

BANKING

The financial crisis helped expose manipulation of a key interest rate, but the practice began years earlier as a way for banks to ensure wins in the futures market

# How gaming Libor became business as usual

BY CARRICK MOLLENKAMP, JENNIFER ABLAN AND MATTHEW GOLDSTEIN

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REUTERS/SIMON NEWMAN

In late 1996, Marcy Engel, then a lawyer for Wall Street heavyweight Salomon Brothers Inc, fired off a warning letter to U.S. regulators: If they approved a Chicago Mercantile Exchange plan to change how a popular futures contract was priced, they would put at risk the integrity of a key interest rate in the global financial system.

The CME was already doing big business in its Eurodollar futures contract – a derivative product that lets traders bet on the direction of short-term interest rates – and it had long set the price for these contracts using a benchmark rate it tabulated itself. Now, it wanted to adopt a more commonly used rate published by the British Bankers’ Association, known as the London interbank offered rate, or Libor. Using this benchmark, the CME said at the time, “will make our Eurodollar futures an even more attractive risk management tool.”

The problem with the CME’s plan, as Engel saw it: The banks that set the rates in London daily were also able to take positions in the CME’s Eurodollar contract. In her letter to the U.S. Commodity Futures Trading Commission, she said tethering the futures contract to Libor “might provide an opportunity for manipulation” of the interest rate. A “bank might be tempted to adjust its bids and offers ... to benefit its own positions.”

That was saying a lot. Libor is the average

of what a group of international banks in London say it costs to borrow from each other for durations ranging from overnight to one year. It was, and still is, a global benchmark, the basis for all sorts of interest rates – everything from corporate and student loans to financial contracts. Moving it by mere fractions of a percentage point would affect borrowing costs around the world.

The CFTC received Engel’s letter on October 10. In the ensuing weeks, it received one other similar written warning from another banker. The agency wasn’t moved. In late December, it approved the CME’s request. On Jan. 13, 1997, trading of Eurodollar contracts priced to Libor began.

The CME was right about the allure of pricing the contract to Libor. Trading of the Eurodollar contract exploded after the switch – from average daily volume of 394,348 contracts in 1997 to a peak of 2.5 million in 2007. Today, the trading accounts for about 7% of revenue for CME Group Inc.

But Engel was right, too. Since 2008, investigators in the United States, Britain and elsewhere have been looking into whether at least some of the 19 banks that take part in the weekday ritual of setting Libor used their place at the table to try to routinely nudge the rate in their favor.

One of the banks certainly did. Earlier this year, London-based Barclays Plc, in a

## Off the desk

Five traders who worked on the Barclays interest-rate trading desk in New York are under investigation for their alleged role in Libor manipulation. All have either resigned or been fired.

### Ritankar “Ronti” Pal

Head of U.S. dollar rates trading in New York, 2006 to 2012

**Status:** Terminated on July 30, 2012, for what Barclays called a “loss of confidence” in him.

### Jay V. Merchant

U.S. dollar swaps trader in London, 1998 to 2006; oversaw U.S. dollar swaps trading desk at Barclays in New York, 2006 to 2009.

**Status:** Resigned from his position at Barclays in December 2009; resigned as head of swaps trading at UBS in August 2012, after reports he was being investigated for alleged Libor manipulation while at Barclays.

### Dong Kun Lee

Swaps trader in New York, 2003 to 2005; swaps trader in London from 2005 to 2007; and swaps trader in New York from 2007 to 2012.

**Status:** Terminated on July 30, 2012, for engaging in what Barclays called “communications involving inappropriate requests relating to Libor.”

### Ryan Reich

Trader in New York, 2006 to 2010.

**Status:** Terminated in April 2010 for allegedly sending inappropriate emails seeking internal bank information.

### Alex J. Pabon

Manager and USD derivatives trader in New York, 2004 to 2006.

**Status:** Resigned before an internal probe found he engaged in inappropriate communications about Libor.

Source : Reuters, Central Registration Depository

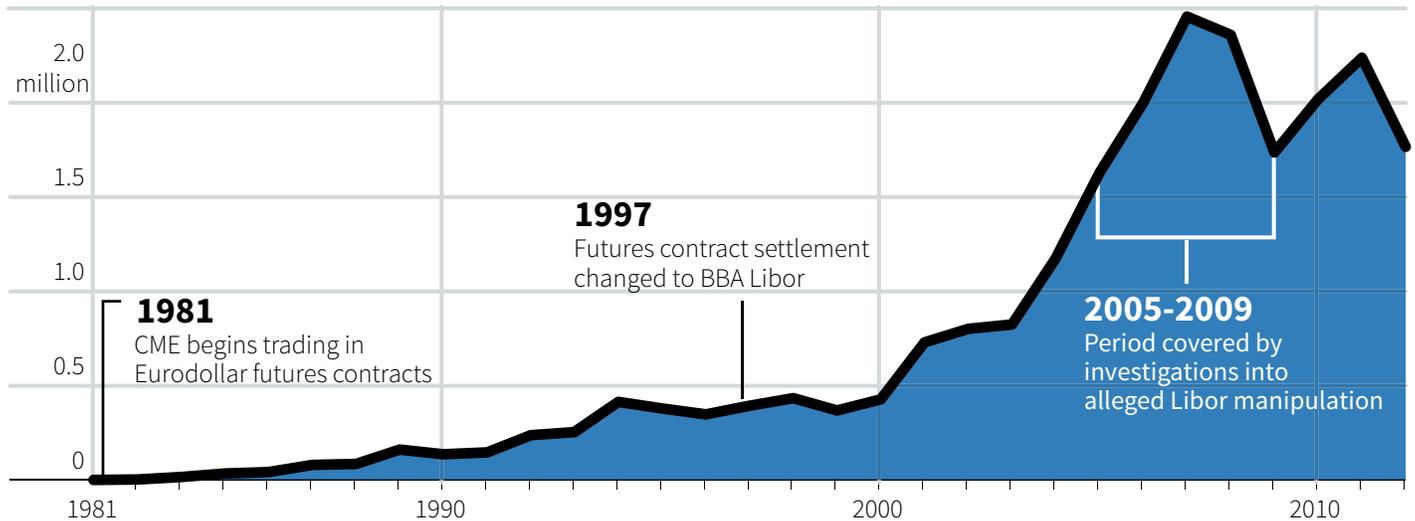


PIT BULLS: Clerks at the Chicago Mercantile Exchange handle orders in Eurodollar futures, which remain popular despite questions about the integrity of the interest rate used to price them.

REUTERS/JOHN GRESS

## Rising interest

Average daily volume in Eurodollar futures surged in the years after the Chicago Mercantile Exchange switched to the British Bankers' Association's Libor to price the contract



Sources: CME Group, Justice Department

settlement with the U.S. and British authorities, paid \$450 million and admitted that employees attempted to manipulate Libor. UBS AG of Switzerland, Citigroup, Bank of America Corp and J.P. Morgan Chase & Co of the United States, Deutsche Bank AG of Germany, and HSBC Holdings Plc and Royal Bank of Scotland Group Plc of Britain are among the banks being investigated for alleged Libor fixing, according to regulatory filings and court documents.

Spokespeople for UBS, Citigroup, Bank of America, J.P. Morgan, Deutsche Bank and HSBC declined to comment. In a statement, an RBS spokesman said the bank was cooperating and that it “expects to enter into negotiations to settle some of these investigations in the near term” and that it will incur “financial penalties.”

The investigations cover the period from 2005 to 2009. But as Engel’s letter – obtained from CFTC archives – shows, regulators were alerted to the possibility well before U.S. and British authorities began investigating the matter in 2008. Further, a

review of investigation documents and public records, as well as interviews with dozens of traders, suggests that Libor manipulation began as early as the 1990s, driven in large part by the growth of the CME’s Eurodollar contract into a multi-billion-dollar casino for betting on interest rates.

Indeed, by the mid-2000s, manipulating Libor to profit on Eurodollar futures and other derivatives had become standard operating procedure among banks in a position to do so, according to people familiar with the market. In at least three instances, Barclays traders sought to manipulate Libor in the key months when Eurodollar futures contracts settled in 2006, according to the CFTC and U.S. Justice Department inquiries into trading at the bank.

Libor manipulation began as early as the 1990s, as the CME’s Eurodollar contract evolved into a multibillion-dollar casino for betting on interest rates

The tactic was so ingrained in Barclays’ New York trading operation that new recruits adopted it with apparent ease and alacrity. Ryan Reich – 15 years old when Engel sent her letter to regulators – had been with Barclays just a year when, in July 2007, he sent an email that the U.S. Justice Department says became a key piece of evidence in its investigation and subsequent settlement with Barclays.

In the email, Reich asked a colleague to submit a three-month dollar Libor of 5.36% or higher. The young trader copied in his New York supervisor in an email that said: “Very important that the setting comes as high as possible.” The Libor submission the next day hit the sweet spot of 5.36%, according to the Justice Department filing.

Reich declined to comment. A Barclays spokeswoman declined to comment. In a statement at the time of the June settlement, then-Chief Executive Robert E. Diamond Jr. said the trading “fell well short of the standards to which Barclays aspires.” The next month, Diamond was forced out.

The CME, for its part, “was not responsible for oversight of Libor,” a spokesman said. That duty, he said, fell to the British Bankers’ Association.

The BBA declined to comment.

Many questions surrounding the Libor scandal remain unanswered. Who initiated the practice of pitching skewed Libor numbers to the BBA? What was the extent of collusion among banks? Who at the banks, beyond their trading desks, knew of the practice? And why didn’t the CFTC heed the warnings and at least keep an eye on links between Eurodollar futures and Libor?

Investigations under way may eventually yield some answers. Even then, the larger question will persist: What was the extent of the damage done?

Nudging Libor by a few one-hundredths of a percentage point may not seem like a big deal, but in derivatives markets, those small moves can translate into millions of dollars. And every cent by which a bank benefited from manipulation meant an equal loss by a bank, hedge fund or other investor on the other side of the trade.

The broader impact is less clear. Borrowers paying an interest rate based on Libor - for a home mortgage, for example - would get a break if the rate were pushed downward. Investors in mortgage pools, however, would make less than they otherwise would have. And the opposite would be true if the rate were pushed upward.

To understand how Libor was manipulated to enhance derivatives positions requires a look at trading in not only London, but also Chicago. There, for more than a century, producers and users of everything from corn to cattle have purchased contracts to buy or sell such commodities at a fixed price on a set date.

Eventually, financial products were added to the mix. And in 1981, the CME initiated trading in Eurodollar futures. Eurodollars are the vast amounts of U.S. dollars held by banks outside the United States, accumulating over the years largely as a result of international trade and investment flows, and



**SOUNDING ALARMS:** Richard Robb, CEO of Christofferson, Robb & Co., was working at DKB Financial Products in 1996 when he warned U.S. regulators that plans to change how Eurodollar futures were priced would expose Libor to manipulation. **REUTERS/NEIL HALL**

Nudging Libor by a few one-hundredths of a percentage point may not seem like a big deal, but in the futures market, those small moves can translate into millions of dollars

they constitute one of the largest short-term money markets in the world.

When cash is the commodity, as with the CME’s Eurodollar contract, the future price of that commodity is the interest rate; each Eurodollar futures contract thus enabled banks to bet on the direction of interest rates.

When the CME’s Eurodollar futures made their debut on Dec. 9, 1981, trading volume that day totaled 3,425 contracts - a tiny fraction of the volume for more-established contracts at the time.

It didn’t take long for banks to discover the appeal of the new product. In particular, it gave them a way to reduce their risk on interest-rate swaps, another financial derivative product encompassing trillions of dollars in over-the-counter deals every day. Law-enforcement agencies in the United States, U.K. and elsewhere allege banks manipulated Libor or related rates to benefit interest-rate swap and futures positions.

Basically, in an interest-rate swap, a bank

and one of its corporate clients exchange fixed-rate debt payments for floating-rate debt payments, or vice versa, to help the client manage its cash flow, based on expectations for interest rates. With the arrival of the CME’s Eurodollar contract, a bank could reduce through the futures market the risk it had taken on with an interest-rate swap.

“It was a breakthrough contract,” says Leo Melamed, chairman emeritus of the CME. “The business community and the financial community all recognized our market as really a breakthrough ability to hedge interest rates.”

The Eurodollar contract was even more appealing because it allowed investors to hedge their swap positions on large sums of money without having to make a big upfront investment. Each contract is a bet on the interest paid on a fixed notional amount of \$1 million. That \$1 million is purely hypothetical; money is made or lost only on changes in the interest rate. Every basis point, or one one-hundredth of a percentage point, movement in the rate equates to a \$25 change in the value of the contract. Those changes are booked daily to an investor’s account, typically set up with a minimum balance of about \$1,000.

For the first 15 years of the Eurodollar contract, the CME based the price on its own calculation. To do so, it randomly surveyed banks on the rate they were willing to

lend to “prime banks” – those with top credit reputations. It then threw out the highest and lowest submissions and averaged the rest. No bank knew whether it would be included in the pool from survey to survey, and the creditworthiness of the prime banks never varied.

Then, in 1996, the CME came up with its proposal to switch to the British Bankers’ Association’s Libor. The plan made sense. Almost all of the floating-rate obligations referenced in swaps are tied to Libor, and the use of swaps had been growing rapidly.

The CME reached a deal with the BBA to use the latter group’s Libor calculation, which, like the CME’s rate, throws out the highest and lowest submissions. But it’s the differences between the two that are important: The BBA polls the very same banks every day around 11 a.m., not a random selection; and it asks them for the rate they pay when borrowing from other banks, not the rate at which they lend to prime banks. Since 2005, Thomson Reuters has been the BBA’s agent for calculating and distributing Libor.

### METHODOLOGY QUESTIONED

While the CMA’s survey wasn’t wholly immune to being gamed, “the BBA’s methodology seemed designed to invite manipulation,” said Richard Robb, a New York money manager whose firm, Christofferson, Robb & Co, specializes in bank credit risk. “Banks knew that they would be polled every day, and they pretty much know where they stood among the participant banks.”

Robb is the person who followed Engel in writing a warning letter in 1996 to the CFTC during the “comment” period on the CME’s proposal to switch to BBA Libor. At the time, he was a 36-year-old interest-rate trader at DKB Financial Products Inc of Japan. In his Nov. 18, 1996, letter, he wrote: “If two banks worked together, they could raise the average by over three basis points.” A bank could take a large position in Eurodollar futures, he said, “with a view towards influencing the rate.”

Robb, who wrote a September 2012

When the Eurodollar contract settles where a small group of banks say it will, “you are trading in a rigged marketplace.”

**Stan Jonas**

veteran interest-rate trader



ON THE TEAM: Jay V. Merchant, a former trader on the Barclays Bank interest-rate trading desk in New York, left his job at UBS earlier this month, after reports he was under investigation for alleged Libor manipulation.

REUTERS PHOTOGRAPH

column in *American Banker* about his comment letter, said he doesn’t know if anyone at the CFTC followed up on his warning. Engel, now general counsel for hedge fund Eton Park Capital Management, declined to comment.

After studying the comment letters and interviewing banks that participated in the CME and BBA surveys, the CFTC’s Division of Economic Analysis decided in favor of the BBA survey, according to a person familiar with the analysis at the time. In a Dec. 18, 1996, memo to CFTC commissioners, the analysis unit said BBA Libor “does not appear to be readily susceptible to manipulation.”

On Dec. 20, 1996, the CFTC sent a letter to Norman Mains, then chief economist at the CME. “The Commission hereby approves” the change, the letter said.

Mains, now at a San Francisco investment firm, says: “I have virtually no recollection of this as it was over 15 years ago.”

With the CFTC’s approval and a deal with the BBA in place, the Eurodollar futures trade took off. It got help from advances

in technology. Initially, Eurodollar futures, like other CME contracts, were traded in the exchange’s Chicago trading pits. By the early 2000s, though, the CME’s Globex electronic exchange, which allows nearly round-the-clock trading among investors anywhere, had helped turn the contract into a global phenomenon.

Ease of trading and the sheer size of the market prompted hedge funds, corporate treasuries and pension funds to start piling in. And increasingly, investors looking to manage risk were joined by speculators seeking solely to profit from interest-rate movements. “Everybody could now trade” the rate bets, said Stan Jonas, an interest-rate trading veteran in New York. “They established this casino.”

Amid all this betting on interest rates, a few well-placed traders were systematically trying to push Libor in tiny increments one way or the other. As Jonas put it, when the Eurodollar contract settles where a small group of banks say it will, “you are trading in a rigged marketplace.”

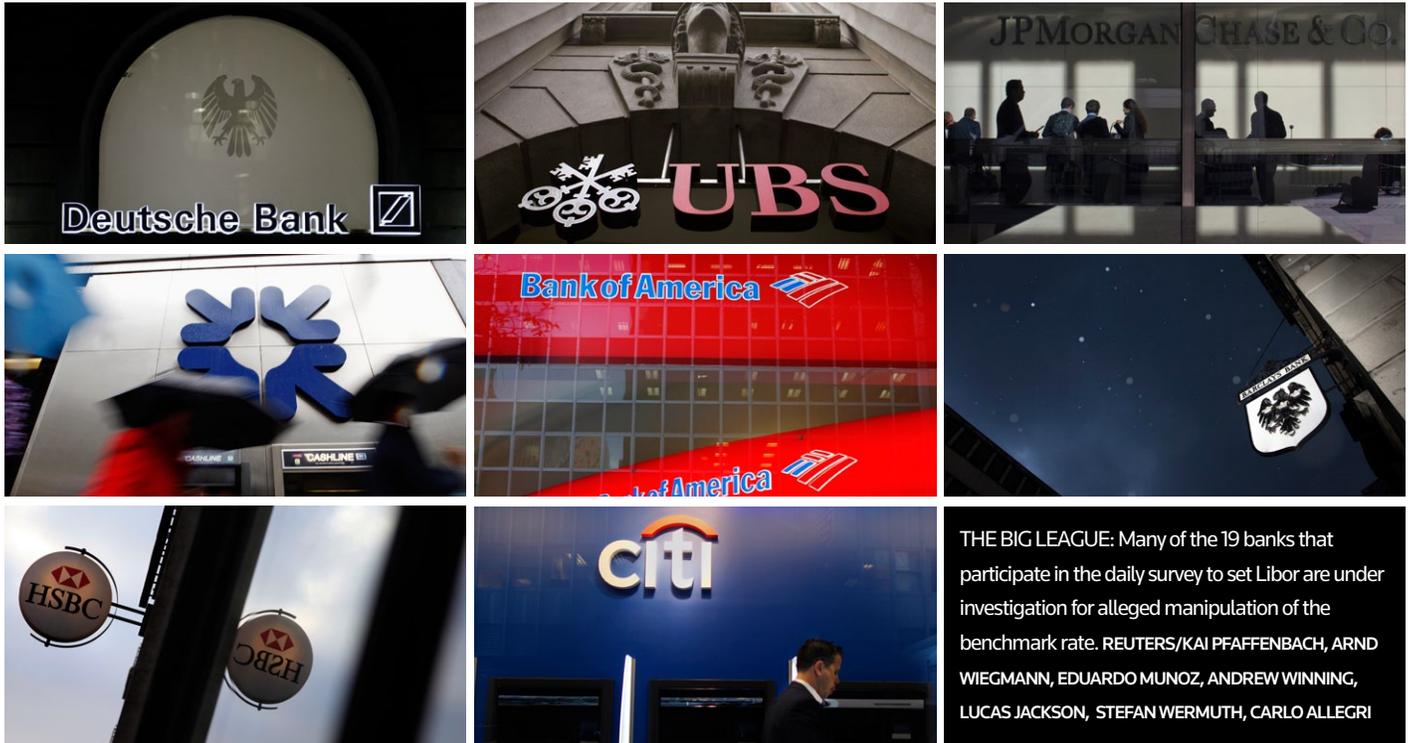
If Libor moved noticeably, people involved in the market say, traders attributed it to a blip. “Nobody really thought about it, which is why they were able to get away with it,” said David Robin, a veteran futures broker and co-head of financial futures and options at brokerage firm Newedge USA in New York. “It’s mind-boggling to me that this would ever take place.”

It did take place.

Consider one exchange between a Barclays trader in late 2005 and another bank employee, as revealed by the U.S. Justice Department in filings related to the Barclays settlement.

On Sept. 28, 2005, when three-month dollar Libor stood at 4.02038, someone identified as “Trader 3” sought to bump up Barclays’ submission the next day. “WE WANT TOMORROW’S FIX TO BE 4.07 MINIMUM,” Trader 3 wrote. The same trader noted that for every 0.25 basis points that three-month Libor came in below 4.0525, the bank would lose \$154,687.50.

## BANKING HOW GAMING LIBOR BECAME BUSINESS AS USUAL



Barclays submitted a three-month Libor of 4.07 in the BBA's survey the following day, helping pull Libor higher to 4.05438 on Sept. 29.

A person familiar with the Barclays trading desk at the time says Trader 3 was Jay V. Merchant. This former Chicago stockbroker joined Barclays in London in 1998, hired to work in a group led by Eric Bommensath, a French bond trader who had risen at Barclays to become global head of fixed income and a member of the bank's executive committee.

Merchant joined the bank at a time when it was in the early stages of expanding its investment bank, including building out a derivatives desk overseen by Bommensath. Merchant moved to the New York interest-rate trading desk in 2006, according to employment records, where he supervised several junior traders who have drawn scrutiny in the Justice Department investigation.

Working with him at various times on that New York desk were Harry Harrison, a British banker in charge of

dollar-denominated fixed-income trading, Ritankar "Ronti" Pal, who co-led interest-rate trading after joining Barclays from Citigroup in 2006, and junior traders Alex Pabon, Dong Kun Lee and Ryan Reich, the young Princeton University graduate who sent the email that caught the eye of U.S. investigators.

Reich was "everything you would want" in a young trader, said a person who worked near his trading desk. People familiar with the situation say greenhorns like Reich were "schooled" by colleagues on how to seek a target Libor to benefit the bank's positions in Eurodollar futures. And as emails from the Justice Department investigation show, by the mid-2000s, the New York traders were comfortable with the practice.

Greenhorn traders were "schooled" by colleagues on how to seek a target Libor, people familiar with the situation say

In one March 2006 exchange, an unidentified trader told a colleague he needed a "low" three-month dollar Libor "fix" for a position that totaled \$80 billion, according to Justice Department and Financial Services Authority documents. "It could potentially cost a fortune," the trader said several days before Eurodollar futures were to settle that month.

Barclays' trading position was probably an aggregation of interest-rate swaps and Eurodollar futures positions, according to people familiar with the trade. After the colleague confirmed he would produce the requested Libor posting, the trader wrote back, "When I retire and write a book about this business your name will be in golden letters." The colleague responded, "I would prefer this not be in any books!"

Nine months after that exchange, the CME feted the 25th anniversary of its Eurodollar contract pegged to Libor - "the world's most actively traded short-term interest rate contract," as the exchange noted.

The party might have continued. But in 2008, the global financial crisis upended priorities. Until then, “it was just a little game” between a number of trading firms, said Jonas, the interest-rate veteran.

As panic spread throughout the global banking system, central bankers and the financial media began to use Libor as a measure of a bank’s health. Paying a relatively higher Libor would suggest a weaker bank. Thus banks had an incentive to submit Libor numbers lower than their actual cost of borrowing.

### INCREASING SCRUTINY

In April 2008, The Wall Street Journal published the first of several articles that analyzed whether banks were submitting proper borrowing costs used to calculate Libor. The Federal Reserve Bank of New York and the Bank of England confidentially discussed whether Libor needed better oversight.

That same year, CME officials became concerned that the British Bankers’ Association didn’t have a handle on how Libor was being calculated. The exchange believed the survey process was flawed, said a person familiar with the CME.

Later that year, the CFTC launched a probe. In 2009, Barclays began reviewing its own trading desk. That investigation turned up emails that showed its interest-rate trading desk had sought to manipulate Libor.

Reich was fired in March 2010 for emails that Barclays had determined were “inappropriate,” according to the Central Registration Depository, a securities-industry employment database. Reich has since found work at WCG Management, a hedge fund specializing in interest-rate trading.

Pabon voluntarily resigned from Barclays in 2006; Barclays later found that he, too, had sent inappropriate emails. Dong Kun Lee was terminated in July for “inappropriate communications,” the records show. That same month, Pal, the interest-rate trading boss, was “discharged.” Barclays found that

“Dude I owe you big time! Come over one day after work and I’m opening a bottle of Bollinger! Thanks for the libor.”

**Barclays interest-rate trader**  
in an email collected as evidence  
by the U.S. Justice Department

he “engaged in a communication involving an inappropriate request relating to Libor” and that he failed to “properly supervise” a trading team making “inappropriate requests relating to Libor.”

Pal declined to comment.

Merchant left Barclays in December 2009 to run an interest-rate desk at UBS’s trading operation in Stamford, Connecticut. He left UBS in August, around the time Reuters reported that he was being scrutinized by federal authorities for his work at Barclays.

Harrison and Bommensath remain at Barclays. There is no indication of wrongdoing by the two executives.

People close to the U.S. and British investigations say prosecutors are still deciding whether and against whom to file charges related to alleged Libor manipulation. Traders who might find themselves facing criminal liability are expected to claim they didn’t manipulate Libor because they weren’t the employees who submitted the numbers for calculating the rate, according to people familiar with the situation.

In federal court in Manhattan, the 19 banks that served on the panel in London that set dollar Libor are being sued by a multitude of investors and borrowers for losses on investments or trades, including Eurodollar futures, that they allege were caused by Libor manipulation.

### DOCUMENT DEMAND

More about the Barclays desk is slowly emerging in High Court in London, where nursing-homes operator Guardian Care

Homes is suing the bank for allegedly mis-selling its interest rate hedging products based on Libor. The judge in the case ruled last week that Barclays must hand over to Guardian Care’s lawyers documents and emails of 42 staff involved in setting Libor. It’s not clear when that information might become public. A trial is scheduled to start next October.

Trading in the CME’s Eurodollar contract has slowed since the Federal Reserve indicated it plans to keep interest rates low until 2015. Daily volume averaged 1.8 million contracts in the first eight months of this year, compared with the 2.5 million-contract peak in 2007.

As the trading continues, the way Libor is set has raised more questions. In a September speech, CFTC Chairman Gary Gensler said Libor remained oddly stable even in volatile markets. A Reuters review found that from January 2011 to mid-September this year, banks that submit borrowing costs to calculate three-month dollar Libor kept their submissions unchanged nearly 80 percent of the time.

On a call with analysts in July, CME executives were quizzed about the impact of the Libor investigations on Eurodollar futures trading. Executive Chairman Terry Duffy was clear: Libor, he said, would “remain the pre-eminent benchmark.”

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