the proliferating financial trading. Particularly since financial institutions were finding that the prices of derivatives based on these offshore Eurodollar rates were closely aligned to their own borrowing costs. But in the early 1980s, there were not enough trades for a market-based index for Eurodollar deposits, and the Federal Reserve could not set and enforce targets for this rate like it could for the Federal Funds rate (the rate at which banks could borrow reserves overnight from each other). International financial markets felt hampered by a lack of standard reference rates. The solution was found through the offices of the British Bankers' Association (BBA), the leading lobbying group of London Banks, with the blessing of the Bank of England.

In 1986, the BBA introduced a new benchmark rate, based on the average of daily estimates from the leading banks. The primary purpose of this new benchmark, the Libor, was to set a rate for dollar deposits held outside the United States and also to serve as a reference rate for a range of securities. Banks seeking to reduce their risk in a context of volatile interest rates found a closer approximation to their actual borrowing costs in this benchmark. The newly introduced standard came to be adopted as the basis of a variety of securities and derivatives (like interest rate swaps) that the banks used to hedge their risky portfolios. It was also adopted as the basis for the resetting of rates on long-term loans in line with the banks' actual variable costs of funds. The volume of three-month Eurodollar futures contracts doubled between 1986 and 1988 to about $100 billion, while the share of Eurodollar transactions in short-term money market activity crossed 75 percent.11 Facilitated by the surge in Eurodollar lending in the syndicated loans market,* the huge interest rate swap market,† and later the markets for newer and more complex securities and derivatives got a huge boost.

And so, privately mediated financial instruments came to eclipse the publicly issued U.S. Treasury bill as the source of unregulated liquidity generation for the bloating global financial system. This is not to suggest that the U.S. Treasury bill was completely displaced. As the credit crisis of 2008 revealed, it remained the safe haven when the privately mediated mechanisms of liquidity generation and funding crashed in the wake of the collapse of Lehman Brothers.12 It is at the apex of the monetary hierarchy. In fact, a key indicator of financial distress is the difference between the interest rate banks charge each other on three-month loans (the three-month Libor) and the interest rate on three-month U.S. Treasury bills. A widening spread reflects the higher costs of unsecured interbank lending in a situation of evaporating confidence and growing uncertainty. At the peak of the credit crisis in 2008, this spread had risen to about 450 basis points (4.5 percent) from normal levels of between fifty and one hundred basis points (0.5–1 percent). Banks were finding it harder and harder to borrow from other banks, and interbank lending, which is not based on collateral, dried up. The Federal Reserve had to step in to fund the failing banks and restore lending. Even though private agents are a primary driving force in the money market, these decentralized parallel monetary mechanisms are, in the final instance, backstopped by the state and the market for U.S. Treasury bills.

The Emperor Has No Clothes!

So how is the Libor actually set? There are now rates set for deposits in ten currencies with fifteen maturity periods, for a total of 150 Libor rates. The borrowing rate is set daily by the BBA, on the basis of submissions by a panel of banks, for each of these ten currencies and fifteen maturities. The three-month dollar Libor is one of the most important of these rates. It is supposed to indicate what a bank would pay to borrow dollars for three months from other banks, at 11:00 AM on the day it is set. There are currently eighteen banks on the dollar Libor panel (including Citibank, JP Morgan, and Bank of America).

Each participating bank has to answer the question: At what rate could you borrow funds, were you to do so by asking for and then accepting interbank offers in a reasonable market size, just prior to 11:00 AM? The top quarter and bottom quarter estimates are then discarded, and the Libor is the trimmed average of the remaining submissions, (also known as fixings) calculated and posted by Thomsons-Reuters, the leading business data provider. The idea is that this process of trimming will get rid of outliers and rogues, and the number churned out will be a reasonably accurate gauge of the market. Libor thus claims to measure the rate at which banks can borrow from one another.

But in the real world, banks do not generally lend to each other for longer periods without adequate collateral. Interbank lending takes place through money market funds, but only for short periods. This means that quotes for longer periods are based on estimates and not on actual flows. The submissions are the banks' own estimates of what they think they would have to pay to borrow if they needed money, and the body charged with collecting this information is not an independent regulatory agency but the banking sector's own lobby group—the BBA. The calculation is undertaken by a data provider that derives huge chunks of its earnings from the same banking sector! The Libor is an accurate reflection of the state of funding liquidity only if most of the banks submit an honest assessment of the rate at which they believe they can borrow on a given day. The self-regulatory process of rate setting itself provides no checks and balances but relies on the integrity and discipline of markets to ensure the calculations are in line with real market conditions.

What the Barclays settlement has shown is that the bank's submissions "were over a long period tainted by self-interest, whether to help some of its derivatives traders or out of a desire to protect its reputation in the market."13 Groups of traders actively conspired with brokers to influence the banks' rate submissions for the London rate. Banks colluded to push the rates in desired directions. The BBA, a group that had in its 2011 internal newsletter bragged about its lobbying victories and spent an estimated $8 million on lobbying in 2011, is hardly a body that would crack the whip on the sector it represents.14

What this boils down to is the mind-boggling revelation: this crucial rate that is the pivot of trillions of dollars worth of derivatives and loans is in a sense a fiction. "There simply is not enough trading, particularly at longer six-month and twelve-month lending periods, to be sure that the rate genuinely reflects the market."15 As a senior trader said, "you have this vast overhang of financial instruments that hang their own fixes off a rate that doesn't actually exist."[16] To make things even murkier, those involved in setting the rates had every incentive to lie, since not only did their banks stand to profit or lose, depending on the level at which the Libor was set each day, their own earnings hinged on these numbers. The Financial Services Authority "has identified price-rigging dating back to 2005, yet some current and former traders say that problems go back much further than that."[17] A former trader at the London office of Morgan Stanley has suggested that such misreporting of rates was fairly common practice even in 1991, a mere five years after the system was put in place.[18]

There have been, broadly speaking, two kinds of manipulations. The first category was designed to bolster traders' profits. Traders nudged the money market desks of their banks to massage submissions in order to rake in the gains from deals they brokered. Requests were also passed on to these desks in collusion with counterparts at other banks. So a trader could ask the submitter of the fixings to keep the "fixings" high (or low) until certain deals went through. By keeping rates artificially raised or lowered, traders were guaranteed to make money on these deals. Where the income they paid out was fixed to the Libor, a lower rate reduced the payout; where their earnings were linked to the rate, a hike boosted these earnings. Far from being a manifestation of rogue trading, this pervasive rigging is a reflection of monopoly and cartel-like practices in the closed, clubby world of financiers.

A second category of manipulations, which emerged in the wake of the subprime market collapse, was the submission of artificially low rates. The motivation here was more complicated. Banks that were vulnerable sought to protect their reputations and their continued access to credit by obfuscating the actual difficulties they faced in borrowing. High borrowing costs signaled lack of credit worthiness. In fact, the persistently high Libor rates in 2008 were a sign of credit market distress. But, given the fragile state of investor confidence, persistently high Libor rates were seen, both by banks, regulators, and the central banks as an obstacle to restoring the credit engine.

Barclays' high Libor submissions as the crisis was unfolding had thus prompted serious concern at the Bank of England. The recent travails of Royal Scotland bank had sent jitters though the financial markets, and Barclays was widely perceived to be the next to fail. The high rates were a signal of Barclays' growing difficulties in borrowing from the market. There were numerous discussions between Bank of England officials and Barclays' management (including the controversial phone conversations between bank managers and Paul Tucker, the deputy governor of the Bank of England) through this period. In May 2008, there were some reports of banks low-balling their borrowing rates to avoid looking desperate for cash. Timothy Geithner, who was then head of the New York Federal Reserve, sent a memo to Governor of the Bank of England Mervyn King outlining concerns (though no allegations of outright rigging) about the Libor and making recommendations to beef up its credibility. Given the close connections between private banks, central banks, and regulatory agencies, it is hardly credible that the scale of Libor manipulations caught the central bankers and regulators by surprise. The complete failure of the Central Bankers and regulators to respond reflects the structural stranglehold of private finance.

The relation between the state and the financial system erected on the complex interaction of private and public liquidity generation is fraught with contradiction. There has been a ratcheting up of state support of the banking system not just over the past three years or even the past few decades, but over the past century. However, the bulging safety net stokes even greater speculative and risk-taking behavior. Government interventions that rescue banks from their follies in order to restore stability, in effect, revive and reinvigorate the speculative juggernaut. The state again intervenes to rescue the financial institutions in the wake of the catastrophic bust that inevitably follows. The concentration and growing size of the institutions that need to be bailed out give rise to a dramatic scaling-up of central bank support to the financial system, even as regulatory control is being systematically weakened. As the bets keep increasing in size, the scope of the necessary intervention also grows, so that the cost of each successive meltdown becomes even larger. This destructive relationship has been christened "the doom loop."19 In the process the state and central banks get more deeply implicated in the imperative to shore up the financial system and become hostage to the actions of private finance.

It is not surprising, given the immense control exercised by the Banking lobby, that any attempt at regulatory reform is resisted and stymied. The fundamental weakness of the Libor seems to have been ignored in the interests of protecting the financial system. It has been argued that the easing of the Libor rates late in 2008 was for the greater public good—a sort of collateral cost of preventing the complete collapse of the financial system. The truth is that it is simply testimony to how the power and influence of Wall Street continued to shape the response of the major central banks—the Bank of England and the Federal Reserve—even after its actions brought the global economy to the brink.

The deep ties and interpenetration between the government and financial sector also forged a common worldview that served the imperatives of finance and the neoliberal distaste for hindering, in any way, its forage for profits. The irony is that the neoliberal rhetoric of free markets that is deployed to justify obscene levels of profiteering and deter any forms of regulation is promoting a financial system where markets and market discipline have been banished! It is bad enough that in the world of exotic custom-built financial products and over the counter derivatives, the "models" spawned by the industry have completely usurped the role of the "market" that economic theory celebrates. As the conjurors of these models reaped fat profits from transactions that were conducted without any transparent process of price discovery through a market mechanism, they were immunized from the consequences of their actions. What we now know is that even these models are built around a notional price where no real market exists. Key features of a "properly functioning market"—wide and free participation and genuine price discovery—are conspicuously absent in the setting of the Libor. Pricing is based on private, self-reported quotes of a small clique of powerful banks without any reference to tangible financial transactions. These same banks also controlled the BBA, the organization that actually posts the daily Libor. While vociferously maintaining that self–regulation and unregulated market forces are the most effective form of discipline for this ballooning sector, the financial oligarchy colluded to preempt any genuine competitive process, or any form of accountability.

Equally blatant forms of collusion have recently come to light in the context of the municipal bond-rigging scam involving major banks, including J. P. Morgan Chase, Bank of America, UBS, Lehman Brothers, and Bear Stearns, who conspired and colluded to deliberately rig the public bids on municipal bonds, a business worth about $3.7 trillion. Towns and municipalities that borrow by issuing municipal bonds to finance various projects have also turned to brokers on Wall Street to handle investment of some of this money instead of keeping it idle over the course of the project. The bonds are supposed to be submitted to a competitive auction (of at least three bids), but what the brokers actually did was allow the bankers to collude to carve out chunks of business. The brokers charged with getting municipalities the best deal actually let the prearranged "winner" have a "last look" at the bids of the competitors, thus allowing the bank to make the lowest possible winning bid. "By shaving tiny fractions of a percent off their winning bids, the banks pocketed fantastic sums over the life of these multimillion-dollar bond deals," while the broker collected not just fees and commissions but also a fat bribe. Four banks that took part in the scam (UBS, Bank of America, Chase, and Wells Fargo) have agreed to pay $673 million in damages. This is likely to be just a fraction of the actual sums skimmed from public projects all over the United States. Yet for the bankers concerned, this was a perfectly fair auction, since, despite the fact that the secret collusion resulted in lower returns to the municipalities, they still got the highest of the bids. The sharing of the extra margins between the colluding bankers was just extra topping on the cake![20]

This same hubris of the financial oligarchs at the center of the complex financial infrastructure, who are in effect deciding market prices in a manner that leaves their clients with as bare a minimum as they can get away with, is evident in the Libor riggings. Bob Diamond, the Barclays CEO, complained in a memo to the staff after the fines scandal hit the headlines that, "We all know these events are not representative of our culture…on the majority of days, no requests were made at all." Behind this arrogance is a perverse sense of entitlement to immunity from the disciplining ravages not simply of the law but of the market. Instead of the competitive markets espoused in the neoliberal dogma, the field was a hotbed of moral hazard, conflict of interest, and outright criminal fraud.

The Libor scandal is not about the risky bets or bad judgment of rogue traders, but the deliberate strangling of market forces in the pursuit of profits. The story of how such an obviously flawed rate came to enjoy such a central place in the global financial system is in the end a story about how corporate, financial capital was powerful enough to set in place institutional mechanisms to ensure the deliberate subversion of any efforts or any market forces that would stifle their pursuit of profits.

A Fantasy Built on Fiction, Breeding Illusion

Although the difference between the reported Libor rate and the actual borrowing costs might seem small, the total amount of money involved is huge, given that Libor rates affect contracts worth hundreds of trillions of dollars. The rate with which the traders and bankers were playing determines the prices that people and corporations around the world pay for loans or receive for their savings. And the mechanism set up allowed the bankers to dictate the rate, which was a pivotal determinant of their earnings, by conjuring these numbers literally out of thin air!

Adjustable-rate mortgages had been allowed in the U.S. mortgage sector after the St Germaine Depository Institutions Act of 1982. Today, about 90 percent of U.S. commercial and mortgage loans are linked to the Libor.[21] In 1999, following the urgings of banking lobbies, the U.S. Student Loan Marketing Agency switched from pricing loans off the Treasury bill rates to using the Libor as a benchmark for loans. It is used as a benchmark to set payments on about $350 trillion worth of derivative contracts.[22] The Libor, a fictional number based on good faith estimates of those whose earnings fluctuate dramatically with miniscule gyration of this same rate, is now an integral part of the hardwire of the financial system.

And while the banking system has raked in vast sums due to these manipulations, those on the wrong side of these deals have faced huge losses. Among those who have been defrauded through such deliberate rigging are municipalities like Baltimore. Bankers have embedded interest-rate swaps in many long-term municipal bonds, persuading municipalities and states to issue bonds and simultaneously enter into swaps. In these arrangements, the banks agreed to make variable-rate payments to the issuers, and the issuers, in turn, agreed to make fixed-rate payments to the banks involved. The City of Baltimore had entered into interest rate swaps worth $100 million, swapping fixed interest payment to banks for variable Libor-linked receipts. "Forty U.S. states currently allow municipalities to enter into swap agreements. The total estimated amount in 2010 was between $250–500 billion."23 The artificial low-balling of the Libor after 2008 meant losses of millions of dollars annually to these government bodies. Such losses deprived these agencies of money at a time of prolonged recession and acute fiscal crisis, exacerbating job losses, and strangling public services. Pension funds that were entrusted with household savings were also ripped off though such manipulations.

And if that was not bad enough, after the crisis, when the State was forced to step in to shore up collapsing financial markets, the Treasury bailout programs used this artificially low Libor as the basis for lending to the banks under the Term Asset Backed Securities Loan Facility. And this despite the misgivings expressed by Timothy Geithner in his email to Mervyn King just a few months earlier! Not only did the structurally flawed rate receive further official sanction, but the rescued banks also ended up getting money at excessively cheap rates, skimming off the public exchequer. Meanwhile, families facing foreclosures of their homes or debts in significant excess of the value of their homes received no such relief.

The British government has announced a review of the Libor-setting process, to investigate ways of improving regulation and governance. Under consideration are recommendations like expanding the panel of banks submitting rates and exploring the possibility of a credible third party to monitor and collate submissions. Alternatives to Libor are being discussed. The bankers, however, do not see either the U.S. Treasury bill rate or the U.S. federal funds rate as a suitable benchmark for the parallel shadow financial system of derivatives and financial engineering, tethered as they are to state policy. An alternative that is finding favor with the bankers is an overnight index rate based on the weighted average of the interest rates paid each day on General Collateral Finance Repurchase Agreements (Repos), using the most traded collateral repos like U.S. government securities.‡ This index will be given a further boost by U.S. Treasury Department moves to offer new floating-rate securities based on this index, as it attempts to maintain surging investor demand for government bonds. These proposals seek a patchwork fix of a system that has been usurped by the financial oligarchy for its own unfettered enrichment, when what is needed is an overhaul! The parties involved are, in the end, only trying to replace the fiction at the center without dispelling the neoliberal illusion that fostered the speculative juggernaut that enriched finance.

Even as the Libor scandal has turned the spotlight on the fundamentally flawed mechanisms of rate setting, Wall Street has been waging its battle against transparency in price setting on other fronts. This can be seen, for instance, in the strong pushback from the bank lobby against the Commodity Futures Trading Commission's proposal that derivative trading facilities provide market participants with easily accessible prices on a centralized electronic screen and eliminate the one-to-one dealings between traders and investors. While espousing the neoliberal credo, and celebrating the virtues of "self-regulation," the financial oligarchy continues to resist any attempt to curb its monopolistic stranglehold. Not only is regulatory control being preempted, the financial oligarchy also seeks immunity from market discipline.

The absence of the force of market discipline was, paradoxically enough, part of the argument against the socialist planning project, during a debate that took place before the Second World War between the advocates of capitalist markets and the defenders of planning—the "socialist calculation debate." Ludwig Von Mises, an economist and philosopher of the Austrian school, argued that even if planners sought to mimic price signals, they could not create a disciplining mechanism analogous to the market, and could not therefore capture capitalism's socially beneficial dynamism.24 It would seem that neoliberal orthodoxy and the hegemony of market fundamentalism has been instrumental in bringing into being a system plagued by this very failing!

Footnotes

1. * Syndicated loans are provided by a group or syndicate of banks to a borrowing sovereign or corporation. The rate on the loan is the benchmark rate plus some risk premium.
2. † Interest rate swaps allow two parties to negotiate a "swap" of payments from fixed rate and floating rate contracts. The floating rates are normally calculated on the basis of a benchmark like the Libor.
3. ‡ A repo (repurchase agreement) is a method of short-term borrowing. The borrower "sells" a security to the lender with the understanding that the asset would be bought back at a higher price. The higher price represents the interest rate on the loan.

Ramaa Vasudevan *is an assistant professor of economics at Colorado State University. She is a member of the Union for Radical Political Economics and an associate of the Dollars and Sense Collective.*

Notes

1. ↩ "The LIBOR Affair: Banksters" (online video), *Economist* blogs, July 7, 2012, http://economist.com
2. ↩ "The LIBOR Scandal: The Rotten Heart of Finance," *Economist*, July 7, 2012, http://economist.com.
3. ↩ Gerard Dumenil and Dominique Levy, *The Crisis of Neoliberalism* (Cambridge, MA: Harvard University Press, 2010) and *Capital Resurgent* (Cambridge, MA: Harvard University Press, 2004).
4. ↩ Ramaa Vasudevan, "Finance Imperialism and the Hegemony of the Dollar," *Monthly Review* 59, no.11 (April 2008): 35–50.
5. ↩ Ibid.
6. ↩ Leo Panitch and Sam Gindin, "Finance and the American Empire," in Leo Panitch and Colin Leys, eds., *Socialist Register 2005: The Empire Reloaded* (New York: Monthly Review Press, 2005), 54.
7. ↩ Jacob Wintellberg and Phillip Woolridge, "Interbank Rate Fixings During the Recent Turmoil," *BIS Quarterly Review*, March 2008, http://bis.org.
8. ↩ Robert N. McCauley, "Benchmark Tipping in the Money and Bond Markets," *BIS Quarterly Review*, March 2001, http://bis.org.
9. ↩ Ibid.
10. ↩ Ibid.
11. ↩ Ibid.

12. ↩ Ramaa Vasudevan, "The Credit Crisis: Is the International Position of the Dollar at Stake?" *Monthly Review* 60, no.11 (April 2009): 24–35.
13. ↩ "Fixing Libor," *Financial Times*, June 27, 2012, http://ft.com.
14. ↩ Melanie Newman, "British Bankers Association Claimed Key Lobbying Victories," *Guardian*, July 9, 2012, http://guardian.co.uk.
15. ↩ Michael Mckenzie and Brooke Masters, "After Libor—The Search for a New Benchmark," *Financial Times,* July 10, 2012, http://ft.com.
16. ↩ "The LIBOR Scandal: The Rotten Heart of Finance."
17. ↩ Ibid.
18. ↩ Douglass Keenan, "My Thwarted Attempts to Tell of LIBOR Shenanigans," *Financial Times*, June 26, 2012, http://ft.com.
19. ↩ Andrew Haldane and Piergiorgio Allessandri, "Banking on the State, Presentation at Federal Reserve Bank of Chicago," September 2009, http://bis.org.
20. ↩ Matt Taibbi, "The Scam Wall Street Learned from the Mafia," *Rolling Stone*, July 5, 2012, http://rollingstone.com.
21. ↩ Mariane Ojo, "LIBOR, EURIBOR and the Regulation of Capital Markets: The Impact of Eurocurrency markets on Monetary Setting Policies," Munich Personal REPEC Archive Paper No 42093, October 20, 2012, http://mpra.ub.uni-muenchen.de.
22. ↩ Gillian Tett, "Libor Affair Shows Banking's Big Conceit," *Financial Times*, June 28, 2012, http://ft.com.
23. ↩ "The Libor Probes: An Expensive Smoking Gun," *Economist*, April 14, 2012, http://economist.com.
24. ↩ Ludwig Von Mises, "Economic Calculation in the Socialist Commonwealth," in Freidrich Von Hayek, ed., *Collectivist Economic Planning* (London: Routledge and Kegan Paul, 1935).
