

March 7, 2019

General Incorporated Association JBA TIBOR Administration

Result of a Periodic Review of the JBA TIBOR Operational Framework

General Incorporated Association JBA TIBOR Administration (Chairman: Akihiro Wani; “JBATA”) conducted a periodic review of the JBA TIBOR operational framework pursuant to the Article 48(1) of the JBA TIBOR Operational Rules as described hereinafter. JBATA concludes that it is not necessary to change the JBA TIBOR operational framework based on the result of periodic review. In light of international discussions on the financial benchmark reforms, JBATA will continue its efforts to comply with the IOSCO principle and maintain the operational framework with a view to enhancing the reliability and transparency of JBA TIBOR.

1. Underlying markets of JBA TIBOR

The conditions of the underlying markets (i.e. the Japan unsecured call market in the case of Japanese yen TIBOR and the Japan Offshore market in the case of Euroyen TIBOR; the same shall apply hereinafter) and other relevant markets of JBA TIBOR are as described in this section. The percentage of the transactions executed by reference banks in the JBA TIBOR underlying markets is approximately 30% to 60%. Note that the figures shown below are estimates calculated based on, among other things, published statistical data solely for the purposes of the JBATA's assessment and consideration. Therefore, JBATA is not liable for any loss or damage arising indirectly or directly from the use of these figures.

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| (1) Estimated market size of the Japan unsecured call market | Approx. JPY18.6 tril. ^{*1} |
| (2) Estimated market size of the Japan Offshore market(Financing side) | Approx. JPY0.5 tril. ^{*2} |
| (Funding side) | Approx. JPY0.6 tril. ^{*2} |
| (3) Estimated market size of NCD transactions | Approx. JPY24.4 tril. ^{*3} |
| (4) Estimated market size of large-account, time deposit transactions | (Approx. JPY 31.9 tril.) ^{*4} |

*1 Estimated based on the “Trend in the Money Market in Japan - Tokyo Money Market Survey (August 2018)” published by the Bank of Japan

*2 Estimated based on the “Balance of Offshore Account (end of July 2018)” published by the Mistry of Finance Japan. In light of feature of the Japan Offshore market, the market size was estimated from both the financing side (Total Assets/ Deposits and Call Loans/ Denominated in JPY) and the funding side (Total Liabilities/ Deposits and Call Money/ Denominated in JPY)

- *3 Estimated based on statistics related to the Deposits and Loan Market (DL) (January 2018 to November 2018) published by the Bank of Japan
- *4 Estimated based on the “Amounts Outstanding of Deposits by Depositor (semi-annual research <for domestic banks>) (end of September 2018)” published by the Bank of Japan
(Transactions for corporate entities only)

2. Basis for submission rate calculation by reference banks

The basis for calculation of submission rate by reference banks from January 4, 2018 to December 28, 2018 (245 business days in total) is shown in the tables below. During the period, there was no rate submission using the expert judgement by reference bank in both Japanese Yen TIBOR and Euroyen TIBOR.

(1) Japanese Yen TIBOR (submitted by 15 reference banks)

Tenor Level	1W	1M	2M	3M	6M	12M
1st Level	99.8%	100.0%	100.0%	100.0%	100.0%	100.0%
2nd Level	—	—	—	—	—	—
3rd Level	0.2%	—	—	—	—	—
4th Level	—	—	—	—	—	—

(2) Euroyen TIBOR (submitted by 14 reference banks)

Tenor Level	1W	1M	2M	3M	6M	12M
1st Level	2.1%	16.6%	19.9%	42.8%	61.8%	74.5%
2nd Level	97.7%	83.4%	80.1%	57.2%	38.2%	25.5%
3rd Level	0.3%	—	—	—	—	—
4th Level	—	—	—	—	—	—

(Overview of the calculation and determination process for submission rates in Japanese Yen TIBOR)

1st Level Data of the unsecured call market	<ul style="list-style-type: none"> ① Actual transaction data on the unsecured call market on the business day. ② Quotes in the unsecured call market ③ Actual transaction data on the unsecured call market on the three previous business days <p>※Reference banks determine their submission rates in the order of ① to ③ (in the case where there is no available data for Level 1, move to Level 2 described below)</p>
2nd Level Data of the inter-bank market which is similar to the	<ul style="list-style-type: none"> ① Actual transaction data on the Japan offshore market and Interbank NCD market on the relevant business day ② Quotes in the Japan offshore market

unsecured call market	<p>③ Actual transaction data on the Japan offshore market and Interbank NCD market on the three previous business days.</p> <p>※Reference banks determine their submission rates in the order of ① to ③ (in the case where there is no data available for Level 2, move to Level 3 described below) .</p>
3rd Level Data of the relevant market including the whole sale market	<p>• Actual transaction data on the NCD market (excluding the interbank NCD market), large term deposits, quotes in the short-term government bonds market, the GC repos market and the OIS market</p> <p>※There is no hierarchy among the markets in the same level.</p>
4th Level	<p>• Only in the instance where there is no data available for Level 1, 2 and 3, a reference bank may determine their submission rates considering other factors (e.g. expert judgment).</p>

※ In the calculation and determination process of submission rate for Euroyen TIBOR, “unsecured call market” in the 1st Level is replaced by “Japan offshore market”, “Japan offshore market” in the 2nd Level is replaced by “unsecured call market”.