

# CITA & SWAP Benchmark Statement

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# 1 Introduction

The Danish Financial Benchmark Facility (DFBF) is the benchmark administrator for the family of benchmarks which consist of CITA and SWAP– both non-significant benchmarks.

This benchmark statement is published by the DFBF in compliance with Article 27 of the European Benchmark Regulation (BMR) and the accompanying ESMA Regulatory Technical Standards.

## 2 About the Benchmarks

Under BMR a ‘family of benchmarks’ means a group of benchmarks provided by the same administrator and determined from input data of the same nature which provides specific measures of the same or similar market or economic reality.

CITA and SWAP are considered ‘non-significant benchmarks’ following the definition set out in BMR Article 3 (1)(27).

No EU Climate Transition Benchmark or EU Paris-aligned Benchmark is available in DFBF’s portfolio nor does DFBF have benchmarks that pursue ESG (environmental, social and governance) objectives or take into account ESG factors.

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### 2.1.1 CITA

CITA is a non-significant benchmark, calculated from submissions received from a select group of Panel Banks in Denmark. The benchmark has 6 tenors and is published at 11:00am local time, Copenhagen during all days where banks are open in Denmark.

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### 2.1.2 SWAP

SWAP is a non-significant benchmark, calculated from submissions received from a select group of Panel Banks in Denmark. The benchmark has 9 tenors and is published at 11:30am local time, Copenhagen during all days where banks are open in Denmark.

## 3 Definition and determination of benchmarks

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### 3.1.1 CITA

CITA being the interest rate swap offered rate for the day-to-day rate (T/N-rate) against a fixed DKK interest rate, for the following maturities 1, 2, 3, 6, 9 and 12 months.

The rate is calculated as the arithmetic mean of selected daily contributions provided by the Panel Banks based on a committed quote.

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### 3.1.2 SWAP

SWAP being the interest rate swap mid-market quoted rate for the following maturities 2, 3, 4, 5, 6, 7, 8, 9, 10 years maturity, priced against 6 months CIBOR.

The rate is calculated as the arithmetic mean of selected daily contributions provided by the Panel Banks based on a committed quote.

## 4 About the Danish financial market in the context of the Benchmarks

In line with other global financial markets, Denmark has developed a healthy Interest rate derivatives market offering pricing in two principal products, namely CITA and SWAP. The former being the interest rate swap rate quoted for the day-to-day rate (Tom/Next) against a fixed DKK rate for monthly maturities out to one year and the latter being the interest rate swap rate for yearly maturities out to 10 years quoted against 6 months CIBOR. The benchmarks for both CITA and SWAP represent the daily determination for both products based on an average rate for the relevant maturities provided by the Panel Banks, whose contribution is determined by a committed market quote, highlighting the depth of the underlying interest rate derivatives market.

Although the two respective benchmarks are not used for the purposes of cash settlement, being a measurement of derivative products, they both act as an important daily reference point for the Danish Financial market in general, particularly in-regard-to the purposes of the necessary revaluation of outstanding portfolios. More specifically CITA as the Interest rate swap product priced against the day-to-day rate will be used by market participants hedging short-term interest rate exposure, particularly when underlying cash markets lack the necessary liquidity, whereas SWAP will offer this capacity for longer-term maturities. The benchmarks are predominantly referenced by clients domestically in Denmark, but it should be noted that end-users internationally, managing DKK exposure, will use the CITA and SWAP determination, specifically for revaluation purposes. Clients will range from market professionals such as Financial Institutions and large sophisticated corporates to retail customers where in the case of CITA, the benchmark has been used as a reference for lending purposes.

Furthermore, as a crucial measurement of the DKK local interest rate market, the daily determination provides a good indication to the Central Bank and market operators in general on the future direction of DKK interest rates.

## 5 The size of the Danish market

Product	Average daily nominal amounts (DKK billion)
<b>Deposits</b>	
Lending (banks located in DK)	2.9
Lending (banks located outside DK)	1.4
Borrowing (banks located in DK)	3.3
Borrowing (banks located outside DK)	2.6
<b>Repo</b>	
Cash lending / reverse repo (banks located in DK)	6.7
Cash lending / reverse repo (banks located outside DK)	2.2
Cash borrowing / repo (banks located in DK)	7.6
Cash borrowing / repo (banks located outside DK)	4.8
<b>FX Swaps</b>	
DKK is paid in short leg (banks located in DK)	2.6
DKK is paid in short leg (banks located outside DK)	23.7
DKK is received in short leg banks located in DK)	2.2
DKK is received in short leg banks located outside DK)	14.0
<b>TN IRS (CITA)</b>	
TN rate is paid (bank located in DK)	0.2
TN rate is paid (bank located outside DK)	0.3
TN rate is received (banks located in DK)	0.6
TN rate is received (banks located outside DK)	0.0
<b>FRA</b>	
Fixed rate is paid (banks located in DK)	0.0
Fixed rate is paid (banks located outside DK)	0.0
Fixed rate is received (banks located in DK)	0.0
Fixed rate is received (banks located outside DK)	0.0

\*DNB survey for daily amounts in Danish financial market, Q2 2019

## 6 Potential limitations of benchmarks

Potential limitations of the benchmark, in particular, the circumstances in which the measurement of the underlying market for each benchmark may become unreliable, are as follows:

- a. If there is a lack of sufficient input data to determine the Benchmarks

The Benchmarks methodology and procedures are designed to ensure that the Benchmarks can be published every day banks are open in Denmark.

The table below shows the contingency plans if one or more banks are unable to submit rates to the benchmark and how the benchmark is calculated.

### CITA

Number of Submissions	Calculation Methodology and Contingency
8 or more	Top and tail (2) highest and lowest then arithmetic mean of remaining submissions

4-7	Top and tail (1) highest and lowest then arithmetic mean of remaining submissions
3	Arithmetic mean of submitted rates
2 Contingency	In the case where the required quorum is not met and the DFBF receives Input Data from less than three (3) Panel Banks, but greater than one Panel Bank, contingency measures are enacted and the shortfall of one contribution will be replaced by using the previous day's CITA rate once.
0-1 Contingency	Publish yesterday's aggregate benchmark rate

### SWAP

Number of Submissions	Calculation Method and Contingency calculations
8 or more	Top and tail (2) highest and lowest then arithmetic mean of remaining submissions
4-7	Top and tail (1) highest and lowest then arithmetic mean of remaining submissions
3	Arithmetic mean of submitted rates
2 Contingency	In the case where the required quorum is not met and the DFBF receives Input Data from less than three (3) Panel Banks, but greater than one Panel Bank, contingency measures are enacted and the shortfall of one will be replaced by using the previous day's Swap rate once.
0-1 Contingency	Publish yesterday's aggregate benchmark rate

- b. If the degree of liquidity in the underlying market becomes insufficient to provide input data to determine the Benchmarks

Panel Banks apply a priority to input data as described in their relative Panel Bank Code of Conduct. Please refer to the DFBF17033 CITA SWAP Panel Bank Code of Conduct on the DFBF website.

- c. If a Panel Bank's transactions in the underlying markets described above are not sufficient from which to base its submission, its expert judgement in relation to the following information should be considered and applied:

If a Panel Bank's available information in the underlying markets are insufficient from which to base its input data submission, it can apply expert judgement in relation to determining its input data. The use of expert judgment or discretion by Panel Banks makes it highly unlikely that an insufficient degree of liquidity in the underlying market would endanger the integrity and reliability of the Benchmarks determination.

In the case an exceptional market event arose, an exceptional meeting of the Benchmarks Oversight Committee will be convened to consider the circumstances and make appropriate decisions in respect to the immediate future publication of the Benchmarks rates.

## 7 CITA and SWAP Calculation Methodology

### CITA

The CITA Calculation Methodology is designed to provide the most accurate and reliable benchmark rate to reflect the underlying financial market it measures. To achieve this outcome a number of banks from within the DKK interbank interest rate swaps market have been selected to perform the role of Panel Bank for the purpose of providing Input Data to the DFBF for the calculation of CITA.

The CITA Calculation Methodology document describes in detail the calculation process, but in summary it is the mathematical arithmetic mean (rounded to four decimal places) of the Panel Bank submitted rates, with topping and tailing applied depending upon the number of contributions received. The receipt by the DFBF of a number of Panel Bank contributions ensures that there is a sufficiency of Input Data to produce an accurate and reliable CITA output.

The DFBF Benchmarks Oversight Committee has the responsibility to approve and review the methodology. As described in the DFBF Benchmarks Oversight Committee Terms of Reference the committee must undertake a review of all aspects of the determination methodology at a minimum annually. In reviewing the methodology, the DFBF Benchmarks Oversight Committee considers the underlying market dynamics and the usage of CITA.

### SWAP

The SWAP Calculation Methodology is designed to provide the most accurate and reliable benchmark rate to reflect the underlying financial market it measures. To achieve this outcome a number of banks from within the DKK interbank interest rate swaps market have been selected to perform the role of Panel Bank for the purpose of providing Input Data to the DFBF for the calculation of SWAP. Panel Banks provide a mid-market quote for the interest rate swap rate at 11:00am to 4 decimal places. Rates shall be submitted by Panel Banks to the DFBF every good business day (being defined as a day when banks are open in Denmark) between 11:00am and 11:15am local time.

The DFBF checks the formal correctness of the Input Data between 11:10am and 11:25am local time and resolve any discrepancies directly with the Panel Bank in question, should they occur. Panel Banks may, exceptionally, alter their Input Data at that time, but not later than 11:25am local time.

The SWAP Calculation Methodology document describes in detail the calculation process, but in summary it is the mathematical arithmetic mean of the contributed data rounded to four decimal places.

The receipt by the DFBF of a number of Panel Bank contributions ensures that there is a sufficiency of Input Data to produce an accurate and reliable SWAP output.

The DFBF Benchmarks Oversight Committee has the responsibility to approve and review the methodology. As described in the DFBF Benchmarks Oversight Committee Terms of Reference the committee must undertake a review of all aspects of the determination methodology at a minimum annually. In reviewing the methodology, the DFBF Benchmarks Oversight Committee considers the underlying market dynamics and the usage of SWAP.

## 8 Criteria and procedures used to determine CITA and SWAP

The CITA and SWAP Calculation Methodology documents and the CITA and SWAP Panel Bank Code of Conduct document provide complete information on the criteria and procedures for the calculation of CITA and SWAP. These documents are available on the DFBF website. A summary of the criteria and procedures are provided here for the convenience of readers and in accordance with the requirements of BMR.

### **CITA**

Panel Banks provide the rate at which they are prepared to offer CITA interest rate swaps at 10:30am, to 3 decimal places. Rates are submitted by Panel Banks to the DFBF every good business day (being defined as a day when banks are open in Denmark), between 10:30am and 10:45am local time.

The DFBF checks the formal correctness of the Input Data between 10:45am and 11:00am local time and resolves any discrepancies directly with the Panel Bank in question, should they occur. Panel Banks may, exceptionally, alter their Input Data at that time, but not later than 10:55am local time.

Panel Banks are to provide Input Data to the DFBF, as follows:

- a) A market quote for the rate at which Panel Banks are prepared to offer CITA interest rate swaps;
  - b. Input Data shall contain quotes for the 1, 2, 3, 6, 9 and 12 months' tenors;
  - c. Input Data shall take-into account the requirements as specified in Clause 3.3.1 of the CITA and SWAP Panel Bank Code of Conduct;
  - d. Each tenor rate shall be a positive or negative number to 3 decimal places, or zero;
  - e. Input Data shall be entered into the DFBF Calculating Agent system according to the contribution procedures provided to them by the DFBF

Panel Banks shall apply the following priority of use of input data:

A committed quote at which a Panel Bank is prepared to offer the requested tenors with the standard market Bid/Offer spread, adjusting pricing if required to actual transactions concluded in the market.

CITA shall be calculated for transactions that are to be settled on the second business day following the calculation date, with the act/360 convention.

CITA shall be calculated as the mathematical arithmetic mean rounded to four decimal places for the following maturities: 1 month, 2 months, 3 months, 6 month, 9 months and 12 months maturity

- a) if the DFBF receives Input Data from eight (8) or more panel banks, the rate for the relevant maturity shall be the arithmetic mean of the rates, net of the two highest and two lowest rates;
- b) if the DFBF receives Input Data from between four (4) and seven (7) panel banks, the rate for the relevant maturity shall be the arithmetic mean of the remaining rates net of the highest and lowest rate;
- c) if the DFBF receives Input Data from three (3) panel banks, the rate for the relevant maturities will be the arithmetic mean of submitted rates
- d) if the DFBF receives Input Data from two (2) panel banks, the shortfall of one contribution from three contributions will be replaced by using the previous day's aggregate benchmark rate for the relevant maturity.

- e) If the DFBF receives Input Data from only one (1) or zero (0) panel banks yesterday's aggregate benchmark rate will be published.

Once announced and published, the CITA rates shall be final subject to the Post Publication Redetermination policy.

This shall not rule out the possibility for the DFBF to publish re-determined CITA rates before 3:00pm local time at the latest, having announced the intention to republish corrected CITA rates by 2:00pm local time.

In the event that the DFBF Business Continuity Plan is initiated the methodology applied for the calculation of CITA will be unchanged.

## **SWAP**

The Input Data for the calculation of SWAP is based on a mid-market quote for the rate at 11:00am, to 4 decimal places. Rates shall be submitted by Panel Banks to the DFBF every good business day (being defined as a day when banks are open in Denmark), between 11:00am and 11:15am local time.

The DFBF shall check the formal correctness of the Input Data between 11:10am and 11:25am local time and resolve any discrepancies directly with the Panel Bank in question, should they occur. Panel Banks may, exceptionally, alter their Input Data at that time, but not later than 11:25am local time.

The calculation of SWAP shall take place at 11:30am local time.

Panel Banks are to provide Input Data to the DFBF, as follows:

- a) A mid-market quote for the stipulated interest rate swap maturities priced against 6 months CIBOR;
- b) Input Data should contain quotes for the 2 years, 3 years, 4 years, 5 years, 6 years, 7 years, 8 years, 9 years and 10 years maturities;
- c) Input Data should take-into account the requirements as specified in the CITA and SWAP Panel Bank Code of Conduct;
- d) Each tenor shall be positive or negative to 4 decimal places, or zero;
- e) Input Data will be entered into the DFBF Calculating Agent system according to Contribution Procedures provided to them by the DFBF;
- f) Input Data will be required from Panel Banks each day on which commercial banks are open for general business in Denmark.

The priority of use of input data shall be as follows:

- a) A mid-market quote for the requested tenors based on a committed price, adjusting pricing if required to actual transactions concluded in the market.

SWAP shall be calculated for transactions that are to be settled on the second business day following the calculation date, with the 30/360 day-count convention.

SWAP shall be calculated as the mathematical arithmetic mean rounded to four decimal places for the following maturities: 2 years, 3 years, 4 years, 5 years, 6 years, 7 years, 8 years, 9 years and 10 years' maturity, in the following manner:

- a) if the DFBF receives Input Data from eight or more Panel Banks, the rate for the relevant maturity shall be the arithmetic mean of the rates, net of the two highest and two lowest rates;

- b) if the DFBF receives Input Data from between four and seven Panel Banks, the rate for the relevant maturity shall be the arithmetic mean of the remaining rates net of the highest and lowest rate;
- c) if the DFBF receives Input Data from three Panel Banks, the rate for the relevant maturities will be the arithmetic mean of submitted rates
- d) if the DFBF receives Input Data from two Panel Banks, the shortfall of one contribution from three contributions will be replaced by using the previous day's aggregate benchmark rate for the relevant maturity.
- e) If the DFBF receives Input Data from only one or zero Panel Banks yesterday's aggregate benchmark rate will be published.

Once announced and published, the SWAP rates shall be final, subject to the post Publication Re-determination policy.

This shall not rule out the possibility for the DFBF to publish a re-determined SWAP rate before 3:00pm local time at the latest, having announced the intention to republish corrected SWAP by 2:00pm local time.

In the event that the DFBF Business Continuity Plan is initiated the methodology applied for the calculation of SWAP will be unchanged.

#### **Adjustments to Input Data**

Panel Banks may adjust their Input Data to correctly reflect the Benchmark's definition, by application of the following criteria:

- a) proximity of transactions to the time of provision of the Input Data and the impact of any market events between the time of the transactions and the time of the provision of the Input Data;
- b) interpolation or extrapolation from transactions data;
- c) adjustments to reflect changes in the credit standing of the Panel Banks and other market participants
- d) if correlated market transactions are used in the determination of a submission, then the Panel Bank should apply a method of calculating their equivalence to the underlying market.

## 9 Public consultation and material changes

The DFBF has developed procedures for the review of the Benchmarks' methodology. In circumstances where a material review of the Benchmarks is being considered, the DFBF will conduct a public consultation to gather feedback from key stakeholders, including users of the Benchmarks. Users will be advised that any proposed change or cessation of the benchmark(s) may have an impact on financial contracts and instruments that reference said benchmark(s) and/or the measurement of other related financial products.

The DFBF has developed a Consultation Policy, which describes the circumstances under which a consultation will be undertaken and the process applicable for the conduct of a consultation. The policy is a public document available on the DFBF website at [www.dfbf.dk](http://www.dfbf.dk).

## 10 Transition or the cessation of the Benchmarks

The Benchmarks have very few appropriate substitutes, and in the event that it ceased to be provided or was to become no longer fully representative of the underlying market there may be degrees of adverse impact on market integrity and financial stability.

The DFBF has developed clear written policies and procedures to address the need for the possible transition or cessation of the Benchmarks, which could be the result of market structural change, product definition change, or any other condition which could make the Benchmarks no longer representative of the underlying market it measures. These policies and procedures are proportionate to the estimated breadth and depth of contracts and financial instruments that reference the Benchmarks and the economic and financial stability impact that might result from the cessation of the benchmark.

The DFBF has considered the views of stakeholders in determining what policies and procedures are appropriate for the Benchmarks.

## 11 Transition

The DFBF provides the Benchmarks to users on the basis that there are a number of factors that may affect the production of the benchmark, including factors outside the control of the DFBF. Users are made aware that, while the DFBF has developed business continuity plans and fall-back provisions for the production of the Benchmarks, they should have in place their own fall-back provisions in the case that there was a material change in the nature of the Benchmarks.

The DFBF Board is responsible for the DFBF Transition Policy and will take into consideration recommendations regarding the policy or any actions associated with the policy, made by the DFBF Oversight Committee.

The DFBF Board will consider several issues in relation to this policy, including;

- Criteria for selection of credible alternate benchmarks
- Practicality of operating parallel benchmarks
- Procedures if no alternate benchmark is available
- Stakeholder engagement for any transition arrangements
- DFBF's inability for any reason to continue to operate as the administrator of the Benchmarks leading to the cessation of the benchmark.

## 12 Cessation

The DFBF Cessation Policy outlines the processes that the DFBF will undertake in the case that there is a requirement for the cessation of the Benchmarks in entirety or any individual tenor. The scope of the policy is only for the cessation of a tenor or the entire benchmark and does not include the transition to alternate benchmarks which is covered in the DFBF Transition Policy.

The key steps that the DFBF will undertake regarding cessation of the Benchmarks are;

- Consult and assess
- Decision to cease calculation of the benchmark or an individual tenor
- Inform users
- Implement a process of cessation

Potential reasons for discontinuation may include;

- Change in the underlying market that the Benchmarks represent
- Regulatory action

- Lack of demand for the benchmark generally by stakeholders
- Inability of the DFBF to produce the Benchmarks for commercial or logistical reasons i.e. inability to obtain sufficient input data from Panel Banks
- Cessation of the DFBF as an entity

Should the decision be taken to implement the cessation of the Benchmarks, or individual tenors, the DFBF will consider a range of factors prior to informing the market of a cessation. Consideration will be given to:

- Sufficient notice to stakeholders of the cessation date and the timing of the cessation
- Any transition measures that can be implemented
- Stakeholder engagement and the timing required for them to consider alternative options, modify documentation, seek legal and compliance advice and modify any materials referencing the Benchmarks
- Identification of alternate benchmarks and plans for migration

Once these issues have been considered, the DFBF will notify the market via press release, its website and other communication tools, including details of the cessation and any other information that would assist stakeholders to understand and take appropriate action.

The Transition and Cessation policies will be made available to stakeholders upon request to the DFBF.

## 13 Procedures for dealing with errors in input data

The Post Publication Re-Determination Policy details the procedures for reviewing a published rate in circumstances where DFBF personnel, Panel Bank employees or any end-user of the Benchmarks believes that a published rate may be materially incorrect. The policy is publicly available on the DFBF's website.

## 14 Updates to this benchmark statement

The DFBF will review and, where necessary, update this benchmark statement in the event of any changes to the information within it and at least every two years. An update will be provided whenever the information is no longer correct or sufficiently precise and at least where:

- there is a change in the classification of the Benchmarks
- there is a material change in the methodology for determining the Benchmarks

The date of initial publication: 1 January 2020.