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## LIBOR AND THE MUNICIPAL MARKET

Prepared by the MUNICIPAL SECURITIES RULEMAKING BOARD



**MSRB**  
Municipal Securities  
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## WHAT IS LIBOR?

LIBOR stands for “London Interbank Offered Rate,” which represents the average rate at which a leading bank can obtain unsecured funding in the London interbank market. LIBOR is calculated on each London business day for 10 different currencies and 15 maturities ranging from overnight to 12 months; thus, there are 150 different rates that are collectively referred to as LIBOR. LIBOR is the primary benchmark for short-term interest rates on a global basis and is often used as an indication of the health of the financial money markets. For example, higher LIBOR resets relative to other market interest rates could be viewed as a sign of credit stress within the interbank market. LIBOR is widely used as a reference rate or index for many financial instruments (the size of this market has been estimated at over \$350 trillion), including interest rate swaps, caps, floors and floating rate notes. Additionally, it is used to set interest rates on an estimated \$10 trillion of mortgages, credit cards, corporate loans, student loans, floating rate notes and other financial instruments.

## WHY WAS THE LIBOR INDEX CREATED?

In the early 1980s, London banks experienced an increase in the trading of new financial instruments and the syndication of loans. Before these financial contracts could be entered into, the underlying rates had to be negotiated and agreed upon by the respective parties. In an effort to facilitate the determination of the underlying rates, the British Bankers Association (BBA), the trade association for the UK banking and financial services sector, was asked by its member banks to develop a uniform benchmark to serve as a reference rate for these contracts. This allowed the banks to use a standard rate and led to the first LIBOR rates being published in January 1986.

## HOW IS THE LIBOR INDEX DETERMINED?

Each business day, the BBA surveys a panel of banks for each of the 10 currencies for which LIBOR is quoted. Each contributor bank is asked to make a submission in accordance with the following question: “At what rate could you borrow funds, were you to do so by asking for and then accepting inter-bank offers in a reasonable market size just prior to 11:00 a.m. London time?” The submissions are thus based on each contributor bank’s perceived cost of funding in the London interbank market for a given maturity and currency, and are not necessarily based on actual transactions. The number of banks on each panel ranges from six to 18, depending on the currency, and can vary over time. BBA ranks the submissions, with the highs and lows removed, and averages the middle quotes to arrive at the LIBOR index. The US dollar panel consists of 18 banks. For each maturity for which banks make their submissions, the highest four and lowest four quotes are removed and the middle 10 are averaged to determine the LIBOR indexes. LIBOR is calculated and published by Thomson Reuters on behalf of the BBA.

The 18 banks that currently make up the panel for US dollar LIBOR are Bank of America, Bank of Tokyo-Mitsubishi, Barclays Bank, BNP Paribas, Citibank NA, Credit Agricole CIB, Credit Suisse, Deutsche Bank AG, HSBC, JP Morgan Chase, Lloyds Banking Group, Rabobank, Royal Bank of Canada, Societe Generale, Sumitomo Mitsui Banking Corporation Europe, Norinchukin Bank, The Royal Bank of Scotland Group and UBS AG.

Each contributor panel includes the largest, most active banks in a given currency, although any bank may apply to the BBA to join a panel. The decision to admit a bank to a specific panel is made by the Foreign Exchange and Money Markets Committee, the independent body that oversees all aspects of the calculation of LIBOR, and is based on three factors: the bank’s scale of activity in the London market, its perceived expertise in the given currency and its credit standing. The Committee reviews each panel twice a year.

## HOW DO STATE AND LOCAL GOVERNMENTS USE THE LIBOR INDEX?

The LIBOR index is widely used within the tax-exempt market even though it is based on interest rates that do not benefit from tax exemption.

Among state and local governments, LIBOR is most commonly used in connection with interest rate swaps whereby an issuer agrees to receive a LIBOR-based floating interest rate in exchange for paying a fixed interest rate when hedging variable rate debt. This “synthetic fixed rate” structure is based on the premise that the floating rate paid on the variable rate debt will be substantially the same as the floating rate received on the swap. Typically, the floating rate on the swap is set as a percentage of LIBOR, reflecting the long-term average ratio of tax-exempt short-term interest rates relative to a specific LIBOR maturity (i.e. 67% of one-month LIBOR). To the extent that these two floating rates offset each other, the issuer’s net interest rate exposure is limited to the fixed swap rate plus any support costs associated with the underlying variable rate bonds. Any difference between the floating rate paid on the bonds and the floating rate received on the swap is referred to as “basis risk” and will increase the net interest cost to the issuer to the extent the floating rate paid on the bonds is higher than the floating rate received on the swap, or conversely decrease the net interest rate cost to the issuer to the extent that the floating rate paid on the bonds is less than the floating rate received on the swap.

Municipal bond issuers may choose to utilize these synthetic fixed rate structures in order to create net liabilities at lower interest rates than can be achieved by issuing traditional fixed rate bonds. Variations on this structure include LIBOR-based forward swaps and swaptions, which allow a state or local government issuer to hedge future new money and refunding transactions by locking in current market interest rates.

Some state and local government issuers also create floating rate liabilities by using LIBOR-based interest rate swaps. By combining a fixed rate bond with an interest rate swap where the issuer receives a fixed rate and pays a floating rate based upon LIBOR, the fixed rates offset each other and the issuer’s net interest rate exposure is equal to the floating payment on the swap plus or minus a fixed spread equal to the differential between the fixed bond rate and the fixed swap rate. The main advantage associated with using a LIBOR based interest rate swap to create a floating rate liability is that no bank support is required, although this structure is typically less efficient than creating floating rate liabilities by issuing traditional floating rate debt.

Another common use of the LIBOR index by state or local government issuers is to seek to generate a benefit by assuming basis risk. A “basis swap” involves an issuer paying a counterparty a floating rate based on the Securities Industry and Financial Markets Association (SIFMA) index, which tracks tax-exempt seven-day interest rates, and receiving from the counterparty a percentage of LIBOR for a set period of time. To the extent that the counterparty is willing to pay the issuer a percentage of LIBOR, which is higher than the historic average ratio of SIFMA to LIBOR, the issuer may expect to receive a cash flow benefit over time (if future tax-exempt variable interest rates perform relative to taxable interest rates as they have in the past). Typically, counterparties are willing to pay higher percentages of LIBOR on basis swaps in an effort to hedge, among other things, future tax law risk. To the extent tax rates fall in the future, tax-exempt interest rates would be expected to rise relative to taxable interest rates.

Other uses of LIBOR by state or local government issuers include the issuance of floating rate notes (either in the public market or directly to financial institutions) where the interest rate on the debt is reset periodically based upon LIBOR. For example, an issuer could sell a five-year tax-exempt note where the interest rate is reset each month based on a predetermined formula, such as 75% of one-month LIBOR plus a fixed spread equal to 60 basis points. If, for example, one-month LIBOR is set at 1.00% on the first day of a month, the note would pay a rate equal to 1.35% for that month  $[(0.75 * 1.00\%) + 0.60 = 1.35\%]$ . If LIBOR were to reset at 2.00% the next month, the note would pay 2.10% for that month  $[(0.75 * 2.00\%) + 0.60 = 2.10\%]$ . The rate would continue to reset in the same manner through maturity. The LIBOR-based floating rate note market typically does not require bank support and as a result, offers issuers an alternative to traditional floating rate debt (i.e., variable rate demand obligations).

LIBOR-based floating rate notes are also commonly issued by corporations and sovereigns, and may be purchased by state and local governments in their asset portfolios (i.e., working capital accounts, debt service accounts, investment accounts, etc.).

## WHAT ARE THE RISKS ASSOCIATED WITH LIBOR-BASED TRANSACTIONS?

While structuring transactions based upon LIBOR is viewed as offering issuers the benefits associated with liquidity, flexibility and efficiency, one key risk associated with LIBOR-based transactions for state and local issuers is basis risk — that is, the difference between tax-exempt short-term interest rates and taxable short-term interest rates. State and local issuers typically issue debt based upon tax-exempt interest rates. Using LIBOR as a base for structuring transactions exposes an issuer's debt service to changes in taxable interest rates rather than tax-exempt interest rates. The resultant basis risk can either work to an issuer's advantage (for example, if an issuer sells LIBOR-based floating rate notes and LIBOR rates either fall faster than tax-exempt variable rates or rise slower than tax-exempt variable rates, their resultant interest cost would turn out to be lower than it would have been if the notes were issued based upon the SIFMA index) or result in higher interest costs (for example, if an issuer enters into a synthetic fixed rate transaction and LIBOR resets at rates which are lower than the resets on the associated tax-exempt bonds, the issuer's net interest cost would increase due to the negative basis differential).

In 2012, a number of regulators in the United States and the United Kingdom alleged that certain banks, including some banks serving on the panel for US dollar LIBOR, engaged in manipulative acts in connection with their submissions to the BBA. Manipulation of the LIBOR rate-setting process would raise the risk to a state or local government issuer of being adversely impacted if the issuer received a payment based upon LIBOR (i.e., a synthetic fixed rate structure or a basis swap) and such manipulation of LIBOR resulted in lower resets than would have occurred had there been no manipulation. Conversely, a state or local government issuer making payments based upon LIBOR (i.e., a floating rate note or synthetic floating rate debt) would not face the risk of being adversely impacted if any manipulation of LIBOR resulted in lower resets than would have occurred had there been no manipulation.

State or local government issuers can use the following questions as a basis for a discussion with their team of financial professionals to determine whether any liabilities structured using LIBOR as a base index or any investments held where the interest rate received was based on LIBOR may have been adversely affected:

- From 2006 to present, have any liabilities been structured where we have received payments based upon LIBOR? If so:
  - who was the counterparty?
  - what was the base index?
  - what was the notional amount of the transaction?
  - for each basis point change in LIBOR, what was the present value financial impact?
- From 2006 to present, have any assets been purchased where we have received payments based upon LIBOR? If so:
  - who sold us the assets?
  - who was the issuer?
  - what was the base index?
  - what was the par amount of the transaction?
  - for each basis point change in LIBOR, what was the present value financial impact?

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