



Borrow Intensity Indicators™

Data Description Document

Abstract

This document provides information on the file layout and contents of Hanweck Borrow Intensity data files, consistent across historical data and intraday updates.

Contents

1 - Format Details	3
1.1 - Overview	3
1.2 - Files Provided	3
1.3 - Symbol Coverage	3
1.4 - Format	3
1.4.1 - Column Definition	3
1.5 - Notes on Mapped Confidence	4

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1 - Format Details

1.1 - Overview

The files described below provide historical content of the Hanweck Borrow Intensity indicators. These indicators are published in real-time intraday over the universe of US equities and ETFs with listed options (OPRA universe). Please refer to the **Hanweck Borrow Intensity Methodology** document for more detailed explanation of data content.

1.2 - Files Provided

- **Historical (one-time purchase):**
 - Zipped CSV per day, month, or year based on grouping
 - **BorrowIntensityIndicators_YYYY-MM-DD.zip**
 - **BorrowIntensityIndicators_YYYY-MM.zip**
 - **BorrowIntensityIndicators_YYYY.zip**
 - Borrow Intensity observations in 20 minute frequency
 - Borrow Intensity maturities from 45 days to 360 days, with corresponding Confidence series including Quantile Mapped Confidences
 - CSV data with header row
- **Subscriptions:**
 - Zipped CSV per interval per day
 - **BorrowIntensityIndicators_YYYY-MM-DD_HHMM.zip**
 - Borrow Intensity Updates (20 minute intervals) in same format as history
- **Columns of Header Row (see below)**

1.3 - Symbol Coverage

This sample data is a complete history for the date range specified in the file, over the complete coverage universe (OPRA).

1.4 - Format

Files are provided in CSV format, with large history archives typically compressed in gzip format.

1.4.1 - Column Definition

The descriptions of the column headers used within the sample files are included to the right.

Table 1 – Borrow Intensity Column Descriptions

Column	Description	Example
ticker	OPRA / Exchange Ticker	AAPL
timestamp	yyyy-mm-dd hh:mm:ss	2015-06-02 10:57:00
index_raw_45_days	Borrow Intensity expressed as % borrow rebate in decimal format. For example, 1% borrow is expressed as .01	-0.035
index_raw_60_days	Same	
index_raw_90_days	Same	
index_raw_180_days	Same	
index_raw_270_days	Same	
index_raw_360_days	Same	
index_raw_confidence_45_days	Confidence measure of market liquidity at time of analytic estimate. Measured as value from 0 to 1 where 1 is highest confidence. (See Methodology Document).	0.8
index_raw_confidence_60_days	Same	
index_raw_confidence_90_days	Same	
index_raw_confidence_180_days	Same	
index_raw_confidence_270_days	Same	
index_raw_confidence_360_days	Same	
index_smooth_45_days	Smoothed data in same format as raw	
index_smooth_60_days		
index_smooth_90_days		
index_smooth_180_days		
index_smooth_270_days		
index_smooth_360_days		
index_smooth_confidence_45_days	Confidence for smooth data in same format as raw confidence	
index_smooth_confidence_60_days		
index_smooth_confidence_90_days		
index_smooth_confidence_180_days		
index_smooth_confidence_270_days		
index_smooth_confidence_360_days		

1.5 - Notes on Mapped Confidence

Mapped Confidence is an innovation added in July 2019 that uses historical profile data to standardize confidence levels across different maturities. Profiling of confidence is explained in the document, **Borrow Intensity Indicators Methodology Overview**. Original confidence levels are still included for compatibility with prior releases and for users who prefer to use the raw series and/or generate their own confidence profiles from the directly computed confidence.

For convenience, we recommend using mapped confidence levels when for example, establishing automated rules for inclusion or weighting of observations. The mapped levels can be applied without dependency on given maturity, while the original confidence levels do exhibit bias based upon the maturity, with longer maturities (all else being equal) tending towards higher confidence and shorter maturities tending toward lower confidence. This is explained in more detail with examples in the Methodology document.

Table 2 - Additional Mapped Confidence columns

Column	Description	Example
mapped_confidence_45_days	Standardized (Percentiles) Index Raw Confidence	0.82
mapped_confidence_60_days	same	0.83
mapped_confidence_90_days	same	0.83
mapped_confidence_180_days	same	0.81
mapped_confidence_270_days	same	0.79
mapped_confidence_360_days	same	0.78
mapped_smooth_confidence_45_days	Standardized (Percentiles) Index Smooth Confidence	0.79
mapped_smooth_confidence_60_days	same	0.8
mapped_smooth_confidence_90_days	same	0.8
mapped_smooth_confidence_180_days	same	0.75
mapped_smooth_confidence_270_days	same	0.71
mapped_smooth_confidence_360_days	same	0.69

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