

# Hanweck Borrow Intensity Indicator

The Hanweck Borrow Intensity Indicator delivers entirely new levels of transparency into the securities borrow market:

- › Real-time transparency into securities lending rates
- › Rapid signals on rising shorts and squeezes
- › Unique insight into multiple financing rates across time
- › Valuable data for risk estimation and factor models, portfolio construction, and smart beta approaches

The Hanweck Borrow Intensity Indicator mines data from the equity options market to derive stock borrow rates and term curves in real-time, available throughout the trading day. Predictive analytic screens automatically alert users to rising or easing borrow conditions, and detect major movers intraday.

Indicators are constructed from weighted observations across the entire volatility term, providing a novel constant-maturity view across time that can serve as a powerful tool for observing intraday departures from historical patterns.

The dynamic term structure of securities borrow rates provides insight into the intensity and expected duration of stock loan hard-to-borrow conditions.

Synthetic financing views leverage Hanweck Option Analytics for continuous insight into reverse-conversion rates for every listed option expiry. Data includes cost of crossing bid-ask spreads in the option market, and offers comparative views of full American model vs. European model assumptions to highlight impact of early exercise risk.

**What sets the Hanweck Borrow Intensity Indicator apart from other data providers in the securities lending space?**

Actual borrow rates are typically quoted on a rolling overnight basis and pricing on stock loan rates is not as transparent as quotes on an exchange. Stock loan rates are typically self-reported and made available through third-party sources on a T+1 basis. In contrast, the Hanweck Borrow Intensity Indicator offers the following advantages as a window into the stock loan market:

- › Based on transparent listed equity option markets (entire OPRA universe)
- › Available in real-time
- › Visibility into term borrow expectations (e.g., 3 or 6 months) that reveals market dislocations

## VALUE OF THE HANWECK BORROW INTENSITY INDICATOR

### SECURITIES FINANCING DESKS

- › Continuous, efficient, cost-effective view of information from options markets
- › Ideas for when to call the options desk
- › Risk avoidance, and revenue enhancement in pricing securities lending deals

### CUSTODIAN BANKS

- › Intraday information into stock borrow pricing
- › Optimize lending rates based upon rapidly changing market conditions
- › Added insight to rates obtained from the market and other third-party data sources

### HEDGE FUNDS

- › Improved estimate for borrow cost impact on trading strategies
- › Strategy selection where rapidly rising hard-to-borrow shorts may be substituted for alternatives with similar profiles in sector or other factor exposures
- › Backtesting and alpha generation based upon historical and real-time data

### ASSET MANAGERS

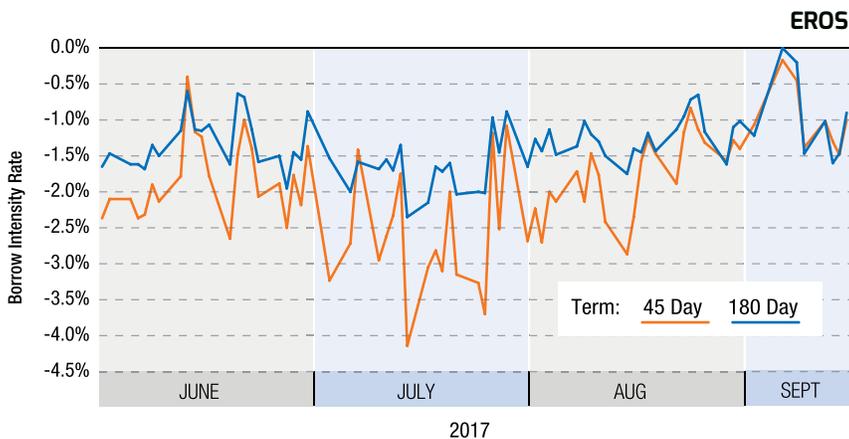
- › Optimize value of collateral lending programs
- › Spot potential term lending opportunities
- › Quantitative model applications for risk management and alpha generation

## Methodology

The borrow intensity calculation is derived from Hanweck Options Analytics where borrow is calculated within the American model, pricing processed to maintain put-call parity, and then signal processed to improve quality of observations. Hanweck Borrow Intensity Indicators are generated using a proprietary process that further transforms implied borrow calculations to create time-series with constant maturity characteristics. Borrow Intensity Indicators for each maturity have inputs from across the entire range of option maturities to improve signal-to-noise ratio of data, monitoring correlated vs. uncorrelated changes across borrow term structure. Hanweck maintains a security master that includes dividend data sourced from major vendors, and updates for corporate actions, to support the discrete dividend Hanweck Options Analytics.

## Example: Hanweck Borrow Intensity Indicator

The figures below show data from the Hanweck Borrow Intensity Indicator for Cracker Barrel (CBRL) and Eros International (EROS).



## VALUE OF DERIVATIVES SIGNALS DATA, INCLUDING BORROW INTENSITY

### TRANSPARENCY

- Exchange-traded option markets, with live quotes and tradable prices, are more transparent than many related markets. This affords visibility into related markets that are more opaque, including securities lending.

### MARKET EXPECTATIONS

- Options prices move quickly in response to participant expectations and behavior. For example, market makers in options must adjust pricing in response to borrow pricing they receive from the collateral markets, or they face arbitrage or hedging losses as they transact with other informed participants. Similarly, as expectations of future dividends change, it is quickly reflected in the traded options markets.

### FORWARD LOOKING

- Options prices reflect forward looking, market-based views of volatility, including the short term such as earnings announcements, and the long term such as company and sector forecasts and the anticipated fundamental credit worthiness of a firm.

To learn more, visit us at [Hanweck.com](http://Hanweck.com) or email [sales@hanweck.com](mailto:sales@hanweck.com)

Hanweck is the leading provider of real-time risk analytics on global derivatives markets focusing on the large-scale risk problems of banks, broker/dealers, hedge funds, central counterparties and exchanges — where the number of instruments and positions number in the millions. Hanweck delivers risk analytics as a real-time service in flexible ways, from feeds to APIs, that dramatically simplify integration with customers' risk architecture.