Supplemental Benchmarks Disclosure

Disclosure for Rates Transactions

This Disclosure supplements and should be read in conjunction with the Disclosure Annex for Interest Rate Transactions. NOTHING IN THIS DISCLOSURE AMENDS OR SUPERSEDES THE EXPRESS TERMS OF ANY TRANSACTION BETWEEN YOU AND US OR ANY RELATED GOVERNING DOCUMENTATION. Accordingly, the information provided in this Disclosure is subject in all cases to the actual terms of a Rates Transaction executed between you and us and its governing documentation (whether or not such qualification is expressly stated).

Disclosure for Benchmark-based Obligations and Investments

This Disclosure is provided for Rates Transactions where a Benchmark is an Underlier, but also provides information that may be useful in connection with other Benchmark-based Obligations and Investments, including those for which Rates Transactions are entered into or acquired for hedging, risk management or investment purposes.

As used herein:

“Benchmark” refers generally to any interest rate benchmark (or a successor) without necessarily referring to a specific definition used in a financial instrument (including, without limitation, the definition in the relevant ISDA Definitions).

“Benchmark-based Obligations and Investments” means transactions, contracts, loans, securities, debt instruments, derivatives or other obligations or investments that include or reference a rate based on, or derives from, a particular Benchmark, whether or not related to a Rates Transaction or constituting a Rates Transaction.

Understanding Benchmarks

Because Benchmark definitions vary, it will be important for you to understand such definitions along with the other interest rate provisions when you enter into or acquire Benchmark-based Obligations and Investments. For example, if you enter into or acquire a Benchmark-based Obligation or Investment and hedge the Benchmark with a derivative, there could be differences in the respective Benchmark definitions and/or their interest rate fallback provisions. If the result is a material interest rate mismatch between the two financial products, this could expose you to “basis risk” and otherwise undermine the effectiveness of the derivative as a hedge.

You should familiarize yourself with the composition and characteristics of each Benchmark you use. You may also wish to consider how the Benchmark is
determined (including the transparency of the methodology used and the process for making changes to such methodology), the governance of, and accountability for, the Benchmark determination process, and other factors affecting the operation and market acceptance of the applicable Benchmark. Information regarding some Benchmarks may be publicly available on the administrator's or other third-party websites (in some cases rate values appear on a delayed basis).

Whether a Benchmark is appropriate to meet your financial needs, objectives and hedging strategies should be part of any suitability analysis that you conduct in entering into or acquiring any Benchmark-based Obligation or Investment and, depending upon your circumstances, may be important for you to assess periodically as your financial needs, objectives and hedging strategies change, or as methodological or other changes take place with respect to the Benchmark.

Certain Benchmark administrators may provide a statement of such Benchmark’s current compliance with the International Organization of Securities Commissions (IOSCO) Principles for Financial Benchmarks. Demonstrating compliance with these principles is not a one-time exercise and there is no assurance that any Benchmark will continue to be compliant over time. Certain Benchmarks are not yet and may not become approved under any relevant jurisdiction-specific benchmark regulations.

Very Limited History; Past Performance

Some Benchmarks may have a very limited publication history. The amount of historical data available for any Benchmark, including data pre-dating publication of the Benchmark that would be used in formulation of the Benchmark, can vary. In addition, neither we nor you can predict the future performance of any Benchmark based on historical performance. The level of a Benchmark over the term of a Benchmark-based Obligation or Investment may bear little or no relation to the historical level of the applicable Benchmark. Prior observed patterns, if any, in the behavior of market variables, such as correlations, may change in the future. While some pre-publication historical data have been released by Benchmark administrators, you should be aware that any such analysis inherently involves assumptions, estimates and approximations. You should also understand that the future performance of any Benchmark is impossible to predict and therefore no future performance of a Benchmark or any Benchmark-based Obligation or Investment may be inferred from any of the historical simulations or historical performance. Hypothetical or historical performance data are not indicative of, and have no bearing on, the potential performance of the applicable Benchmark or any Benchmark-based Obligation or Investment.

Credit Sensitive Benchmarks

Certain “credit sensitive” Benchmarks seek to measure, as a component of the overall Benchmark, specific credit risk associated with a group of market participants
(commonly banks) and, as a result, are more likely to correlate with the unsecured short-term funding costs of the relevant reference entities. Certain other credit sensitive Benchmarks may be designed for use combined with other Benchmarks and seek to solely measure entity-specific credit risk. In times of market stress, such credit sensitive Benchmarks would likely rise, which would likely result in an increased expense for borrowers and other payers of such Benchmark-based Obligations or Investments.

Market Acceptance

Certain Benchmarks may fail to gain market acceptance or could be subject to regulatory criticism, scrutiny, or other actions. Benchmarks may cease to be published permanently or indefinitely or may be subject to a declaration regarding non-representativeness, a lack of fitness for use in financial markets or other actions that impact use. In such cases, even if replacement Benchmarks have been endorsed by regulators or committees convened by regulators, some market participants may not consider any such Benchmarks to be suitable substitutes or successors for all of the purposes for which the discontinued or non-representative Benchmark (“Discontinued Benchmark”) historically has been used. Any failure of a Benchmark to gain market acceptance could adversely affect Benchmark-based Obligations and Investments and their economics, including the price, value or liquidity of Benchmark-based Obligations and Investments, their usefulness for your intended purpose, the timing or amount of payments or deliveries and, if applicable, the likelihood that you will be able to exercise any option rights.

Benchmark Replacements - Equivalency and Risks

A replacement Benchmark selected will generally not be a direct economic equivalent of any Discontinued Benchmark (or any other alternative Benchmark). There can be no assurance that any selected Benchmark will perform in the same way as any a Discontinued Benchmark would have at any time, including, without limitation, as a result of changes in interest and yield rates in the market, market volatility or global or regional economic, financial, political, regulatory, judicial or other events. For the same reasons, there is no guarantee that any Benchmark is suitable as a substitute for any LIBOR.

While the terms of a Benchmark-based Obligation or Investment may include spreads or other adjustments to the applicable Benchmark to approximate a Discontinued Benchmark-equivalent rate, such rate may be only an estimate or approximation of the relevant Discontinued Benchmark, may not be subject to continued verification against the relevant Discontinued Benchmark after it is impaired, suspended, discontinued or unavailable, and may not result in a rate that is the economic equivalent of any Discontinued Benchmark. In addition, spreads or other adjustments may reflect an historical correlation or relationship between the relevant new
Benchmark and the Discontinued Benchmark without taking into account future changes.

**Modification and Discontinuance Risk**

The administrator of each Benchmark may make methodological or other changes that could change the value of the applicable Benchmark, including changes related to the method by which the Benchmark is calculated, eligibility criteria applicable to the transactions used to calculate the Benchmark, or timing related to the publication of the Benchmark. In addition, the administrator may alter, discontinue or suspend calculation or dissemination of the applicable Benchmark (in which case a fallback method of determining the Benchmark may apply, if specified in the relevant Benchmark-based Obligation or Investment). The relevant administrator has no obligation to consider your interests in calculating, adjusting, converting, revising or discontinuing any Benchmark.

Moreover, if a fallback method of determining the Benchmark applies and such fallback method involves determining the Benchmark by reference to a rate other than the applicable Benchmark, there is no guarantee that such rate will be suitable for each Benchmark-based Obligation or Investment or type as a substitute or successor for the Benchmark, that the composition or characteristics of such rate will be similar to those of the Benchmark (including having the same term or credit structure), or that such rate will be the economic equivalent of the Benchmark used in your Benchmark-based Obligations and Investments.

**Other Risks and Considerations**

This Disclosure is not a complete statement of risks and other considerations concerning its subject matter, nor is it intended to address tax, accounting, or legal issues or risks. You should not construe the content of this Disclosure as legal, financial, tax, accounting, or other advice, and you should consult your own attorneys, financial advisors, tax advisors and accountants as to legal, financial, tax, accounting and related matters concerning any Benchmark-based Obligations and Investments, including the impact on your business and the risks, requirements and results of Benchmark-based Obligations and Investments.

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