CoinDesk Overnight Rate (CDOR) Methodology

June 2025

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Introduction

Objective

CoinDesk Overnight Rates ("CDOR") are daily benchmarks that reflect the annualized effective overnight interest rate paid by borrowers in decentralized finance (DeFi) markets, specifically referencing the Aave protocol. They are structurally analogous to traditional overnight rates such as SOFR or €STR.

Additional Details

CDOR aims to provide market participants with transparent, observable, replicable and implementable historical interest rates for reference, benchmarking, loans, and settlement of derivatives ("the Objective," as described above). The use of a one-day "overnight" rate aligns with money market rate conventions.

This methodology was created and is owned by CoinDesk Indices ("CDI") to achieve the Objective stated above. CDOR is administered, calculated and maintained by CDI's affiliate, CC Data Limited ("CCData"), an FCA regulated benchmark administrator. References to CDI in this methodology shall be deemed to include CCData.

There may be circumstances or market events which require CDI, in its sole discretion, to deviate from these rules to ensure each CDOR continues to meet its Objective. This document should be read in conjunction with the CoinDesk Digital Asset Indices Policy Methodology.

Table 1: Rate Details

CDOR Rate	Symbol	Underlying Pool	Launch Date	First Value Date
CoinDesk Aave USDC Overnight Rate	CDORAUSC	Aave V3 Core USDC	Jun 17, 2025	May 1, 2023
CoinDesk Aave USDT Overnight Rate	CDORAUST	Aave V3 Core USDT	Jun 17, 2025	May 1, 2023

Construction

The Variable Borrow Rate

Borrowers using applicable Aave smart contracts pay the Variable Borrow Rate[1] which fluctuates continuously with changes to the utilization rate[2] of the underlying pool. The utilization rate updates when loans are initiated or repaid (including liquidations) and when deposits are made or withdrawn[3]. Transactions that have a substantial effect on the utilization rate can have a correspondingly substantial effect on the prevailing Variable Borrow Rate[4].

Loan interest is compounded continuously and added to principal. All borrowers in a given pool pay the same variable rate.

The Variable Borrow Index

Compounded loan interest since inception of a pool is tracked by the Variable Borrow Index[5], which updates each time the pool's Variable Borrow Rate changes[6].

The current value of any loan (its current repayment amount) can be calculated as:

$$Current\ Value\ =\ Original\ Principal\ \times\ \frac{VariableBorrowIndex_{current}}{VariableBorrowIndex_{at\ time\ of\ borrow}}$$

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[1] CDOR rates only observe variable rate smart contracts on Aave. "Stable" rates are not included.

[2] The utilization rate of an underlying pool represents the percentage of total funds available for borrowing that are currently borrowed by users. A high utilization rate signifies that a large portion of the available assets is being borrowed. This typically leads to an increase in borrowing interest rates to incentivize more lending (supplying) and discourage further borrowing, aiming to rebalance the pool. A low utilization rate indicates that a significant portion of the supplied assets is sitting idle. In this scenario, borrowing interest rates usually decrease to encourage more borrowing.

[3] The prevailing Variable Borrow Rate appears in blockchain transaction logs in events emitted from Aave smart contracts as `variableBorrowRate`, representing the value of the new Variable Borrow Rate after a change in the utilization rate has occurred. The rate is expressed as a ray-scaled (1e27) annual percentage rate (APR). Events other than those mentioned above may also change the Variable Borrow Rate. See Aave documentation for more information.

[4] The Variable Borrow Rate uses a step-wise linear function with respect to utilization rate. If the utilization rate rises above a pre-determined optimal level, the rate of change of the Variable Borrow Rate increases. This condition is intended to increase attractiveness to lenders (suppliers), whose participation would serve to restore (decrease) the utilization rate. See the dashboard for a relevant pool at Aave.com for a depiction of the step-wise interest rate function.

[5] `variableBorrowIndex` is a cumulative, ray-scaled (1e27) compound interest index that tracks the growth of variable-rate loans. It appears in blockchain transaction logs in an encoded format.

[6] `ReserveDataUpdated` events (topics) in an applicable pool's smart contract logs capture all changes to `variableBorrowIndex`.

CDOR uses daily observations of the Variable Borrow Index to calculate the historical one-day "overnight" effective rate paid by borrowers in the underlying pool.

Observation Period

Each Observation Period is 8am UTC to 8am UTC the following day, 365 days a year.

Calculation and Distribution

Rate Calculation Formula

The CDOR rate for each applicable pool appearing in Table 1 is calculated daily using the following equation:

$$CDOR_t = \left(\frac{AdjVariableBorrowIndex_t}{AdjVariableBorrowIndex_{t-1}} \right)^{365} - 1$$

Where,

$CDOR_t$ = the CDOR rate for day t.

$AdjVariableBorrowIndex_t$ = the Variable Borrow Index at the end of the Observation Period on day t. If the most recent update to the Variable Borrow Index is more than one second before the end of the Observation Period on day t, it is compounded in seconds using the prevailing Variable Borrow Rate at the time of the most recent update.

$AdjVariableBorrowIndex_{t-1}$ = the Variable Borrow Index at the end of the Observation Period on day t-1, adjusted as described above.

CDOR rates are rounded to 0.0001% (one one-hundredth of a basis point).

CDOR calculations take place fifteen (15) minutes after the end of the Observation Period to allow for blockchain finality.

Data Publication and Distribution

CDOR rates are usually published twenty (20) minutes after the end of the Observation Period and are available publicly at coindesk.com. Rates are also available to subscribers via REST, WebSocket APIs.

Governance

Pursuant to CDI's arrangement with its affiliate CCData to perform administration and calculation services, CDOR rates are subject to CCData's governance and oversight functions. For more details on CCData, see [here](#). These provisions override the governance and oversight provisions in the Policy methodology.

Appendix 1: Data Sources

This section describes data sources used to maintain, rebalance, and calculate the products described herein since the base date. If data are not available for any reason from the sources described in this appendix, other data sources may be used.

Blockchain Data

CDOR uses blockchain data as inputs used for calculations. The primary sources of current and historical data are CoinDesk Data and Quicknode.

Appendix 2: Methodology Changes

The table below is a summary of modifications to this Methodology.

Effective Date	Prior Treatment	Updated Treatment	Material Change

Appendix 3: Document Revision History

Date	Description
May 1, 2025	Initial version
May 12, 2025	Initial comments from CCData compliance
Jun 12, 2025	Approved version

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