

# Daily Marks Disclosure

# **Important Information**

UBS AG ("UBS", "our", "we", and "us") may be required to provide you a daily mid-market mark (the "Daily Mark") for each uncleared swap<sup>1</sup> transaction (each, a "Swap Transaction") or security-based swap<sup>2</sup> transaction (each, an "SBS Transaction", and together with each Swap Transaction, a "Transaction") it enters into with you for purposes of complying with CFTC Regulation 23.431(d)(2) and SEC Rule 240.15Fh-3(c)(2). We are furnishing the Daily Marks on the basis of, and subject to, the terms and limitations in this statement, which also discloses the data sources, methodology and assumptions the Daily Marks are based on. Please review this document and the inherent risks and limitations to the Daily Marks carefully.

## **Terms and Limitations for Daily Mark Statements**

**Your Responsibility.** The Daily Marks are provided to you by us on the basis that you are capable of independently assessing the value of the relevant Transactions (either on your own or through independent professional advisors) and that you understand and accept the following terms and conditions on which they are provided. While the Daily Marks have been prepared in good faith, they are not intended to be relied upon as the sole source of information regarding the value of the relevant Transactions or to be used as the sole source for any net asset value calculation, financial statement position or any similar purpose; you have the final responsibility for assessing the reliability of the information and for how you chose to utilize it.

**Source and Basis of Information.** The Daily Marks of the relevant Transactions are each prepared using the methodologies described below. As a general rule, the Daily Mark disseminated on a given day (such day, "Day T") will be calculated by UBS as of the close of business on the prior business day immediately preceding Day T in (i) the location where the Underlier is traded, for all Underliers other than FX, or (ii) New York, for FX Underliers (the "Calculation Date"). Information is generally sourced from our front office risk management systems. Please note that there are inherent limitations and risks associated with the Daily Marks.

• <u>Risk System Values are Not the Same Values Used in our Financial Statements</u>. Risk system values the Daily Marks are based on do not necessarily reflect our internal books and records valuations. Risk system values may not reflect trade specific and/or portfolio reserves and other adjustments made to valuations for our financial reporting and other purposes. In particular, we may adjust our financial records to reflect: (i) identified deficiencies in financial models; (ii) uncertainties in model inputs and parameters; and (iii) liquidity, funding, capital and credit risks associated with us and the counterparty including adjustments commonly referred to as "DVA", "CVA" and "FVA". Reserves and adjustments would in some cases result in a significant change in the Daily Marks provided to you if they were used in such calculations.

<sup>&</sup>lt;sup>1</sup> "Swap" means a "swap" as defined in Section 1a(47) of the U.S. Commodity Exchange Act ("CEA"). The term "Swap" also includes any foreign exchange swaps and foreign exchange forwards that may be exempted from regulation as "swaps" by the U. S. Secretary of the Treasury pursuant to authority granted by Section 1a(47)(E) of the CEA.

<sup>&</sup>lt;sup>2</sup> "Security-based swap" means a "security-based swap" as defined in Section 3(68) of the Securities Exchange Act.

- <u>Daily Marks Based on Models are Subject to Inherent Uncertainty.</u> The Daily Marks may rely on model-based valuation methodologies, empirical data and assumptions, and the Daily Marks relying thereon may vary significantly depending on the data used as inputs (which may be obtained from both internal and market-based sources) and on the assumptions and other parameters embedded in the model (which are not the only assumptions and parameters that might reasonably have been selected).
- <u>Model Valuations May Include Assumptions and Inputs that Are Not Observable or Verifiable</u>. In some cases the inputs used may be out of date because no current market input is available at the time. For certain Transactions, some information relevant to the Daily Marks (including information about monthly pool performance and payment data) is updated on a monthly basis. For those Transactions, the Daily Marks are based on the information most recently received by us, and as a result, the Daily Marks for these Transactions may be subject to significant changes as updated information becomes available.
- We May Change our Daily Mark Methodology at Any Time. Our model-based methodologies, including the assumptions and parameters embedded in our models and the source of the empirical data we use as inputs, are subject to review and adjustment from time to time. We will only notify you in case of material changes to such data sources, methodology and assumptions during the term of the Transaction.
- Daily Marks do not Reflect Actual Transactions or Polling of Dealers. No polling of market participants is conducted in determining the Daily Marks. The Daily Marks may vary significantly from valuation estimates available from other sources and from the level at which a transaction could be executed with a dealer in the relevant market.

## **Daily Mark Methodology Disclosure**

**General.** Overall, Daily Marks represent a mathematical approximation of market values as of a given date derived from proprietary models and methodologies based on a set of assumptions regarding the past, present and future market conditions, data sources for pricing such as trading venue prices, third party quotes and/or clearing house marks for comparable transactions. The data sources, models, methodologies and assumptions UBS uses to prepare Daily Marks depend on different factors, including, but not limited to type of transaction, type of Underlier (as hereinafter defined), transaction features and liquidity. "Underlier" means any rate (including interest and foreign exchange rates), currency, commodity, security, instrument of indebtedness, index, quantitative measure, occurrence or nonoccurrence of an event, or other financial or economic interest, or property of any kind, or any interest therein or based on the value thereof, in or by reference to which any payment or delivery under a Transaction is to be made or determined.

Daily Marks are prepared by discounting the value of future payments and deliveries under a Transaction to calculate the Transaction's current value. Forward curves are used to determine the expected value of future payments and deliveries. In some cases, UBS may use probabilistic models, simulation models or mathematical pricing models to determine the expected value of future payments and deliveries before discounting. In any of these models there are a set of inputs which may be used to enable the computations such as volatility levels, forward curves and other factors which would include correlations, foreign exchange spot and/ or forward rates which are based on - depending on liquidity and availability - observable third party quotes, prices on trading venues or clearing house marks for comparable transactions. In case that such inputs are not available, certain assumptions would be made to produce estimates regarding these inputs.

**Specific Transaction Types by Underlier Asset Class.** For each Underlier asset class and each transaction type, there is a defined methodology and a set of inputs which are used to prepare the Daily Marks. The valuation of the Transaction will target to calculate the amounts for the future payments consisting in the calculation of the value of the fixed leg/ non-financing leg and the value of the floating leg/ financing leg. The value of the fixed payments will always be equal to the value of the floating payments over the agreed term of the Transaction discounted to their present value. The value of the floating rate leg where: i) the future payments of the floating leg/ financing leg where: i) the future payments of the floating leg/ financing leg will be determined by calculating the forward rate for the interest rate based on a specific rate curve and ii) the discount for the fixed leg/ non-financing leg is based on a non-interest rate Underlier corresponding to the relevant Underlier which performance will be passed on via the Transaction.

- 1. <u>Equity Derivatives Referencing Equity Indexes, Securities or Futures on Equity Indexes or</u> <u>Securities and Commodity Derivatives (excluding Commodity Derivatives Referencing Precious</u> <u>Metals)</u>
  - a. Differences between Equity Derivatives and Commodity Derivatives

Overall, the data sources, methodology and assumptions used to prepare daily marks for equity derivatives and commodity derivatives are well aligned with the exceptions of (i) dividend swaps (the statements below are not applicable to commodity derivatives) and average price swaps (the statements below are generally not applicable to equity derivatives).

b. Daily Cancelable Swap

The calculations are based on an interest rate term structure model and a mathematical model to price and evaluate the Transaction. The Daily Mark will reflect an accrued amount denominated in the settlement currency, including accrued interest and excluding

the assumed termination date. The calculations are based on an assumption that i) the Transaction will be terminated on the earliest possible termination date following the Calculation Date and ii) the closing level or settlement price and any relevant rate of exchange between the currency in which the Underlier is denominated and the settlement currency of the swap, as applicable for each Underlier on the relevant valuation date, will be equal to its most recent closing level, settlement price or applicable exchange rate on the Calculation Date.

#### c. Non-Cancelable Swap

The calculations are based on forward price method where the forward level or price for each applicable Underlier is based on i) the most recent closing level or settlement price of the Underlier on the Calculation Date and ii) a calculated rate curve. Once the term of the Non-Cancelable Swap has started, different factors will be considered thereafter such as i) fluctuation of the Underlier, it will become positive or negative, ii) interests and foregone interest, iii) costs related to the Underlier, iv) spot price, and v) risk-free interest proxy to value potential dividends.

## d. Variance Swap/ Volatility Swap

The calculations are based on a proprietary model method in which the values of variance or volatility over a period of time are calculated based on actual realized values prior to the Calculation Date of the Transaction. For the remainder of the period until expiry, implied variance or implied volatility is derived from prices of instruments referencing the Underlier as per the Calculation Date.

#### e. Dividend Swap

The calculations are based on a proprietary model method in which the amounts for future dividends are derived from prices of instruments referencing the relevant index or security as on the Calculation Date. FX forward and fixing information may be used in the proprietary model to convert dividend amounts to the payoff currency of the dividend swap.

#### f. Average Price Swap

The calculations are based on a mathematical model to price and evaluate the transaction by calculating the period average of the observations of the relevant commodity future prices, applying the relevant futures rolling rules as appropriate. The valuation depends on interest rate curves and prices of commodity futures, with prices of illiquid futures inferred from a liquid point.

## 2. Foreign Exchange Derivatives and Commodity Derivatives Referencing Precious Metals

a. General Considerations Regarding Foreign Exchange Derivatives and Commodity Derivatives Referencing Precious Metals

The Daily Marks are calculated based on proprietary models which use several inputs including, but not limited to, most recent foreign exchange or precious metal spot rates at the time of the valuation, implied volatilities of the exchange rates as well as rates curves of the individual currencies involved in the Transaction. Calculations may be based on probabilistic models or other mathematical assumptions.

Some derivatives products are time-dependent by nature (e.g. volatility and variance swaps) and hence their valuations may rely on past spot fixings used to calculate the realized variance, volatility or correlation of Underliers over the past applicable period, while over the remaining future period the valuation of the Transaction falls back onto the proprietary models aforementioned.



b. Foreign Exchange and Precious Metal Swap, Forward and Non-Deliverable Forward

The calculations are based on forward price method where forward curves are used to calculate the expected future payments and deliveries. The future payments and deliveries are then discounted to value date to estimate the current value of the Transaction. Inputs such as observable third-party quotes, prices listed on exchanges or available on trading venues as well as mathematical assumptions, such as interpolation or correlation, may be used to estimate both the forward and discount curves.

- 3. Credit Derivatives
  - a. Credit Default Swap Referencing Corporate and Sovereign Securities or Indices

The Daily Mark is calculated based on a proprietary model taking in to account the implied probability of default and implied recovery rate. For the purpose of determining the implied probability of default, the market prices of the relevant comparable swaps are observed by UBS on the Calculation Date as well as UBS's assumption of the recovery rate.

b. Credit Default Swaption Referencing Corporate and Sovereign Securities or Indices

The Daily Mark is calculated based on proprietary models. The models are proprietary probabilistic European option pricing models that incorporate an implied volatility derived from recent or historical prices of market-traded instruments referencing each applicable Underlier as of the Calculation Date, as well as the inputs that are relevant for calculating the Daily Mark with respect to each applicable Underlier.

c. Total Return Swap Referencing Corporate and Sovereign Securities or Indices

The Daily Mark is calculated based on the forward price method. The forward level is based on the most recent closing level of each applicable Underlier as of the Calculation Date and an appropriate rate curve.

d. Total Return Swap Referencing One or More Loans

The Daily Mark is calculated based on the forward price method. The forward level is based on the most recent closing level of each applicable Underlier as of the Calculation Date and an appropriate rate curve.

- 4. Interest Rate Derivatives
  - a. Interest Rate Swap or Forward Rate Agreement

The Daily Mark is calculated based on the forward pricing methodology to evaluate future payments which are discounted to compute the net present value. Forward exchange rates (as described above for foreign exchange swaps, forwards and non-deliverable forwards) are used to evaluate the forward payments in the foreign currency in the case of cross-currency interest rate swaps. As such, the Daily Mark for cross-currency interest rate swaps reflects a conversion of the net present value of the assumed future payment in each currency into the currency of the net present value calculation at the most recent relevant exchange rate as of the Calculation Date. In the case of a mark-to-market cross-currency interest rate swap, an assumed value for the floating notional amount is determined based on a forward exchange rate, again this is calculated in the same manner described above for foreign exchange swaps, forwards and non-deliverable forwards.



b. Interest Rate Swaption, Swaption Straddle, Cap, Floor or Collar

The Daily Mark is calculated based on UBS valuation models that use modelling assumptions to generate a variety of market data and observable, calibrated or implied parameters from market observed features. A Black-Scholes interest rate option model is used in conjunction with a SABR-based volatility model fitted to recent prices of market-traded interest rate options.

c. Inflation Swaps

The Daily Mark is calculated based on an assumed value for the relevant inflation measures in the future, which are determined by reference to an inflation forward curve constructed by UBS based on recent prices of market-traded instruments which reference the underlying index as of the Calculation Date and includes seasonality adjustments which are based on historical trends.

d. Treasury Lock Swaps

The Daily Mark is calculated based on the methodology of computing forward prices of treasury bonds to value the payoff using the spot price of the bond and relevant rate curves including the treasury and repo curves. The forward treasury rate is calculated based on the most recently relevant available spot price of the treasury rate and an appropriate rate curve, in each case this will be respective to the Calculation Date.

e. Structured Interest Rate Swaps

The Daily Mark is calculated based on UBS valuation models that incorporate the termstructure of interest rates and use modelling techniques to generate a variety of market data and observable, calibrated or implied parameters from market observed features. Assumed future payments are derived from a model using a probability distribution implied from recent prices of market-traded interest rate options. In certain circumstances, the model can take into account a UBS determined estimated correlation between interest rates of different terms.

**Limitations on Use.** You must not provide the Daily Marks to any third party without our express written permission. If we do give permission you must provide this statement in its entirety (including the language in this section).

**No Representations or Warranties; Limitation of Liability**. We make no representations or warranties with respect to the Daily Marks, and, to the extent permitted by law, we specifically disclaim and do not accept any responsibility for, loss or damage arising out of use or reliance by you or any other person upon the Daily Marks, regardless of whether any such loss or damage results from errors, omissions, changes in market factors or other circumstances and whether or not within our control and whether or not caused by our negligence or otherwise; provided, however, that nothing in this statement is intended to exclude any liability on our part that arises due to fraud. In addition, we specifically disclaim liability for indirect, special or consequential loss or damage that may arise from use or reliance by you or any other person upon the Daily Marks, even if we have been advised of the possibility of such loss or damage.



**Daily Marks may Differ From Valuations Received From Us for other Purposes.** The Daily Marks may not necessarily, and would often not be expected to, be (i) a price at which either we or you would agree to replace or terminate a Transaction; (ii) unless otherwise expressly agreed, be the basis for margin calls and maintenance of collateral; or (iii) be the value of the Transaction that is marked on our books and records.

**Daily Marks do not Represent a Bid or Offer**. The Daily Marks do not constitute firm bids or offers by us to enter into a Transaction (commonly referred to as a "firm price quotation"), nor are they an indication of the price at which we would be willing to enter into a Transaction (commonly referred to as an "indicative price quotation"). Such factors as hedging and transaction costs, credit considerations, market liquidity, bid-ask spreads, transaction size and other market and pricing considerations have not been taken into account in determining the Daily Marks and could be relevant to a firm or indicative price quotation. By providing you with a Daily Mark we do not imply that you could buy or sell the Transaction at that price, or at all, or that we would be willing to provide a price quotation if requested. If we were to provide a price quotation to you for a Transaction, it might differ significantly from such Daily Mark.

We May Have Conflicts of Interest. We may, from time to time, as principal or agent, be involved in a wide range of activities globally in relation to, have positions in, or may buy or sell, or make a market in, any securities, currencies, financial instruments or other assets underlying the Transaction to which the Daily Mark relates. Our activities related to those instruments may have an impact on the price of the relevant underlying asset and may give rise to conflicting interests or duties. We may provide services to any member of the same group as the recipient of the Daily Mark or any other entity or person (a "Third Party"), engage in any transaction (on our own account or otherwise) with respect to the recipient of the Daily Marks or a Third Party, or act in relation to any matter for ourselves or any Third Party, notwithstanding that such services, transactions or actions may be adverse to the recipient of the Daily Marks or any member of its group, and we may retain for our own benefit any related remuneration or profit.

In addition, we may, whether by virtue of the types of relationships described in the above paragraph or otherwise, from time to time, be in possession of information in relation to a particular instrument that is or may be material in the context of that instrument and that may or may not be publicly available or known to you. Providing a Daily Mark with respect to any such Transaction does not create any obligation on our part to disclose to you any such information (whether or not confidential).



# **UBS Country-specific information**

For further important country-specific information, please see the following link: <u>https://www.ubs.com/sales-and-trading-country-information</u>

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