

HSBC EMIR DELEGATED REPORTING SERVICE
SCHEDULE 1 TO THE VALUATION REPORTING AGREEMENT
VALUATION POLICY

1. Valuation Methodology Overview

HSBC applies mark-to-market valuations to OTC derivative contracts where mark-to-market is available. There are certain conditions which prevent mark-to-market of an OTC derivative contract. These are when:

- ◆ the market is inactive (*)
- ◆ the range of reasonable fair values estimates is significant and the probabilities of the various estimates cannot reasonably be assessed.

(*) A market for an OTC derivative contract is inactive when quoted prices are not readily and regularly available and those prices do not represent actual and regularly occurring market transactions
When using mark-to-model, HSBC's models:

- ◆ incorporate factors that we would consider in setting a price, including using as much mark-to-market information;
- ◆ are consistent with accepted economic methodologies for pricing financial instruments;
- ◆ are calibrated and tested for validity using prices from any observable current market transactions in the same financial instrument or based on any available observable market data;
- ◆ are validated and monitored by a division other than the division taking the risk.

2. Control framework

Fair values are subject to a control framework designed to ensure that they are either determined or validated by a function independent of the risk-taker.

For all financial instruments where fair values are determined by reference to externally quoted prices or observable pricing inputs to models, independent price determination or validation is utilised. In inactive markets, direct observation of a traded price may not be possible. In these circumstances, HSBC will source alternative market information to validate the financial instrument's fair value, with greater weight given to information that is considered to be more relevant and reliable. The factors that are considered in this regard are, *inter alia*:

- ◆ The extent to which prices may be expected to represent genuine traded or tradeable prices;
- ◆ The degree of similarity between financial instruments;
- ◆ The degree of consistency between different sources;
- ◆ The process followed by the pricing provider to derive the data;
- ◆ The elapsed time between the date to which the market data relates and the balance sheet date;
- ◆ The manner in which the data was sourced.

For fair values determined using valuation models, the control framework may include, as applicable, development or validation by independent support functions of (i) the logic within valuation models; (ii) the inputs to those models; (iii) any adjustments required outside the valuation models; and (iv) where possible, model outputs. Valuation models are subject to a process of due diligence and calibration before becoming operational and are calibrated against external market data on an on-going basis.

The majority of financial instruments measured at fair value are in GB&M. GB&M's fair value governance structure is illustrated below as an example:



3. Determination of fair value

Fair values are determined according to the following hierarchy:

- ◆ Level 1 – quoted market price: financial instruments with quoted prices for identical instruments in active markets that HSBC can access at the measurement date.
- ◆ Level 2 – valuation technique using observable inputs: financial instruments with quoted prices for similar instruments in active markets or quoted prices for identical or similar instruments in inactive markets and financial instruments valued using models where all significant inputs are observable.
- ◆ Level 3 – valuation technique with significant unobservable inputs: financial instruments valued using valuation techniques where one or more significant inputs are unobservable.

The best evidence of fair value is a quoted price in an actively traded market. The fair values of financial instruments that are quoted in active markets are based on bid prices for assets held and offer prices for liabilities issued. Where a financial instrument has a quoted price in an active market, the fair value of the financial instrument is calculated as the product of the number of units and quoted price. In the event that the market for a financial instrument is not active, a valuation technique is used.

The judgment as to whether a market is active may include, but is not restricted to, the consideration of factors such as the magnitude and frequency of trading activity, the availability of prices and the size of bid/offer spreads. The bid/offer spread represents the difference in prices at which a market participant would be willing to buy compared with the price at which they would be willing to sell. In inactive markets, obtaining assurance that the transaction price provides evidence of fair value or determining the adjustments to transaction prices that are necessary to measure the fair value of the instrument requires additional work during the valuation process.

4. Valuation techniques

Valuation techniques incorporate assumptions about factors that other market participants would use in their valuations. A range of valuation techniques is employed, dependent on the instrument type and available market data.

Most valuation techniques are based upon discounted cash flow analyses, in which expected future cash flows are calculated and discounted to present value using a discounting curve. Prior to considering credit risk, the expected future cash flows may be known, as would be the case for the fixed leg of an interest rate swap, or may be uncertain and require projection, as would be the case for the floating leg of an interest rate swap. 'Projection' utilises market forward curves, if available. In option models, the probability of different potential future outcomes must be considered. In addition, the value of some products are dependent on more than one market factor, and in these cases it will typically be necessary to consider how movements in one market factor may affect the other market factors.

The model inputs necessary to perform such calculations include interest rate yield curves, exchange rates, volatilities, correlations, prepayment and default rates. For interest rate derivatives with collateralised

counterparties and in significant currencies, HSBC uses a discounting curve that reflects the overnight interest rate ('OIS discounting').

The majority of valuation techniques employ only observable market data. However, certain financial instruments are valued on the basis of valuation techniques that feature one or more significant market inputs that are unobservable, and for them the measurement of fair value is more judgmental. An instrument in its entirety is classified as valued using significant unobservable inputs if, in the opinion of management, a significant proportion of the instrument's inception profit ('day 1 gain or loss') or greater than 5% of the instrument's valuation is driven by unobservable inputs. 'Unobservable' in this context means that there is little or no current market data available from which to determine the price at which an arm's length transaction would be likely to occur. It generally does not mean that there is no data available at all upon which to base a determination of fair value (consensus pricing data may, for example, be used). All fair value adjustments are included within the levelling determination.

5. Valuation of uncollateralised derivatives

HSBC values uncollateralised derivatives by discounting expected future cash flows at a benchmark interest rate, typically Libor or its equivalent. This approach has historically been adopted across the industry, and has therefore been an appropriate basis for fair value. HSBC and other industry participants are currently considering whether this approach appropriately reflects the manner in which the derivatives are funded, which may occur at rates other than interbank offer rates. No consensus has yet emerged on how such funding should be reflected in the fair value measurement for uncollateralised derivatives.

6. Fair value valuation basis of Level 3 instruments

Derivatives

OTC (i.e. non-exchange traded) derivatives are valued using valuation models. Valuation models calculate the **present value of expected future cash flows, based upon 'no-arbitrage' principles. For many vanilla derivative products**, such as interest rate swaps and European options, the modelling approaches used are standard across the industry. For more complex derivative products, there may be some differences in market practice. Inputs to valuation models are determined from observable market data wherever possible, including prices available from exchanges, dealers, brokers or providers of consensus pricing. Certain inputs may not be observable in the market directly, but can be determined from observable prices via model calibration procedures or estimated from historical data or other sources. Examples of inputs that may be unobservable include volatility surfaces, in whole or in part, for less commonly traded option products, and correlations between market factors such as foreign exchange rates, interest rates and equity prices.

Derivative products valued using valuation techniques with significant unobservable inputs included certain types of correlation products, such as foreign exchange basket options, equity basket options, foreign exchange interest rate hybrid transactions and long-dated option transactions. Examples of the latter are equity options, interest rate and foreign exchange options and certain credit derivatives. Credit derivatives include certain tranching CDS transactions.

SCHEDULE 2 TO THE VALUATION REPORTING AGREEMENT

IMPORTANT INFORMATION

1. Disclaimer

Important information in respect of valuation data to be reported pursuant to your HSBC EMIR Delegated Reporting Agreement

If you have elected in your Delegated Reporting Service Form for HSBC to submit valuation data on your behalf where you have not otherwise provided such valuation data to HSBC, this document forms part of and supplements your HSBC EMIR Delegated Reporting Agreement with respect to such valuation data.

Where this refers to “we” or “HSBC” it refers to HSBC Bank plc and where this refers to “you” it refers to you or your organisation. References to a “Valuation” means the mark-to-model valuation of a given derivative contract provided by HSBC solely for the purposes of HSBC undertaking the reporting of such derivative contract on your behalf under Regulation (EU) No 648/2012 of the European Parliament and of the Council on OTC derivatives, central counterparties and trade repositories dated 4 July 2012 (“EMIR”) pursuant to Commission Delegated Regulation No 148/2013 and Commission Implementing Regulation No 1247/2012, and in accordance with your HSBC EMIR Delegated Reporting Agreement.

All Valuations provided by HSBC are intended exclusively for the purpose of HSBC reporting Valuation data on your behalf pursuant to your HSBC EMIR Delegated Reporting Agreement and for no other purpose. You will be able to access and amend these Valuations on HSBCnet prior to them being submitted to the relevant trade repository. Where you disagree with the Valuation to be reported on your behalf, you are required to amend it appropriately prior to it being submitted to the relevant trade repository. All Valuations will be based on data as at the close of business of each business day unless otherwise agreed to in writing by the parties. Valuations are calculated by HSBC as of the close of business on the prior Business Day in London.

Any Valuation provided on your behalf is not intended as an offer or solicitation of the purchase or sale of any instrument and does not constitute a recommendation or investment advice. Should you wish to undertake a transaction in any instrument, please refer to your local sales contact at HSBC. HSBC shall not be liable for any financial loss or any decision taken on the basis of the information disclosed in any Valuation. HSBC is not responsible for providing you with legal, tax or other specialist advice and accordingly, you should obtain your own internal and/or external advice.

Valuations provided do not include amounts for credit reserve, hedging, funding, liquidity, or any other or adjustments. The Valuations provided do not represent (i) the actual terms at which new transactions could be entered into, (ii) a price at which either you or HSBC would necessarily agree to replace, terminate, liquidate or unwind the swap, (iii) the value of the swap that is marked on the books of HSBC, or (iv) the calculation or estimate of an amount that would be payable following the designation or occurrence of: (A) an Early Termination Date under Section 6(e) of any ISDA Master Agreement or any ISDA Interest Rate and Currency Exchange Agreement, (B) a similar date under FBF and AFB master Agreement, or (C) a similar date or event under another master agreement or master agreement terms. HSBC may from time-to-time make a market in or otherwise buy and sell instruments identical or economically related to the valued instruments and the price at which HSBC engages in such activity for a given investment may not be identical to the Valuation for such investment. Additionally, calls for margin may be based on considerations other than the Valuations provided by HSBC.

Valuations will not reflect the actual market price at which an offer would be made to purchase, sell, enter into, exercise, novate, unwind, terminate or settle a transaction. Rather, they will represent mathematical approximations of market values as of a given date derived from proprietary models and methodologies based on certain assumptions regarding past, present and future market conditions or other factors, or from other sources of pricing information (e.g., third party quotes, prices on trading venues, or clearinghouse marks for comparable or interpolated transactions). In HSBC's sole discretion, we may use a variety of models, methodologies and assumptions to prepare Valuations, depending upon the type of transaction, its characteristics, whether there is a liquid market, and other factors. We reserve the right to alter, replace or vary our models, methodologies, and assumptions from time-to-time.

Valuations are prepared by discounting future cashflows to arrive at a current value. Forward curves are used to determine the expected value of future cashflows, however, in some cases, we may use probabilistic models, simulation models or mathematical pricing models to determine the expected value of future cash flows before discounting. In these models, volatility levels, along with forward curves, as well as other factors including mid-

market price, foreign exchange spot or forward rates and correlations may be used as inputs. These inputs are based on observable market inputs or other estimates, depending upon asset class and availability.

We do not take into account specific tax rules or accounting methods applicable to counterparties, clients or potential clients of HSBC in its preparation of Valuations. We may have prepared Valuations on the basis of proprietary models used for HSBC's needs. Therefore, we shall not be liable for differences, if any, between Valuations and valuations provided by third parties; as such differences may arise as a result of the application and implementation of alternative accounting methods, tax rules or valuation models.

The methodology and assumptions used to prepare the Valuations are detailed as above and HSBC shall update you upon any material change to the methodology or assumptions used to prepare the Valuations during the term of the relevant derivative transaction; provided that HSBC shall not be obligated to disclose confidential, proprietary information about any model it may use to prepare the Valuations.

Except in the case of fraudulent misrepresentation, HSBC expressly disclaims any responsibility for (i) the accuracy of the models or estimates used in deriving the Valuations, (ii) any errors or omissions in computing or disseminating the Valuations, (iii) any uses to which the Valuations are put and (iv) any loss or damage arising out of the provision or use of this information (including, without limitation, incidental or consequential damages).

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Please note that any Valuation may incorporate only a subset of your financial transactions with HSBC.