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Recent Concerns Regarding LIBOR's Credibility

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- **LIBOR is a measure of interbank deposit rates constructed by the British Banker's Association (BBA), in which a panel of banks are asked to report the rate at which they could borrow unsecured funds in the London interbank market. In addition to LIBOR's use as a gauge of conditions in the unsecured funding markets, it is referenced by a broad spectrum and enormous volume of financial contracts, including interest rate swaps, Eurodollar futures, consumer mortgages, and corporate loans.**
- **Concerns regarding the credibility of USD LIBOR have emerged over the past month, as market participants have questioned whether the rates contributed by panel banks accurately reflect the rates at which they could actually obtain funds. Several features of LIBOR have contributed to these concerns, including the definition of the rate and ambiguity in the reporting process.**
- **A variety of changes designed to enhance LIBOR's credibility have been proposed by market participants, including changes to the rate definition, time of the fixing, and size and composition of the panel. The focus on LIBOR's shortcomings have prompted the BBA to expedite its annual review of the panel to May 30, and ICAP, a brokerage firm, to announce the launch of an alternative measure, the New York Funding Rate.**

This piece provides an update on recent developments regarding LIBOR and addresses the following questions:

- What is LIBOR, how is it determined, and why does it matter?
- What are the current shortcomings of LIBOR?
- What evidence exists that banks were misquoting to the LIBOR panel?
- What changes designed to enhance LIBOR's credibility have been proposed by market participants?
- What is the BBA doing to address these concerns?
- What is the "New York Funding Rate" (NYFR)?

What is LIBOR, how is it determined, and why does it matter?

LIBOR is a measure of representative interbank deposit rates in the London market. Specifically, each member of a panel of banks reports the rate at which it "could borrow, were it to do so by asking for and then accepting inter-bank offers in reasonable market size just prior to 11:00am London time." (Interestingly, several weeks after the media began to focus on LIBOR's shortcomings there remained widespread confusion over this definition, even among BBA panel banks and Eurodollar brokers.)

Quotes are provided for 15 maturities, ranging from overnight to 1-year (O/N, 1-week, 2-weeks, 1-month, 2-month....11-month, 1-year), and in 10 currencies. The size and set of contributing banks varies by currency, but there is tremendous overlap. For example, Deutsche Bank contributes to all of the panels, meaning it provides 150 rate quotes each day (10 currencies x 15 tenors). The USD LIBOR panel has 16 members – 10 European/ UK banks, 3 US banks, 2 Japanese banks, and 1 Canadian bank.

The LIBOR "fixing" is calculated as the interquartile mean of the quotes provided in each currency and tenor – that is, the top 25 percent and bottom 25 percent of the quotes are discarded, and the remaining quotes are averaged to compute LIBOR at each maturity. The LIBOR fixings and individual quotes are published before noon London time, and are distributed via Reuters. All individual quotes – both names and rates – are published, even those that do not fall within the middle 50 percent and thus do not factor into the calculation of LIBOR.

The membership of each LIBOR panel is reviewed annually by a group of 13 active market practitioners ("the Foreign Exchange and Money Markets Committee"). According to the BBA, decisions on membership are made, "on the basis of scale of activity in the London market, perceived expertise in the currency concerned, reputation, and due consideration of credit standing."

In addition to LIBOR's use as a gauge of conditions in term unsecured funding markets, it is referenced by and/ or used to price a broad spectrum and enormous volume of financial contracts, including interest rate swaps, Eurodollar futures, consumer mortgages, and corporate loans. For example, data from the BIS and ISDA indicate that, as of June 2007, the notional value of OTC interest swaps that reference USD LIBOR was more than $100 trillion.

What are the current shortcomings of LIBOR?

Most of the recent concern regarding LIBOR has focused on US dollar LIBOR panel, and in particular on what might be called its "credibility" or "accuracy" – the question of whether panel banks accurately report the rates at which they could actually borrow unsecured dollars. Several features of the LIBOR process and definition contribute to these concerns:

- Banks quote the rate at which they "could borrow funds" and these rates are published. This may lead to some deliberate misreporting designed to avoid the stigma of revealing high funding costs.
- The panel is asked to provide quotes that are subject to ambiguity along at least two dimensions. First, the transaction size is not clearly specified. Second, quotes are often given for maturities (e.g., 7-month LIBOR) or in market conditions (e.g., now) in which there is little or no actual interbank term activity. The lack of clarity results in panel members using dissimilar methods for determining quotes.
- Many market participants feel the BBA does not currently have sufficient monitoring mechanisms in place to ensure the quality or validity of the quotes.

Note: although some analysts point out that the panel banks may have incentives to misreport in order to manipulate the level of the LIBOR fixing, and thereby influence their funding or derivative positions, this is not the primary driver of recent alleged misquotes.

In addition to these concerns regarding "credibility", many market participants have raised questions about LIBOR's "relevancy" – whether rates in the London interbank market at 11:00am are the best gauge of conditions in unsecured funding markets, or the best benchmark rate for derivatives or loans. Many features of ICAP's NYFR (see below) are aimed at addressing this. In any case, the information value of any single summary statistic is bound to be limited in the current environment, amid heightened credit tiering and name-specific lending.

What evidence exists that banks were misquoting to the LIBOR panel?

Around the time the WSJ article first reported on this matter in mid-April, we heard from several Eurodollars brokers and bank funding desks that many LIBOR banks were bidding for funds up to 25 basis points above their LIBOR quotes in the same maturity on the same day. The BBA also received a number of formal complaints along these lines. Several of these market participants suggested that discrepancies between funding rates and LIBOR quotes had existed since at least last August, but had gotten marginally worse since mid-March.

Additionally, around days on which the BBA's efforts to address LIBOR have received media attention, there have been fairly dramatic increases in the LIBOR fixings. For example, in the two days surrounding the WSJ's April 16 article, 3-month LIBOR increased 17 bps, which was the largest two-day increase in the rate since August 9. Earlier this week, as the integrity of LIBOR again received attention, 1-year LIBOR increased 21 bps, and OIS and fed funds-LIBOR basis swaps suggest that a large portion of this rise was not due to a re-pricing of policy expectations.

Beyond the anecdotal evidence and LIBOR re-sets, it is difficult to find convincing evidence of actual misreporting. Few public sources of data on actual Eurodollar transaction rates exist, and again, the extent of credit tiering makes it difficult to extrapolate from what data there is. When the story initially broke in April (and even before), analysts pointed to the deviation between 3-month LIBOR and the Board of Governor's H.15 time series on 3-month Eurodollar deposit rates. Only with time did some (but not all) come to realize that the Board's data were based on *indicative* quotes provided by ICAP around 9:30am ET, and were meant to "reflect the upper end of an indicative run of rates" paid by prime banks. Moreover, while Reuters posts Eurodollar quotes, brokers and banks report that many institutions are paying up considerably from their posted bids, especially if they're looking to transact in large size, so it is unclear what inference to draw from any discrepancy between these rates and LIBOR.

What changes designed to enhance LIBOR's credibility have been proposed by market participants?

A variety of changes aimed at enhancing LIBOR's credibility has been proposed by market participants, and seem to be under consideration by the BBA. These proposed changes include, but are not limited to:

- Changing the definition of the quoted rate, so that it is no longer references the banks' own borrowing costs. For example, Euribor asks its panel banks for the rate at which one "prime bank" could obtain funds from another. Interestingly, this was the definition used by LIBOR until 1998.
- Making some or all of the individual quotes anonymous, so that even if the quotes refer to own-borrowing rates, banks at the high-end of the rate spectrum won't fear reporting accurately.
- Specifying transaction size, which could adjust flexibly to market conditions.
- Reducing the number of maturities quoted. The high number of maturities may lead to formulaic responses, and it is not clear that the market highly values, for example, a 7-month LIBOR quote. A key issue here may be the existence of derivatives contracts that reference all existing maturities.
- Increasing the size of the panel and including more US institutions, so that the resulting rate is more representative of the global demand for unsecured interbank dollar funding, and less susceptible to issues concentrated within any particular region's banking sector.
- Changing the time of the fixing, or adding a second fixing that occurs when US-based sources of dollar funding are active.
- Implementing an audit process designed to ensure that reporting procedures and quotes adhere to an agreed and published set of best practices.
- Using a different measure of central tendency to calculate the LIBOR fixings from the individual quotes - e.g., the median instead of trimmed mean - with the goal of further reducing incentives to misreport in order to manipulate the level of the fixing.

What is the BBA doing to address these concerns?

Shortly after the WSJ's April 16 article, the BBA announced that it would "strictly enforce the rules by which banks are supposed to provide accurate LIBOR quotes", and announced that it would expedite a planned annual review of the panel. Thereafter, according to the BBA, their executives met with a variety of market participants – including banks, derivatives exchanges, hedge funds, journalists, and academics – to discuss LIBOR's shortcomings and potential remedies.

This week, the BBA announced that they have scheduled their annual review for May 30. While the annual review typically considers only the composition of the LIBOR panels, the BBA has indicated that a broader set of issues, including the definition of the quote, size of the panel, time of the fix, and calculation of LIBOR from the individual quotes will be considered at this year's meeting. The BBA has circulated a paper examining the pros and cons of various options to members of its Foreign Exchange and Money Market Committee, which is the key decision-making body, and these options will be discussed on May 30.

It is our current understanding that on May 31 the BBA will announce any changes to the composition of the panel, and provide an indication of their intentions regarding more sweeping changes. It seems likely that this would be followed by a process which allows for public comment on any proposed changes.

What is the "New York Funding Rate" (NYFR)?

In response to recent concerns regarding LIBOR, on May 1 the money market broker ICAP announced plans to launch the "New York Funding Rate" (NYFR).

According to details released on ICAP's website, NYFR is not intended "to replace the more transparent, established LIBOR fixings as a contractual reference rate," but instead to "provide a more useful adjunct to LIBOR than the indicative rates on which the Fed currently bases its H.15 series." After indicating that NYFR may launch as early as May 7, ICAP announced this week that there is no concrete timetable for the launch, as it continues to have discussions with individual banks that may contribute rates.

In terms of definition and construction, important differences between LIBOR and the proposed NYFR include:

- NYFR intends to survey a larger panel, consisting of 35-50 contributing banks (and possible other sources of unsecured funds), all in the US.
- Contributors will be asked to estimate a rate at which a representative A1/P1 bank would be likely to obtain funding, rather than the rate at which they themselves could borrow. Further, NYFR is intended to reflect the broader wholesale market for unsecured bank funding, and so will cover a wider set of instruments and source of funds than LIBOR.
- NYFR rates will be collected at 9:30am ET, vs. 6:00am ET (11:00am London) for LIBOR.
- Tenors will only include 1-month and 3 –month.
- Individual quotes will be anonymous, and the set of contributors to the panel will not be disclosed.
- The number of contributors may vary from day to day; fixings will require a minimum of 24 participants each day.
- Similar to LIBOR, NYFR will be a trimmed mean of the panel quotes - the six highest and six lowest rates in each of the two tenors will be discarded, and NYFR will be calculated as the arithmetic average of the remaining rates.

Partly in response to the announcement of this new measure, as described above, the BBA announced its intention to expedite its annual review, and commented that "commercial providers trying to emulate the BBA LIBOR fixing process for any region would need similar support and commitment from the markets and would have to meet BBA LIBOR's standards for transparency if it seeks to win the market's confidence." Based on conversations with market participants, interest in NYFR seems to have waned considerably since it was first announced. .