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#### <Overview of the 3rd Consultative Document>

We, General Incorporated Association JBA TIBOR Administration ("JBATA") (the chairman is Akihiro Wani), have been undertaking efforts to consider the JBA TIBOR reforms in light of, among other things, the report "Reforming Major Interest Rate Benchmarks" published by the Financial Stability Board ("FSB")<sup>1</sup> in July 2014.

Through the first Consultative Document "Promoting the JBA Tokyo Inter Bank Offered Rate ("JBA TIBOR") Reforms following reports by Financial Stability Board ("FSB") and International Organization of Securities Commissions ("IOSCO")" issued in December 2014 and the 2nd Consultative Document "Promoting the JBA Tokyo Inter Bank Offered Rate ("JBA TIBOR") Reforms" issued in August 2015, comments were sought from users and stakeholders of JBA TIBOR with respect to the direction of the JBA TIBOR reforms, etc.

In consideration of comments received through the previous public consultations, we have drafted a proposed revision to the "JBA TIBOR Code of Conduct", etc. with a view to implementing specific measures for the JBA TIBOR reforms.

Based on the result of this third public consultation, we will finalize specific measures to be implemented for the JBA TIBOR reforms (i.e. the content of a revision to the "JBA TIBOR Code of Conduct", etc.) and promptly announce the implementation date which is planned to be within 2017. The finalized schedule will be published on the JBATA's website at least 3 months prior to the implementation date.

<sup>&</sup>lt;sup>1</sup> FSB is participated by representatives from central banks, financial supervisors and the Treasury Department/Finance Ministry of 25 major jurisdictions, as well as major standard setters, International Monetary Fund, World Bank, Bank for International Settlements, and Organisation for Economic Co-operation and Development. It undertakes activities to promote coordination across regulators which are responsible for addressing vulnerabilities affecting the global financial system and ensuring stability of financial system.

# 1. Background, etc.

In July 2013, the International Organization of Securities Commissions ("IOSCO")<sup>2</sup> published the final report on the "Principles for Financial Benchmarks"<sup>3</sup>, setting forth 19 principles (the "IOSCO Principles"), to clarify principles to be satisfied by financial benchmarks, including JBA TIBOR, and their administrators.

In April 2014 and August 2015, IOSCO reviewed the implementation of the IOSCO Principles by administrators of the three major financial benchmarks (i.e. LIBOR, EURIBOR and JBA TIBOR).

As a result of the two reviews, IOSCO assessed that all of the benchmarks broadly implemented the IOSCO Principles in terms of governance and operation. Regarding "Benchmark Design" (Principle 6), "Data Sufficiency" (Principle 7) and "Transparency of Benchmark Determinations" (Principle 9), however, the assessment indicated that the benchmarks were not designed well enough to anchor in actual transactions, and that data provided to the IOSCO review team was not necessarily sufficient for a part of the analysis.

On the other hand, in the report of second review of the implementation of the IOSCO Principles performed in August 2015, IOSCO recommended that the JBA TIBOR reforms proposed in the 2nd Consultative Document should be implemented as early as practical, requiring JBATA to implement specific measures for the JBA TIBOR reforms to fully comply with the IOSCO Principles.

Moreover, in July 2014, FSB published "Reforming Major Interest Rate Benchmarks<sup>4</sup>" ("FSB Report") and required administrators of the three major financial benchmarks (LIBOR, EURIBOR and JBA TIBOR) to consider the development and introduction of alternative benchmarks which are more anchored in actual transactions (referred to conveniently as "TIBOR+" in the FSB Report).

In response to such a request for global initiatives of the financial benchmark reform, etc., and with a view to implementing the JBA TIBOR reforms, we published the first Consultative Document "Promoting the JBA Tokyo Inter Bank Offered Rate ("JBA TIBOR") Reforms following reports by Financial Stability Board ("FSB") and International Organization of Securities Commissions ("IOSCO")" in December 2014 and the 2nd Consultative Document "Promoting the JBA Tokyo Inter Bank Offered Rate ("JBA TIBOR") Reforms" in August 2015, respectively, and received comments on the direction of JBA TIBOR reforms from users and stakeholders.

In consideration of comments received through the previous public consultations, we have

<sup>&</sup>lt;sup>2</sup> IOSCO is the international body that is comprised of the world's securities regulators and exchanges. It develops and implements global standards including principles and guideline on securities regulation.

<sup>&</sup>lt;sup>3</sup> For the "Principles for Financial Benchmarks", see <a href="http://www.fsa.go.jp/inter/ios/20130718.html">http://www.fsa.go.jp/inter/ios/20130718.html</a>.

<sup>&</sup>lt;sup>4</sup> For the "Reforming Major Interest Rate Benchmarks", see <a href="http://www.fsa.go.jp/inter/fsf/20140723-1.html">http://www.fsa.go.jp/inter/fsf/20140723-1.html</a>.

drafted a proposed revision to the "JBA TIBOR Code of Conduct", etc. (see Appendix) with a view to implementing specific measures for the JBA TIBOR reforms. Based on the result of the third public consultation, we will finalize the revision to the "JBA TIBOR Code of Conduct", etc. and implement specific measures for the JBA TIBOR reforms.

# 2. Questions

We would like to seek comments on the following four points of the proposed JBA TIBOR reforms (Appendix: Proposed revision to the "JBA TIBOR Code of Conduct", etc.).

# (1) Rate calculation and determination process

We will enhance the transparency and integrity of the JBA TIBOR calculation and determination process in order to retain the existing definition of JBA TIBOR and maintain its identity with TIBOR+ at the same time realize TIBOR+ that is more anchored in actual transactions5, as required by the FSB Report, etc.

In consideration of the result of the second public consultation, and with a view to integrating and clarifying the calculation/determination process of reference banks' reference rates<sup>6</sup> based on which JBA TIBOR is calculated, we will adopt the waterfall methodology which requires the use of certain data including not only data of transactions on the unsecured call market and Euroyen transactions on the Japan Offshore Market but also data of actual transactions in the wholesale funding market (NCD transactions and large term deposits with corporates), and will set forth this methodology in the "JBA TIBOR Code of Conduct" reference banks are required to comply with.

The process for calculating and determining reference rates based on the waterfall methodology is explained precisely in the next chapter. We welcome your view on this matter.

# (2) Change to the timing of the JBA TIBOR publication

The accurate calculation and publication of JBA TIBOR rates are of the same importance as the enhancement of the transparency and integrity of JBA TIBOR.

After implementing the JBA TIBOR reforms, reference banks will calculate and determine their reference rates in accordance with the waterfall methodology. It is assumed that it will take more time than under current practice to calculate a reference rate because they need to collect a variety of data including actual transaction data. and base the rate on it.

To ensure accurate calculation/publication of JBA TIBOR rates, we are considering extending

<sup>&</sup>lt;sup>5</sup> This shall mean post-reform JBA TIBOR that is proposed in the FSB Report. For details of proposed reforms, see the second consultative document: "Promoting the JBA Tokyo Inter Bank Offered Rate ("JBA TIBOR") Reforms".

In the case of Japanese yen TIBOR, the two highest and two lowest rates submitted from all of 15 reference banks are omitted and then remaining 11 rates submitted are simply averaged to arrive at the official rate (JBA TIBOR rate). In the case of Euroyen TIBOR, the two highest and two lowest rates submitted from all of 14 reference banks are omitted and then remaining 10 rates submitted are simply averaged to arrive at the official rate (JBA TIBOR rate).

the time window to publish JBA TIBOR rates by one hour, from "by 12:00 p.m. of the day" to "by 1:00 p.m. of the day". We would like to seek comments on this proposed timing.

This proposal doesn't intend to change the existing definition of JBA TIBOR (i.e. "rates which reference banks deem as prevailing market rates assuming transactions between prime banks on the Japan unsecured call market (or the Japan Offshore Market in the case of Euroyen TIBOR) as of 11:00 a.m., Tokyo time"), but to solely change the timing of publication, as mentioned in paragraph (1).

# (3) Discontinuation of 2 month tenor

Through the previous two consultations, we didn't receive comments that material impact would be caused by discontinuation of the 2 month tenor.

Nonetheless, we considers setting a transition period before discontinuation of the 2 month tenor because it is assumed that there are a certain number of unidentified users of the 2 month tenor who would need time to take alternative measures.

Specifically, we intend to continue publication of the 2 month tenor until the last business day of March 2019 and discontinue it from the first business day of April 2019. Please provide your comments on this proposed change, if any.

# (4) Discontinuation of simultaneous publication of individual submissions

Through the previous two consultations, we didn't receive comments that material impact would be caused by discontinuation of simultaneous publication of individual submissions.

Nonetheless, we consider setting a transition period because it is assumed that some users are referencing individual submission rates in financial transactions (e.g. loans) with individual reference banks and would need time to take alternative measures. Then, after the transition period, simultaneous publication of individual submissions will be discontinued and such individual submissions will be published three months after the publication of JBA TIBOR rates.

Specifically, we intend to continue simultaneous publication of individual submissions until the last business day of March 2019, discontinue it from the first business day of April 2019 and publish individual submissions three months after the publication of JBA TIBOR rates. Please provide your comments on this proposed change, if any.

Note that this proposed change does not intend to prevent individual reference banks from referencing own submission rates even after the discontinuation above.

# 3. Reference rate calculation and determination process based on the waterfall methodology to be prescribed in the "JBA TIBOR Code of Conduct"

This chapter explains, taking Japanese Yen TIBOR as an example, the waterfall methodology that would be prescribed in the "JBA TIBOR Code of Conduct" as a process for calculating and determining reference rates after the implementation of JBA TIBOR reforms.

Table 1 below provides the overview of the waterfall methodology (for details of the waterfall methodology of Japanese yen TIBOR and Euroyen TIBOR, see Appendix 1 and Appendix 2, respectively).

(Table 1: Overview of the waterfall methodology)

	Japanese yen TIBOR	Euroyen TIBOR
1st	Use data in the observable unsecured call	Use data in the observable Japan Offshore
Level	market.	Market.
2nd	Use data in the observable Japan Offshore	Use data in the observable unsecured call
Level	Market and Interbank NCD market.	market and Interbank NCD market.
3rd	Use data in the observable NCD market	Use data in the observable NCD market
Level	(other than the Interbank NCD market),	(other than the Interbank NCD market),
	large term deposits, short-term	large term deposits, short-term
	government bonds market, GC repos	government bonds market, GC repos
	market and OIS market.	market and OIS market.
4th	Expert judgment	Expert judgment
Level		

#### 1st Level: Use data in the observable unsecured call market

Reference banks calculate and determine reference rates using data in the unsecured call market which is the underlying market of Japanese yen TIBOR firstly. This 1st level is further divided into six sub-tiers, from [1-1] to [1-4(3)]. Reference banks examine whether there are any appropriate data sub-tier by sub-tier in the order described below. If any appropriate data are available, their reference rates are calculated and determined based on data of that sub-tier.

- [1-1] Actual unsecured call transactions
- [1-2] Committed quotes of unsecured call transactions
- [1-3] Indicative quotes of unsecured call transactions
- [1-4(1)] Linear interpolation
- [1-4(2)] Retroactive use of actual transactions data
- [1-4(3)] Linear interpolation based on retroactive actual transactions data

[1-1] Calculation and determination of reference rates based on actual unsecured call transactions

In this sub-tier, reference rates are calculated and determined based on actual unsecured call transactions data. Reference banks calculate a weighted average of transaction rates of actual transactions data that satisfy all of the following eligibility conditions from ① to ③ by applying the transaction value, and determine the resultant value as their reference rate.

<Eligibility conditions of actual transactions data to be used>

- ① Data of actual transactions that were executed within the past 24 hours
- ② Data of actual transactions with counterparties which can be deemed as those identical to "transactions between prime banks""
- 3 Data of actual transactions with a transaction value equaling to, or exceeding, the minimum transaction amount
- ① Data of actual transactions that were executed within the past 24 hours

In consideration of "as of 11:00 a.m., Tokyo time" which is one of the key elements of the definition of Japanese yen TIBOR, actual transactions data eligible for use in this sub-tier shall be those data of actual transactions that were executed during the past 24 hours, i.e. from after 11:00 a.m. on the previous business day till 11:00 a.m. on the day, in principle. ("The past 24 hours" shall be based on business days, excluding non-business days and national holidays. Data of actual transactions executed at 11:00 a.m. of the previous business day are not included.)

② Data of actual transactions with counterparties which can be deemed as those identical to "transactions between prime banks"

In consideration of "transactions between prime banks" or "prevailing market rates" which is also one of the key elements of the Japanese yen TIBOR, the scope of actual transactions data eligible for use in this sub-tier will be expanded to include, in addition to data of "transactions between prime banks" currently used, those data of actual transactions executed by prime banks which can be deemed as being identical to such "transactions between prime banks" (see Table 2).

The basis for not allowing all actual transactions data to be used as mentioned above is because JBA TIBOR is defined as "rates which reference banks deem as prevailing market

<sup>&</sup>lt;sup>7</sup> "Prime bank" means a bank which is financially resilient (e.g. a bank having adequate capital and sufficient liquid assets) and which is a major player in the Japan unsecured call market (or in the Japan Offshore Market in the case of Euroyen TIBOR).

rates assuming transactions between prime banks" and the interest rate level used by non-prime banks (i.e. banks that do not meet the criteria for prime banks from a perspective of creditworthiness and financial soundness) in their funding activities, etc. in the short-term monetary market may differ from the interest rate level of "underlying interest" which JBA TIBOR seeks to represent.

On the other hand, in order to realize a rate "more anchored in actual transactions" under the financial environment where actual transactions are limited, we will not allow automatic data exclusion using the interest rate level which is implemented to better reflect prevailing market rates.

(Table 2: Scope of transactions with counterparties which can be deemed as being identical to "transactions between prime banks")

Investing side		Non-prime banks	
Financing Side	Prime banks	Deposit-taking financial institutions	Non-deposit-taking financial institutions <sup>8</sup>
Prime banks	Scope of actual transactions data eligible for use		

3 Data of actual transactions with a transaction value equaling to, or exceeding, the minimum transaction amount

Where the transaction value is small, the interest rate level may not reflect the "prevailing market rate", depending on individual circumstances, such as the problem of transaction cost and relationships with counterparties.

Given this, we will introduce a minimum transaction amount for actual transactions data (at 1 billion yen, in principle). Reference banks shall use data of actual transactions whose value is equal to, or exceeds, this minimum value.

④ Exceptional treatment in the event of any change in a monetary policy and financial market turmoil

While actual transactions data satisfying all of the above three eligibility conditions will be

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In the Unsecured Call Market and Japan Offshore Market, market participants categorized as a non "deposit-taking financial institution" assume a securities company, a life insurance company, a non-life insurance company, an investment trust company, etc. There may be a large difference in transactional behavior in the money market between "deposit-taking financial institutions" and non "deposit-taking financial institutions" do not have reserve account with the BOJ and are not required to hold the statutory reserve.

used for calculating and determining reference rates in principle, there are some cases where this may not be applicable. In particular, in the case of those actual transactions data satisfying the eligibility condition ① (i.e. data of actual transactions that were executed within the past 24 hours), if any change in a monetary policy, market turmoil or other similar events took place within the past 24 hours, prevailing market rates may vary significantly before and after such an event.

If those data of actual transactions that were executed within the past 24 hours are automatically used to calculate and determine reference rates even in such cases, it is our concern that the resultant rate may not reflect the interest rate level of "underlying interest" which JBA TIBOR seeks to represent.

Given this, in order to ensure the quality and reliability of JBA TIBOR, if the following conditions are met, data of actual transactions that were executed before meeting the following conditions shall not be used for calculating and determining reference dates even though all of the eligibility conditions from ① to ③ are satisfied.

#### <Conditions for not directly using actual transactions data>

- (i) When the Bank of Japan announced a change to the level of policy interest rate (including changes to the target rate of unsecured overnight call rates and the rate applied to the Policy-Rate Balance of the current account at the Bank of Japan; but excluding any of those changes that merely represent a change to lending interest rates under a standby lending facility ("Lombard-type" lending facility)).
- (ii) When a Person Responsible for Rate Submission of each reference bank determined that he/she can subsequently explain to JBATA based on changes to the interest rate level in his/her bank's actual transactions data (but excluding the bank's data other than actual transactions data, such as market quotes data) that the bankruptcy of a financial institution or other similar events has a significant impact on the underlying market as well.

# [1-2] Calculation and determination of reference rates based on Committed Quotes of unsecured call transactions

In this sub-tier, reference rates are calculated and determined based on data of quotes based on which the transaction is committed to be executed if transactional needs exist on the opposite side ("Committed Quotes") and are confirmed with *Tanshi* or market brokers (collectively, "brokers"). The rate of Committed Quotes satisfying the following eligibility conditions is weighted averaged by the maximum transaction amount, and reference banks determine the resultant value as their reference rate.

< Eligibility conditions for Committed Quotes to be used>

- ① Committed Quotes that were observed within the timeframe between 10:30 a.m. and 11:00 a.m. of the day.
- ② Committed Quotes whose maximum transaction amount is considered to be a standard amount.
- ① Committed Quotes that were observed within the timeframe between 10:30 a.m. and 11:00 a.m. of the day.

Reference banks register with JBATA in advance those brokers which they will reference in calculating and determining their reference rates.

Reference banks use Committed Quotes that were observed within the timeframe between 10:30 a.m. and 11:00 a.m. of the day for purposes of reference rate calculation and determination. In doing this process, they shall confirm with brokers via phone whether such observed data are Committed Quotes and keep records of such conversations by recording or other means as evidence, if possible, and retain recorded communications for five years (confirmation relying on messages that were only heard over the Open Voice Box connected with brokers is not eligible for records to be retained).

② Committed Quotes whose maximum transaction amount is considered to be a standard amount.

In the unsecured call transactions which are executed via brokers, information are exchanged on an anonymous basis until the parties show their intention to accept the transaction. Even if it is known that the transaction will be based on Committed Quotes, therefore, the attributes (e.g. the name of the counterparty) will not be disclosed until the parties show their intention to accept such a Committed Quote-based transaction.

The same treatment as with the case of the paragraph ② of the sub-tier [1-1] will apply to Committed Quotes if their attributes (e.g. the name of the counterparty) are unknown and also their maximum transaction amount is not considered to be a standard amount, because there remain a possibility until the counterparty's attribute is disclosed that the counterparty may be a "non-prime bank", which suggests that the interest rate level of the transaction may differ from the prevailing market rate.

Hence, Committed Quotes whose maximum transaction amount is not considered to be a standard amount will not be used for purposes of calculating and determining reference rates.

[1-3] Calculation and determination of reference rates based on Indicative Quotes of unsecured call transactions

In this sub-tier, reference rates are calculated and determined based on data of quotes where execution of a transaction cannot be committed even if transactional needs exist on the opposite side ("Indicative Quotes"). Reference banks calculate and average respective changes from the previous business day in the mean rate of Offer/Bid rates of Indicative Quotes satisfying all of the following eligibility conditions from ① to ④, and adjust the reference rate submitted in the previous business day by adding or deducting the average of such changes to or from the previous business day. The resultant value will be determined as a reference rate of the day.

# <Eligibility conditions for Indicative Quotes to be used>

- ① Indicative Quotes that were observed within the timeframe between 10:30 a.m. and 11:00 a.m. of the day.
- ② Both the Offer/Bid sides are available and the mean rate of Offer/Bid rates can be calculated.
- ③ The mean rate of Offer/Bid rates is higher than the average mean rate of Offer/Bid rates of quotes in OIS transactions at the same point of time.
- ④ All of the above conditions from ① to ③ are satisfied not only on the day but also in the previous business day.
- ① Indicative Quotes that were observed within the timeframe between 10:30 a.m. and 11:00 a.m. of the day.

Reference banks register with JBATA in advance information screens<sup>9</sup> of brokers to which they reference in calculating and determining their reference rates.

Reference banks use Indicative Quotes that were observed within the timeframe between 10:30 a.m. and 11:00 a.m. of the day for purposes of reference rate calculation and determination. In doing this process, they shall create evidential materials in the form of a copy of the screen or by other means and retain them for five years.

② Both the Offer/Bid sides are available and the mean rate of Offer/Bid rates can be calculated.

Brokers' information screen can display either Offer or Bid side of Indicative Quotes.

<sup>&</sup>lt;sup>9</sup> The information screens which market participants can browse by separately entering into a contract with information providers. Such screens vary, depending on types of transactions and information sources. Brokers update, in real time, market information such as market quotes and execution status of market transactions.

However, from the perspective of ensuring stable use of Indicative Quotes as well as the quality and reliability of JBA TIBOR, reference banks may use Indicative Quotes only when both the Offer/Bid sides are displayed on the screen and the mean rate of Offer/Bid rates can be calculated.

③ The mean rate of Offer/Bid rates is higher than the average mean rate of Offer/Bid rates of quotes under OIS transactions at the same point of time.

In the case that the mean rate of Indicative Quotes is lower than the average mean rate of Offer/Bid rates of quotes under OIS transactions at the same point of time, it is possible that such Indicative Quotes differ from the interest rate level of "underlying interest" which JBA TIBOR seeks to represent<sup>10</sup>.

Hence, reference banks may only use those Indicative Quotes that are higher than the average mean rate of Offer/Bid rates of quotes under OIS transactions at the same point of time.

4 All of the above conditions from 1 to 3 are satisfied not only on the day but also in the previous business day.

From the perspective of ensuring stable use of Indicative Quotes, reference banks may use only those Indicative Quotes that satisfy all of the above conditions from ① to ③ not only on the day but also in the previous business day.

# [1-4(1)] Calculation and determination of reference rates based on linear interpolation

In this sub-tier, the linear interpolation method is applied to calculate and determine reference rates of those tenors for which reference banks could not calculate and determine their submission rates in line with the sub-tiers [1-1] to [1-3] if such tenors are adjacent to a tenor for which a reference rate is calculated and determined in line with the sub-tier [1-1].

With respect to a 12 month rate, provided that a 6 month reference rate is calculated and determined in line with the sub-tier [1-1], a parallel shift approach is taken by applying a change in the 6 month-reference rate from the previous business day to the 12 month rate.

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It can be considered that the interest rate level of unsecured funding in the interbank market represents, similarly to JBA TIBOR's underlying markets, a risk-free interest rate (the theoretical rate with no risk being reflected; and the interest rate level of OIS is considered to be similar to this one) specific to respective currencies, plus various risk premiums, such as credit risk premium and liquidity risk premium. Generally, it is unlikely that the value of such risk premiums will fall below zero; and therefore, the interest rate level of "underlying interest" which JBA TIBOR seeks to represent would be mostly higher than the OIS interest rate.

# [1-4(2)] Calculation and determination of reference rates based on the retroactive use of actual transactions data

In this sub-tier, reference rates are calculated and determined with respect to those tenors for which reference banks could not calculate and determine their submission rates in line with the sub-tiers from [1-1] to [1-4(1)], by re-using actual transactions data excluded in the sub-tier [1-1] on the basis that they do not satisfy the eligibility condition ① (i.e. data of actual transactions that were executed within the past 24 hours).

As mentioned in paragraph ① of the sub-tier [1-1], it would be preferable to use actual transactions data that are as new as possible since the definition of JBA TIBOR includes the element "as of 11:00 a.m." However, in the financial environment where availability of actual transactions data are limited, actual transactions data will be retroactively used by dating back up to three business days in order to ensure that a rate will be "more anchored in actual transactions".

More specifically, reference banks will identify whether a reference rate was calculated and determined in any day, starting from the previous business day and dating back up to the third previous business day. If any, they will use the reference rate of that day as a reference rate of the day.

Similarly to the exceptional treatment in the event of a change in the monetary policy and financial market turmoil described in paragraph ④ of the sub-tier [1-1], as an approach to be taken upon a change in the monetary policy or in times of financial market turmoil, data of actual transactions that were executed before the occurrence of such an event shall not be used.

# [1-4(3)] Calculation and determination of reference rates using linear interpolation based on retroactively-used actual transactions data

In this sub-tier, the linear interpolation method is applied to calculate and determine reference rates of those tenors for which reference banks could not calculate and determine their submission rates in line with the sub-tiers [1-1] to [1-4(2)] if such tenors are adjacent to a tenor for which a reference rate is calculated and determined in line with the sub-tier [1-1] or [1-4(2)].

With respect to a 12 month-rate, provided that a 6 month-reference rate is calculated and determined in line with the sub-tier [1-4(2)], a parallel shift approach is taken by applying a change in the 6 month-reference rate from the previous business day to the 12 month-rate.

# 2nd Level: Use data in the observable Japan Offshore Market and Interbank NCD market

If the reference bank could not calculate and determine a reference rate in the 1st Level, the reference rate is calculated and determined using the data in the Japan Offshore Market and the Interbank NCD Market which are the interbank markets deemed similar to the Underlying Market<sup>11</sup> of Japanese yen TIBOR. Similarly to the 1st level, the 2nd Level is also further divided into 6 levels from [2-1] to [2-4(3)]. Reference banks examine whether there are any appropriate data sub-tier by sub-tier. If any appropriate data are available, their reference rates are calculated and determined based on data of that sub-tier.

- [2-1] Actual Japan Offshore Market and Interbank NCD Market
- [2-2] Committed Quotes of the Japan Offshore Market
- [2-3] Indicative Quotes of the Japan Offshore Market
- [2-4 (1)] Linear Interpolation
- [2-4 (2)] Retroactive Use of actual transactions data
- [2-4 (3)] Linear Interpolation based on retroactively-used actual transactions data

The specific treatment of each level is the same as [1-1] to [1-4], except for the following:

# [Supplementary note] Scope of actual transactions data in the Japan Offshore Market

The scope of actual transactions data to be used needs to be explicitly defined to calculate and determine JBA TIBOR rates because the term "Euroyen transactions" is the concept that includes Japanese yen transactions not only in the Tokyo market but also in overseas financial markets such as London and New York, in general.

In this regard, in the context of the term "Japan Offshore Market" in the Euroyen TIBOR definition, in calculating and determining JBA TIBOR rates, actual transactions data which contain at least in one side the Tokyo center of a financial institution<sup>12</sup> shall be used. Therefore, even if Japanese financial institutions execute "Euroyen transactions" between their overseas entities, the actual transactions data will not be used for rate calculation and determination in the 1st Level of Euroyen TIBOR and in the 2nd Level of Japanese yen TIBOR.

A market in which participants are limited to financial institutions, securities companies, and so forth.

This can be opened upon approval of the Minister of Finance in Japan, assuming that a financial institution manages funds abroad, originally provided by foreign counterparty, in accordance with the Foreign Exchange and Foreign Trade Act.

# 3rd Level: Use data in the observable NCD market (other than the Interbank NCD market), large term deposits, short-term government bonds market, GC repos market and OIS market

If the reference bank could not calculate and determine a reference rate in the 1st Level and 2nd Level, in the next 3rd Level, a reference rate is calculated and determined using actual transactions data in wholesale markets which FSB Report recommends to use and data in surrounding related markets. Specifically, actual transactions data in the two wholesale markets and quotes data in the three related markets shall be used. Specifically, the change of actual transactions data from that of the previous business day related to actual transaction data are calculated for each of the following items ① to ⑤, etc. and then the average value is derived. The reference rate for the day is derived by adding or deducting the average to or from the reference rate of the previous business day.

- ① Actual transactions data in the observable NCD market (other than the Interbank NCD market)
- ② Actual transaction data of large term deposits
- ③ Indicative Quotes data of short-term government bonds
- 4 Indicative Quotes data in the GC repos market
- (5) Indicative Quotes data in the OIS market

With regards to "① Actual transactions data in the observable NCD market (other than the Interbank NCD market) and "② Actual transaction data of large term deposits", a minimum transaction amount is established for actual transactions data to be used. Actual transactions below this minimum transaction volume shall not be used.

# 4th Level: Expert Judgment

Stable and continuous publication of JBA TIBOR is important in order for users to appropriately capture prevailing short-term money market rates in the occurrence of unexpected events, such as large-scale disaster, sudden financial market turmoil, and a change in a monetary policy.

Therefore, even after the reform of JBA TIBOR, it would be useful and essential to retain the room for rate submission based on Expert Judgment as a means to respond to emergencies.

The reference bank shall calculate and determine a reference rate using actual transactions data used in the 1<sup>st</sup> level to 3<sup>rd</sup> level, which was not used directly for the calculation and determination of reference rates because they did not meet the eligible conditions defined in each tier.

A market whose scope is conceptually broader than interbank markets and includes transactions with large corporates and financial entities.

Considering that it is supposed to be used only in times of emergency, JBATA will not prescribe the list of actual transactions data, etc. to use, so as not to deprive latitude necessary for determining the rate and impair the stability (i.e. consistent rate publication) of JBA TIBOR. However, from a viewpoint of ensuing transparency of the rate determination process, reference banks shall record the basis of rate calculation and retain it for five years.

# 4. Open issues

Even after the reform of JBA TIBOR is implemented, we will continue to discuss following issues:

<Necessity of integrating Japanese yen TIBOR and Euroyen TIBOR>

➤ The integration of Japanese Yen TIBOR and Euroyen TIBOR will be viewed as a medium and long-term issue. JBATA will keep considering this topic.

In the 2nd public consultation, some comments were raised indicating that 3-month Euroyen TIBOR, in particular, is used as an underlying benchmark of Euroyen interest rate futures which is a product listed on the Tokyo Financial Exchange Inc., and may be widely used as the index of "IMM swap" in the interest swap market.

Whereas, some have a view that integrating these two JBATA TIBORs would contribute to enhancing the liquidity of market transactions by concentrating transactions that are dispersed. We will monitor and identify the impact on users, and also take sufficient time to keep users informed, and will treat this topic as the issue to continue consideration.

# 5. Implementation timeline of JBA TIBOR reform

We will promote the JBA TIBOR reform according to the following timeline.

3rd public consultation period	Until December 29, 2016
Publication of the results, etc. of 3rd public consultation	Planned in the first half of 2017.
• Publication of revision of JBA TIBOR Code of Conduct [Final version]	
• Publication of implementation date of JBA TIBOR reform (=effective date of revision of JBA TIBOR Code of Conduct)	
* On the condition that relevant authorities have approved the revision of Code of Conduct.	

Implementation date of JBA TIBOR reform	Planned during 2017
• Implement the revision of JBA TIBOR Code of Conduct, etc.	
Discontinuation of 2 month-tenor	Planned on the first business day
Discontinuation of simultaneous publication of individual submission	of April 2019

[How to submit your comments]

# (1) Consultation period

From Wednesday November 30, 2016 to Thursday December 29, 2016

(Comments should arrive at JBATA no later than December 29, 2016)

#### (2) Submission

Comments would be submitted:

· by post to

Operation Department,

General Incorporated Association JBA TIBOR Administration

(Address: Asahi Seimei Otemachi building, 6-1, Otemachi 2-chome, Chiyoda-ku, Tokyo 100-0004, JAPAN); or

• by e-mail to

contact@jbatibor.or.jp.

#### [Notes]

Your comment would be titled "Comment on Revision to the 'JBA TIBOR Code of Conduct', etc. for Implementing the JBA TIBOR Reforms (3rd Consultative Document)" and would include the following information:

- · Name:
- Contact information (Phone number, e-mail address);
- Name of the legal entity or organization (if you are a member of any); and
- · Your comments and reasons for your opinions.

Personal information (e.g. name and contact information) included in the comment will be used when JBATA needs to contact you to inquire about unclear matters in comments. For further detail regarding the treatment of personal information, see our Privacy Policy.

[Contact information for any inquiry regarding the consultative document]

Operation Department,

General Incorporated Association JBA TIBOR Administration

Phone: +81 (0)3-6262-6788

Appendix 1: Waterfall methodology for Japanese yen TIBOR

1st Le	vel Use data in the observable up	secured call market
1-1	Actual Unsecured Call	• Rates in observable actual transactions data are
1-1	transactions	weighted averaged by the transaction value to arrive
	transactions	at a reference rate.
1.0	C '' 10 ' C	
1-2	Committed Quotes of	• Of Committed Quotes presented by brokers based on
	Unsecured Call transactions	which transactions are committed to be executed,
		those relating to offered rates are weighted averaged
		to arrive at a reference rate.
1-3	Indicative Quotes of Unsecured	• A change from the previous business day in the mean
	Call transactions	rate of quotes presented by brokers, is referenced.
		(A change from the previous day in the mean rate of
		quotes is added/deducted to/from the reference rate
		submitted on the previous day to arrive at the
		reference rate of the day.)
1-4	Linear Interpolation	• If a reference rate of an adjacent tenor is calculated in
(1)	_	line with the sub-tier [1-1], the linear interpolation
, ,		method is applied to arrive at a reference rate.
1-4	Retroactive Use of actual	• Date back day by day up to three business days, and
(2)	transactions data	if a reference rate is calculated in line with the
(-)		sub-tier [1-1] in a business day, that reference rate is
		determined as a reference rate of the day.
1-4	Linear interpolation based on	• If a reference rate of an adjacent tenor is calculated in
(3)	retroactively-used actual	line with the sub-tier [1-1] or [1-4(2)], the linear
(3)	transactions data	interpolation method is applied to arrive at a
	transactions data	reference rate.
2nd L	   Aval   Usa data in the observable I	apan Offshore Market and Interbank NCD market.
2-1	Data in the Japan Offshore	• The treatment under the sub-tiers from [1-1] to
2-1	Market,	
	,	[1-4(3)] are applied mutatis mutandis in this order
	Data in the Interbank NCD	to actual transactions, etc.
2.1.	market	NCD 1 // d d d I / 1 1 NCD 1 A
3rd L		NCD market (other than the Interbank NCD market),
		m government bonds market, GC repos market and OIS
	market.	W
	Data in the NCD market (other	• With respect to the following data, reference a
	than the Interbank NCD	change from the previous business day.
	market), Large Term Deposits,	(Respective changes from the previous business day
	short-term government bonds	in the following data ① to ⑤ are added to, or
	market, GC repos market and	deducted from, the reference rate submitted on the
	OIS market	previous day in accordance with the method
		predetermined by JBATA to arrive at a reference
		rate of the day.)
		① Actual transactions in the NCD market (other
		than the Interbank NCD market)
1	1	② Actual transactions in large term deposits

		<ul> <li>③ Quotes in the short-term government bonds market</li> <li>④ Quotes in the GC repos market</li> <li>⑤ Quotes in the OIS market</li> </ul>
4th Le	evel Expert Judgment	
		n expert judgment by a Person Responsible for Rate

Submission and Staff Performing Rate Submission Tasks at reference banks.

**Appendix 2: Waterfall methodology for Euroyen TIBOR** 

1st Lev	1st Level Use data in the observable Japan Offshore Market.	
1-1	Actual transactions data of Euroyen transactions	• Rates in observable actual transactions data are weighted averaged by the transaction value to arrive at a reference rate.
1-2	Committed Quotes of Euroyen transactions	• Of Committed Quotes presented by brokers based on which transactions are committed to be executed, those relating to offered rates are weighted averaged to arrive at a reference rate.
1-3	Indicative Quotes of Euroyen transactions	<ul> <li>A change from the previous business day in the mean rate of quotes presented by brokers, is referenced.</li> <li>(A change from the previous day in the mean rate of quotes is added/deducted to/from the reference rate submitted on the previous day to arrive at the reference rate of the day.)</li> </ul>
1-4 (1)	Linear Interpolation	• If a reference rate of an adjacent tenor is calculated in line with the sub-tier [1-1], the linear interpolation method is applied to arrive at a reference rate.
1-4 (2)	Retroactive Use of actual transactions data	• Date back day by day up to three business days, and if a reference rate is calculated in line with the sub-tier [1-1] in a business day, that reference rate is determined as a reference rate of the day.
1-4 (3)	Linear interpolation based on retroactively-used actual transactions data	• If a reference rate of an adjacent tenor is calculated in line with the sub-tier [1-1] or [1-4(2)], the linear interpolation method is applied to arrive at a reference rate.
2nd Le	vel Use data in the observable ur	nsecured call market and Interbank NCD market.
2-1	Data in the unsecured call market, Data in the Interbank NCD market	• The treatment under the sub-tiers from [1-1] to [1-4(3)] are applied mutatis mutandis in this order to actual transactions, etc.
3rd Le	3rd Level Use data in the observable NCD market (other than the Interbank NCD market), large term deposits, short-term government bonds market, GC repos market and OIS market.	
	Data in the NCD market (other than the Interbank NCD market), large term deposits, short-term government bonds market, GC repos market and OIS market	• With respect to the following data, reference a change from the previous business day.  (Respective changes from the previous business day in the following data ① to ⑤ are added to, or deducted from, the reference rate submitted on the previous day in accordance with the method predetermined by JBATA to arrive at a reference rate of the day.)  ① Actual transactions in the NCD market (other

		than the Interbank NCD market)
		② Actual transactions in large term deposits
		3 Quotes in the short-term government bonds
		market
		4 Quotes in the GC repos market
		⑤ Quotes in the OIS market
Fourth	Level Expert Judgment	
	• A rate is submitted based on expert judgment by a Person Responsible for Rate	
	Submission and Staff Perform	ing Rate Submission Tasks at reference banks.

(This English translation is provided exclusively as a convenience. If any questions that may arise related to the accuracy of the information contained in the English version, please refer to the original language official version of the document.)

Proposed revision to the "JBA TIBOR Code of Conduct"		
Revised Version (Draft)	Current Version	
(Introduction)	(Introduction)	
(Same as the right)	In connection with the publication of Japanese Yen TIBOR and Euroyen TIBOR (collectively, "JBA	
	TIBOR (Tokyo Interbank Offered Rate)"), which are defined in Section 1, JBA TIBOR Administration	
	("JBATA") hereby establishes the Code of Conduct (including Attachment 1 and 2). This Code of	
	Conduct sets forth the rules that reference banks should abide by in submitting rates, and thereby aims	
	to ensure compliance with the International Organization of Securities Commissions ("IOSCO")'s	
	Principles for Financial Benchmarks and to gain trust from markets and users.	
	Reference banks shall observe the Code of Conduct as well as other applicable laws and regulations,	
	in submitting rates appropriately subject to the definition of JBA TIBOR.	
1. Definition	1. Definition	
(1) Japanese Yen TIBOR	(1) Japanese Yen TIBOR	
The Japanese Yen TIBOR is the respective averages of interest rates for $\underline{5}$ maturities (i.e. 1 week, 1	The Japanese Yen TIBOR is the respective averages of interest rates for <u>6</u> maturities (i.e. 1 week, 1	
month, 3 months, 6 months and 12 months) <sup>Note1</sup> submitted by reference banks in accordance with the	month, 2 months, 3 months, 6 months and 12 months) Note1 submitted by reference banks in accordance	
procedures set out in Attachment 1 as required by the Code of Conduct. In calculating the Japanese	with the procedures set out in Attachment 1 as required by the Code of Conduct. In calculating the	

In a case where a reference bank fails to submit a part of rates for some reason, the foregoing process is followed to derive Japanese Yen TIBOR for each maturity based on the submitted rate.

reference banks and averages the remaining rates (rounded to the fifth decimal place).

(Note 1) The rates which reference banks deem as prevailing market rates, assuming transactions between prime banks on the Japan unsecured call market as of 11:00 a.m. The rates are quoted on a 365-day basis, as spot starts in increments of 1/100% (1 basis point).

# (2) Euroyen TIBOR

The Euroyen TIBOR is the respective averages of interest rates for 5 maturities (i.e. 1 week, 1 month, 3 months, 6 months and 12 months) Note2 submitted by reference banks in accordance with the procedures set out in Attachment 1 as required by the Code of Conduct. In calculating the Euroyen TIBOR, for each maturity, JBATA excludes two highest quotes and two lowest quotes from reference banks and averages the remaining rates (rounded to the fifth decimal place).

In a case where a reference bank fails to submit a part of rates for some reason, the foregoing process is followed to derive Euroyen TIBOR for each maturity based on the submitted rate.

(Note 2) The rates which reference banks deem as prevailing market rates, assuming transactions between prime banks on the Japan Offshore Market as of 11:00 a.m. The rates are quoted on a 360-day basis, as spot starts (based on the Tokyo's business day) in increments of 1/100%

Yen TIBOR, for each maturity, JBATA excludes two highest quotes and two lowest quotes from Japanese Yen TIBOR, for each maturity, JBATA excludes two highest quotes and two lowest quotes from reference banks and averages the remaining rates (rounded to the fifth decimal place).

> In a case where a reference bank fails to submit a part of rates for some reason, the foregoing process is followed to derive Japanese Yen TIBOR for each maturity based on the submitted rate.

> (Note 1) The rates which reference banks deem as prevailing market rates, assuming transactions between prime banks on the Japan unsecured call market as of 11:00 a.m. The rates are quoted on a 365-day basis, as spot starts in increments of 1/100% (1 basis point).

# (2) Euroyen TIBOR

The Euroyen TIBOR is the respective averages of interest rates for 6 maturities (i.e. 1 week, 1 month, 2 months, 3 months, 6 months and 12 months) Note2 submitted by reference banks in accordance with the procedures set out in Attachment 1 as required by the Code of Conduct. In calculating the Euroyen TIBOR, for each maturity, JBATA excludes two highest quotes and two lowest quotes from reference banks and averages the remaining rates (rounded to the fifth decimal place).

In a case where a reference bank fails to submit a part of rates for some reason, the foregoing process is followed to derive Euroyen TIBOR for each maturity based on the submitted rate.

(Note 2) The rates which reference banks deem as prevailing market rates, assuming transactions between prime banks on the Japan Offshore Market as of 11:00 a.m. The rates are quoted on a 360-day basis, as spot starts (based on the Tokyo's business day) in increments of 1/100%

(1 basis point).
(3) Prime Bank  The term "prime bank" used in the paragraphs (1) and (2) of Section 1 shall represent a bank which is financially resilient (e.g. a bank having adequate capital and sufficient liquid assets) and which is a major player in the Japan unsecured call market (or in the Japan Offshore Market in the case of Euroyen TIBOR).
(4) Reference Bank  The term "reference bank" used in the Code of Conduct shall represent a bank or a financial institution, which is selected by JBATA in accordance with the procedures set out in Attachment 2, as a bank or a financial institution to submit JBATA with reference rates for Japanese Yen TIBOR and Euroyen TIBOR, respectively, in order for JBATA to calculate and publish JBA TIBOR.
2. Rules to be Complied by Reference Banks  Reference banks shall comply with the following rules pertaining to the submission of rates for JBA  TIBOR purposes. Except for the rules related to obligations for notification or reporting to JBATA, paragraphs (2) to (10) set out guidelines on standard processes which are recommended to be put in place by reference banks. Reference banks shall give due regard to these guidelines and put in place processes and controls which will ensure appropriate and sound rate submissions, in an appropriate manner.
(1) Submission of Rates Based on the Definition  ① Subject to the definition set out in Section 1, reference banks shall submit reference rates to JBATA on a daily basis for all maturities to be published.
<ul> <li>In order to submit the rates subject to the definition, reference banks shall set standards for the types and scope of transactions, qualitative information and other reference information used in determining reference rates.</li> <li>In setting standards under the previous item ②, the types and scope of transactions and other information which are of higher priority over other inputs into the calculation of a reference rate, may include:         <ul> <li>reference banks' own concluded arm-length interbank unsecured funding transactions;</li> <li>firm(executable) bids and offers in interbank unsecured market;</li> <li>interbank unsecured funding transactions, which are observable by reference banks, e.g.</li> <li>Unsecured call, Euroyen transactions, interbank NCD, etc.;</li> </ul> </li> </ul>

- (a) Data in the observable Japan Offshore Market
- (b) Data in the observable unsecured call market and Interbank NCD market
- (c) Data in the observable NCD market (other than the Interbank NCD market), large term deposits, short-term government bonds market, GC repos market and OIS market
- (d) Expert Judgment

category, which are observable by reference banks, e.g. Short-term Japan government bond transactions, bond repo/*Gensaki* transactions, CP transactions, OIS transaction, etc.; and qualitative information including indicative price.

It should be noted that each reference bank shall take into account transactions between prime banks on the Japan unsecured call market (Euroyen transactions in the Japan Offshore Market in case of Euroyen TIBOR) as a minimum requirement and take precedence as an input into the calculation of reference rates subject to the definition of JBA TIBOR if the transactions are observable. And the higher priority should be given to considered standard-size transactions observed. If a reference bank considers that the observable transactions are not enough to calculate reference rates in accordance with the JBA TIBOR definition under the situation including but not limited to the followings, the reference bank shall use "expert judgment" by a Person Responsible for Rate Submission and Staff Performing Rate Submission Tasks as described in (2) below, in order to determine the reference rates.

- Transactions between prime banks on the Japan unsecured call market (Euroyen transactions in the Japan Offshore Market in case of Euroyen TIBOR) are not constantly observable.
- No data is observable around 11:00 a.m.
- Considered standard-size transactions are not observable.

# Appendix 1: Waterfall methodology for Japanese yen TIBOR

1st Level	evel Use data in the observable unsecured call market.	
<u>1-1</u>	Actual Unsecured Call transactions	· Rates in observable actual transactions data are weighted averaged by the
		transaction value to arrive at a reference rate. (Notes 1-3)
<u>1-2</u>	Committed Quotes of Unsecured Call	· Of Committed Quotes presented by brokers based on which transactions are
	transactions	committed to be executed, those relating to offered rates are weighted averaged to
		arrive at a reference rate. (Note 4)
<u>1-3</u>	Indicative Quotes of Unsecured Call	• A change from the previous business day in the mean rate of quotes presented by
	transactions	brokers, is referenced. (Note 5)
		(A change from the previous day in the mean rate of quotes is added/deducted
		to/from the reference rate submitted on the previous day to arrive at the reference
		rate of the day.)
1-4	Linear Interpolation	• If a reference rate of an adjacent tenor is calculated in line with the sub-tier [1-1],
(1)		the linear interpolation method is applied to arrive at a reference rate. (Note 6)
1-4	Retroactive Use of actual transactions	• Date back day by day up to three business days, and if a reference rate is calculated
<u>(2)</u>	data	in line with the sub-tier [1-1] in a business day, that reference rate is determined as
		a reference rate of the day. (Note 7)
<u>1-4</u>	Linear interpolation based on	• If a reference rate of an adjacent tenor is calculated in line with the sub-tier [1-1] or
<u>(3)</u>	retroactively-used actual transactions	[1-4(2)], the linear interpolation method is applied to arrive at a reference rate.
	<u>data</u>	(Note 6)
2nd Level Use data in the observable Japan Offshore Market and Interbank NCD market.		

<u>2-1</u>	Data in the Japan Offshore Market,	• The treatment under the sub-tiers from [1-1] to [1-4(3)] are applied mutatis			
	Data in the Interbank NCD market	mutandis in this order to actual transactions, etc. (Notes 1-10)			
3rd Level	3rd Level Use data in the observable NCD market (other than the Interbank NCD market), large term deposits, short-term government				
	bonds market, GC repos market and OIS market.				
	Data in the NCD market (other than	• With respect to the following data, reference a change from the previous business			
	the Interbank NCD market), Large	<u>day.</u> (Notes 11 and 12)			
	Term Deposits, short-term government	(Respective changes from the previous business day in the following data ① to			
	bonds market, GC repos market and	$\underline{\mbox{\Large \Large 5}}$ are added to, or deducted from, the reference rate submitted on the previous			
	OIS market	day in accordance with the method predetermined by JBATA to arrive at a			
		reference rate of the day.)			
		① Actual transactions in the NCD market (other than the Interbank NCD market)			
		② Actual transactions in large term deposits			
		3 Quotes in the short-term government bonds market			
		4 Quotes in the GC repos market			
		⑤ Quotes in the OIS market			
4th Level	4th Level Expert Judgment				
	· A rate is submitted based on expert judgment by a Person Responsible for Rate Submission and Staff Performing Rate				
	Submission Tasks at reference banks.				

# <u>Notes</u>

- 1. Of data of actual transactions that were executed during the past 24 hours (i.e. from after 11:00 a.m. on the previous business day till 11:00 a.m.), in principle, actual transactions data exceeding the minimum transaction amount (1 billion yen, in principle) shall be collected and weighted average shall be calculated, in principle. With regard to the starting point of the 24-hour timeframe (including the ending point) and the minimum transaction amount, exceptional treatment separately established by JBATA may be applied.
- 2. The scope of weighted average shall, in principle, be data of actual funding transactions in which both the financing and funding sides are a prime bank. Where data includes actual funding transactions in which the prime bank is at the funding side and the non-prime bank is at the investing side, such data shall be included in the scope of weighted average provided that the investing side is a depository institution.
- 3. Regardless of Notes 1 and 2 above, in the case that the condition separately established by JBATA is met (e.g. a change in the level of policy interest rate), data of actual transactions executed at and before the point of time in which such condition is met shall be excluded from the scope of weighted average.
- 4. Of Committed Quotes observed within the timeframe between 10:30 a.m. and 11:00 a.m. of the day, limited to those quotes that are confirmed with *Tanshi* (broker) that quotes are a Committed Quote at which the transaction is committed to be executed, whose record can be retained by

- means of such as recording, and whose maximum transaction amount is considered to be a standard amount. If several Committed Quotes are observed, the weighted average shall be calculated using respective maximum transaction amount to determine the reference rate.
- 5. <u>Information screens of *Tanshi* (broker) to be referenced shall be pre-notified to JBATA.</u>

  However, of information screens pre-notified to JBATA, reference shall be made only to those satisfying the criteria for assessing the effectiveness separately established by JBATA.
- 6. As an exception to an adjacent tenor, for 1 week rate, linear interpolation is carried out using the weighted average of actual transactions data related to over-night transactions and the reference rate of 1 month rate. With respect to a 12 month rate, a change in the 6-month reference rate from the previous business day is added to or deducted from the 12 month rate.
- 7. If the condition separately established by JBATA is met (e.g. a change in the level of policy interest rate), data shall not be dated back to the business day on which such a condition is met or earlier even if transactions are executed within the business days separately set forth by JBATA.
- 8. The scope of actual transactions data in the Japan Offshore market shall be limited to actual transactions data that includes funding transactions in which either the funding side or investing side is a Tokyo operation of a financial institution which has a Special International Financial Transactions Account.
- 9. In [2-1], actual transactions data in the Japan Offshore market is included in the same rank as actual transactions data in the Interbank NCD market. If multiple sets of actual transaction data are observed, the weighted average of such data shall be calculated to determine the reference rate.
- 10. [1-2] and [1-3] shall not be used for data in the Interbank NCD market.
- 11. Apply notes 1 and 3 in referencing data in the NCD market (other than the Interbank NCD market) and actual transactions data of large term deposits.
- 12. JBATA shall determine the weight for respective related market transactions set forth in ① to ⑤. The reference rate shall be calculated based on such a weight.

# [Appendix 2: Waterfall methodology for Euroyen TIBOR]

1st L	evel	vel Use data in the observable Japan Offshore Market.		
<u>1-</u>	<u>·1</u>	Actual transactions data of Euroyen	• Rates in observable actual transactions data are weighted averaged by the transaction	
		transactions	value to arrive at a reference rate. (Notes 1-4)	
1-	<u>-2</u>	Committed Quotes of Euroyen	• Of Committed Quotes presented by brokers based on which transactions are committed	
		transactions	to be executed, those relating to offered rates are weighted averaged to arrive at a	
			reference rate. (Note 5)	
<u>1-</u>	<u>-3</u>	Indicative Quotes of Euroyen	· A change from the previous business day in the mean rate of quotes presented by	
		transactions	brokers, is referenced. (Note 6)	
			(A change from the previous day in the mean rate of quotes is added/deducted to/from	
			the reference rate submitted on the previous day to arrive at the reference rate of the	
			<u>day.)</u>	

1-4 (1)	<u>Linear Interpolation</u>	• If a reference rate of an adjacent tenor is calculated in line with the sub-tier [1-1], the linear interpolation method is applied to arrive at a reference rate. (Note 7)			
1-4 (2)	Retroactive Use of actual transactions data	• Date back day by day up to three business days, and if a reference rate is calculated in line with the sub-tier [1-1] in a business day, that reference rate is determined as a			
<u>1-4</u> (3)	Linear interpolation based on retroactively-used actual transactions data	reference rate of the day. (Note 8)  • If a reference rate of an adjacent tenor is calculated in line with the sub-tier [1-1] o  [1-4(2)], the linear interpolation method is applied to arrive at a reference rate. (Note 6)			
2nd Level Use data in the observable unsecured call market and Interbank NCD market.					
2-1	Data in the unsecured call market,  Data in the Interbank NCD market	The treatment under the sub-tiers from [1-1] to [1-4(3)] are applied mutatis mutandis in this order to actual transactions, etc. (Notes 1, 2, 4 to 10)			
3rd Level	3rd Level Use data in the observable NCD market (other than the Interbank NCD market), Large Term Deposits, short-term governmen bonds market, GC repos market and OIS market.				
	Data in the NCD market (other than the Interbank NCD market), Large Term Deposits, short-term government bonds market, GC repos market and OIS market	With respect to the following data, reference a change from the previous business day.  (Respective changes from the previous business day in the following data ① to ② are added to, or deducted from, the reference rate submitted on the previous day is accordance with the method predetermined by JBATA to arrive at a reference rate of the day.) (Notes 11 and 12)  ① Actual transactions in the NCD market (other than the Interbank NCD market)  ② Actual transactions in large term deposits  ③ Quotes in the short-term government bonds market  ④ Quotes in the GC repos market  ⑤ Quotes in the OIS market			
4th Level	Expert Judgment				
	• A rate is submitted based on expert judgment by a Person Responsible for Rate Submission and Staff Performing Rate Submission Tasks at reference banks.				

# <u>Notes</u>

- 1. Of data of actual transactions that were executed during the past 24 hours (i.e. from after 11:00 a.m. on the previous business day till 11:00 a.m.), in principle, actual transactions data exceeding the minimum transaction amount (1 billion yen, in principle) shall be collected and weighted average shall be calculated, in principle. With regard to the starting point of the 24-hour timeframe (including the ending point) and the minimum transaction amount, exceptional treatment separately established by JBATA may be applied.
- 2. The scope of weighted average shall, in principle, be data of actual funding transactions in which either side of, or both, the financing and funding sides is/are a prime bank. Where data includes actual funding transactions in which the prime bank is at the funding side but the non-prime

- bank is at the investing side, such data shall be included in the scope of weighted average provided that the investing side is a depository institution.
- 3. The scope of actual transactions data in the Japan Offshore market shall be limited to actual transactions data that includes funding transactions in which either the funding side or investing side is a Tokyo operation of a financial institution which has a Special International Financial Transactions Account.
- 4. Regardless of Notes 1 to 3, if the condition separately established by JBATA is met (e.g. a change in the level of policy interest rate), data of actual transactions executed at and before the point of time in which such condition is met shall be excluded from the scope of weighted average.
- 5. Of Committed Quotes observed within the timeframe between 10:30 a.m. and 11:00 a.m. of the day, limited to those quotes that are confirmed with *Tanshi* that quotes are a Committed Quote at which the transaction is committed to be executed and whose record can be retained by means of such as recording. If several Committed Quotes are observed, the weighted average shall be calculated using respective maximum transaction amount to determine the reference rate.
- 6. <u>Information screens of *Tanshi* (broker) to be referenced shall be pre-notified to JBATA.</u>

  However, of information screens pre-notified to JBATA, reference shall be made only to those satisfying the criteria for assessing the effectiveness separately established by JBATA.
- 7. As an exception to an adjacent tenor, for 1 week rate, linear interpolation is carried out using the weighted average of actual transactions data related to over-night transactions and the reference rate of 1 month rate. With respect to a 12 month rate, a change in the 6 month reference rate from the previous business day is added to or deducted from the 12 month rate.
- 8. If the condition separately established by JBATA is met (e.g. a change in the level of policy interest rate), data shall not be dated back to the business day on which such a condition is met or earlier even if transactions are executed within the business days separately set forth by JBATA.
- 9. <u>In [2-1]</u>, actual transactions data in the unsecured call market is included in the same rank as actual transactions data in the Interbank NCD market. If multiple sets of actual transaction data are observed, the weighted average of such data shall be calculated to determine the reference rate.
- 10. [1-2] and [1-3] shall not be used for data in the Interbank NCD market.
- 11. Apply notes 1, 2 and 4 in referencing data in the NCD market (other than the Interbank NCD market) and actual transactions data of large term deposits.
- 12. JBATA shall determine the weight for respective related market transactions set forth in ① to ⑤. The reference rate shall be calculated based on such a weight.

# (2) Establishment of Processes for Appropriate Rate Submission

(snip)

# **Additional clauses**

# 1.Date of Implementation

This Code of Conduct will be in effective on Apr.1 2014. Provided that (3)-⑤, (3)-⑥, (6), and external audit issue described in (7) will be in effective one year after the initial implementation of the Code of Conduct.

#### 2.Interim Measure

For the purpose of the application of paragraphs (1) and (2) of Section 1 with respect to JBA TIBOR to be published until March 31, 2015, "interest rate for 6 maturities (i.e. 1 week, 1 month, 2 months, 3 months, 6 months and 12 months)" in the said paragraphs shall be read as "interest rates for 13 maturities(1week, 1 month, 2 months, 3 months, 4 months, 5 months, 6 months, 7 months, 8 months, 9 months, 10 months, 11 months and 12months)".

# 3.Interim Measure for revision as of MM DD, YYYY (1)

For the purpose of the application of revised JBA TIBOR Code of Conduct as of MM DD, YYYY, paragraphs (1) and (2) of Section 1 with respect to JBA TIBOR to be published until MM DD, YYYY, "interest rate for 5 maturities (i.e. 1 week, 1 month, 3 months, 6 months and 12 months)" in the said paragraphs shall be read as "interest rates for 6 maturities (1week, 1 month, 2 months, 3 months, 6 months and 12months)".

# 4.Interim Measure for revision as of MM DD, YYYY (2)

For the purpose of the application of revised JBA Code of Conduct as of MM DD, YYYY, [Workflow for Publication of Official Rates] of Attachment 1 with respects to JBA TIBOR to be published until MM DD, YYYY, "Official Rate" in the said paragraph shall be read "Official Rates".

#### (Attachment 1) Rate Submission Procedures

#### [Workflow for Publication of Official Rate]

The following outlines the workflow for the tabulation, calculation and publication of the JBA TIBOR (See the diagram below.)

- (1) Reference banks quote rates as of 11:00 a.m. and provide such rates to the service provider by inputting information into terminals (①) (input deadline: 12:20 p.m.).

  Reference banks are responsible for checking and verifying the rates they input. (See Table 1 for an image of the input screen.)
- (2) The service provider tabulates the reference rates and calculates the official rates (2).
- (3) The service provider immediately transmits its calculation results to JBATA over its transmission system (③).
- (4) JBATA reviews calculation results (4), and grants the service provider permission to publish the

(snip)

# Additional clauses

# 1.Date of Implementation

This Code of Conduct will be in effective on Apr.1 2014. Provided that (3)-⑤, (3)-⑥, (6), and external audit issue described in (7) will be in effective one year after the initial implementation of the Code of Conduct.

#### 2.Interim Measure

For the purpose of the application of paragraphs (1) and (2) of Section 1 with respect to JBA TIBOR to be published until March 31, 2015, "interest rate for 6 maturities (i.e. 1 week, 1 month, 2 months, 3 months, 6 months and 12 months)" in the said paragraphs shall be read as "interest rates for 13 maturities(1week, 1 month, 2 months, 3 months, 4 months, 5 months, 6 months, 7 months, 8 months, 9 months, 10 months, 11 months and 12months)".

(New item)

#### (Attachment 1) Rate Submission Procedures

#### [Workflow for Publication of Official Rates]

The following outlines the workflow for the tabulation, calculation and publication of the JBA TIBOR. (See the diagram below.)

- (1) Reference banks quote rates as of 11:00 a.m. and provide such rates to the service provider by inputting information into terminals (1) (input deadline: 11:20 a.m.).
  - Reference banks are responsible for checking and verifying the rates they input. (See Table 1 for an image of the input screen.)
- (2) The service provider tabulates the reference rates and calculates the official rates (2).
- (3) The service provider immediately transmits its calculation results to JBATA over its transmission system (③).
- (4) JBATA reviews calculation results (4), and grants the service provider permission to publish the

official rates and reference rates (collectively, "Rates") (⑤).	official rates and reference rates (collectively, "Rates") (⑤).
(5) Upon receiving permission, the service provider transmits the Rates to information providers by	(5) Upon receiving permission, the service provider transmits the Rates to information providers by
<u>1:00 p.m.</u> (⑥).	<u>12:00 noon</u> (⑥).
(6) Information providers immediately publish the Rates (7). (See Table 2 for an image of the list of	(6) Information providers immediately publish the Rates (⑦). (See Table 2 for an image of the list of
Rates.)	Rates.)
(7) In principle, the Rates are not revised after 12:20 p.m. However, should there be need to revise	(7) In principle, the Rates are not revised after 11:20 a.m. However, should there be need to revise
reference rates after 12:20 p.m., revisions shall be made before 12:35 on the same day upon	reference rates after 11:20 a.m., revisions shall be made before 11:35 on the same day upon
consultation with JBATA.	consultation with JBATA.
(Attachment 2) Procedures for Reference Banks Selection	(Attachment 2) Procedures for Reference Banks Selection
(snip)	(snip)

(This English translation is provided exclusively as a convenience. If any questions that may arise related to the accuracy of the information contained in the English version, please refer to the original language official version of the document.)

# Proposed revision to the "JBA TIBOR Operational Rules"

# Revised Version (Draft)

# (Definitions)

Article 4 The terms used in the Rules shall be defined as follows or, unless otherwise specified in the Rules, as defined by relevant rules and guidelines which are established in accordance with the Rules.

# (i) Japanese Yen TIBOR

The Japanese Yen TIBOR is the respective average of interest rates for <u>five</u> maturities (i.e. 1 week, 1 month, 3 months, 6 months and 12 months)<sup>Note1</sup> submitted by reference banks to the JBATA as required by the Code of Conduct. In calculating the Japanese Yen TIBOR, for each maturity, the JBATA excludes the two highest quotes and two lowest quotes from reference banks and averages the remaining rates (rounded to the fifth decimal place).

In a case where some reference bank fails to submit a part of rates for some reason, the forgoing process is followed to derive Japanese Yen TIBOR for each maturity based on the rate submitted by other banks.

(Note1) The rates which reference banks deem as prevailing market rates, assuming transactions between prime banks on the Japan unsecured call market as of 11:00 a.m. The rates are quoted on a 365-day basis, as spot starts in increments of 1/100% (1 basis point).

# (ii) Euroyen TIBOR

The Euroyen TIBOR is the respective average of interest rates for <u>five</u> maturities (i.e. 1 week, 1 month, 3 months, 6 months and 12 months)<sup>Note2</sup> submitted by reference banks to the JBATA as required by the Code of Conduct. In calculating the Euroyen TIBOR, for each maturity, the JBATA excludes the two highest quotes and two lowest quotes from reference banks and averages the remaining rates (rounded to the fifth decimal place).

In a case where some reference bank fails to submit a part of rates for some reason, the forgoing process is followed to derive Euroyen TIBOR for each maturity based on the rate submitted by other banks.

(Note2) The rates which reference banks deem as prevailing market rates, assuming transactions between prime banks on the Japan Offshore Market as of 11:00 a.m. The rates are quoted on a 360-day basis, as spot starts (based on the Tokyo's business day) in increments of 1/100% (1 basis point).

#### (iii) (snip)

# **Current Version**

# (Definitions)

Article 4 The terms used in the Rules shall be defined as follows or, unless otherwise specified in the Rules, as defined by relevant rules and guidelines which are established in accordance with the Rules.

# (i) Japanese Yen TIBOR

The Japanese Yen TIBOR is the respective average of interest rates for <u>six</u> maturities (i.e. 1 week, 1 month, <u>2 months</u>, 3 months, 6 months and 12 months)<sup>Note1</sup> submitted by reference banks to the JBATA as required by the Code of Conduct. In calculating the Japanese Yen TIBOR, for each maturity, the JBATA excludes the two highest quotes and two lowest quotes from reference banks and averages the remaining rates (rounded to the fifth decimal place).

In a case where some reference bank fails to submit a part of rates for some reason, the forgoing process is followed to derive Japanese Yen TIBOR for each maturity based on the rate submitted by other banks.

(Note1) The rates which reference banks deem as prevailing market rates, assuming transactions between prime banks on the Japan unsecured call market as of 11:00 a.m. The rates are quoted on a 365-day basis, as spot starts in increments of 1/100% (1 basis point).

# (ii) Euroyen TIBOR

The Euroyen TIBOR is the respective average of interest rates for <u>six</u> maturities (i.e. 1 week, 1 month, <u>2 months</u>, 3 months, 6 months and 12 months)<sup>Note2</sup> submitted by reference banks to the JBATA as required by the Code of Conduct. In calculating the Euroyen TIBOR, for each maturity, the JBATA excludes the two highest quotes and two lowest quotes from reference banks and averages the remaining rates (rounded to the fifth decimal place).

In a case where some reference bank fails to submit a part of rates for some reason, the forgoing process is followed to derive Euroyen TIBOR for each maturity based on the rate submitted by other banks.

(Note2) The rates which reference banks deem as prevailing market rates, assuming transactions between prime banks on the Japan Offshore Market as of 11:00 a.m. The rates are quoted on a 360-day basis, as spot starts (based on the Tokyo's business day) in increments of 1/100% (1 basis point).

# (iii) (snip)

# (Rate submission procedures by reference banks)

- Article 14 (1) Reference banks shall submit their reference rates for Japanese Yen TIBOR and Euroyen TIBOR respectively to the service provider no later than 12:20 p.m. on every business day. In principle, any revision after 12:20 p.m. is not allowed.
- (2) Notwithstanding the preceding paragraph, should there be need to revise the reference rates after 12:20 p.m., reference banks shall make a request for such a revision to the service provider before 12:35 p.m. on the same day upon consultation with the JBATA.

# (Review of the reference rates by the JBATA)

- Article 16 (1) The Operation Dept. shall check (review) official rate, etc., which is presented by the service provider pursuant to the preceding article, and grant permission to the service provider to publish official rate, etc.
- Such permission shall be granted by the personnel in a managerial position of the Operation Dept. (unless a request is made to the back-up institution to review the JBA TIBOR and grant such permission pursuant to Article 47(2)).
- (2) If the Operation Dept. identifies any possible error in the reference rate during the reviewing process in the preceding paragraph, it shall make an inquiry to the reference bank which submitted such a rate.
- (3) If, as a result of the inquiry made pursuant to the preceding paragraph, it is concluded that there is an error in the reference rate, the Operation Dept. shall instruct the reference bank to revise its rate. The reference bank shall make a request to the service provider to revise the rate no later than 12:35 p.m. of the same day.
- (4) The Operation Dept. shall retain the record of erroneous submission identified through its review and other relevant matters and report them to the Administration Committee and the Oversight Committee on a regular basis.
- (5) When obtaining information from a front office function of reference banks in connection with the processes of paragraphs (1) to (3), the Operation Dept. shall pay particular attention to the accuracy of such information.

# (The service provider's publication through the information providers)

Article 17 The service provider shall transmit official rate, etc. to the information providers upon obtaining permission from the Operation Dept. pursuant to the preceding article. The reference rates of each reference bank shall be published based on the rule separately set out by JBA TIBOR administration through information providers.

# (Rate submission procedures by reference banks)

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# (The service provider's publication through the information providers)

Article 17 The service provider shall transmit official rate, etc. to the information providers upon obtaining permission from the Operation Dept. pursuant to the preceding article. The information providers shall immediately publish official rate and also the reference rates of each reference bank.

# Supplement Supplement

#### 1. Effective Date

The Rules shall be effective from April 1, 2014.

# 2. Transition

When items (i) and (ii), paragraph (1) of Article 4 of the Rules apply to the JBA TIBOR that will be published up to March 31, 2015, "interest rates for six maturities (i.e. 1 week, 1 month, 2 months, 3 months, 6 months and 12 months)" as set out in the said paragraph shall be replaced with "interest rates for thirteen maturities (i.e. 1 week, 1 month, 2 months, 3 months, 4 months, 5 months, 6 months, 7 months, 8 months, 9 months, 10 months, 11 months, 12 months)".

# 3.Interim Measure for revision as of MM DD, YYYY (1)

For the purpose of the application of revised JBA TIBOR Operational rules as of MM DD, YYYY, paragraphs (1) and (2) of Article 4 with respect to JBA TIBOR to be published until MM DD, YYYY, "interest rate for 5 maturities (i.e. 1 week, 1 month, 3 months, 6 months and 12 months)" in the said paragraphs shall be read as "interest rates for 6 maturities (1week, 1 month, 2 months, 3 months, 6 months and 12months)".

# 4.Interim Measure for revision as of MM DD, YYYY (2)

For the purpose of the application of revised JBA TIBOR Operational Rules as of MM DD, YYYY, Article 17 with respects to JBA TIBOR to be published until MM DD, YYYY, "The reference rates of each reference bank shall be published based on the rule separately set out by JBA TIBOR administration through information providers." in the said paragraph shall be read "The information providers shall immediately publish official rate and also the reference rates of each reference bank.".

#### 1. Effective Date

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# 2. Transition

When items (i) and (ii), paragraph (1) of Article 4 of the Rules apply to the JBA TIBOR that will be published up to March 31, 2015, "interest rates for six maturities (i.e. 1 week, 1 month, 2 months, 3 months, 6 months and 12 months)" as set out in the said paragraph shall be replaced with "interest rates for thirteen maturities (i.e. 1 week, 1 month, 2 months, 3 months, 4 months, 5 months, 6 months, 7 months, 8 months, 9 months, 10 months, 11 months, 12 months)".