



BRIXX™ Commercial Real Estate Options Fact Sheet

BRIXXTM Indexes

BRIXXTM Commercial Real Estate (CRE) Indexes measure real-time changes in property values across multiple sectors of the commercial real estate market to support benchmarking, hedging and portfolio allocation strategies for real estate investors.

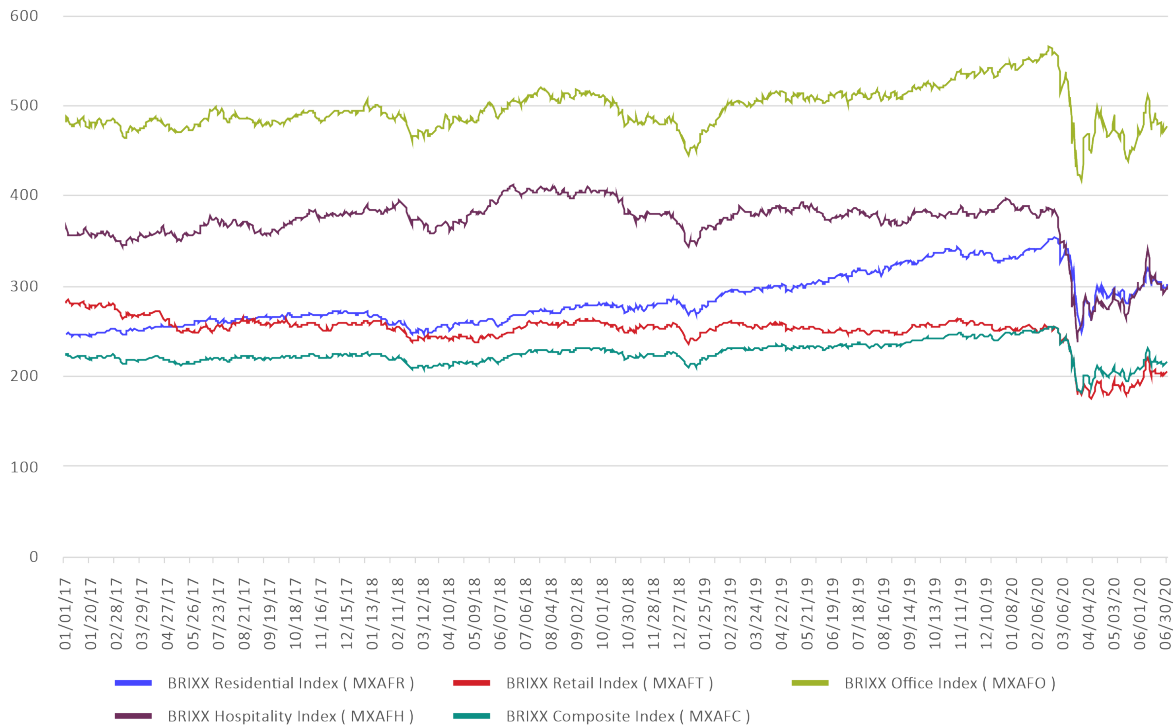
BRIXX Indexes are priced using real-time public market data that aggregates over \$600 billion in property values, measuring unlevered returns in commodity pricing such as \$/Sq. Ft, \$/ Unit, and \$/key.

BRIXX Options

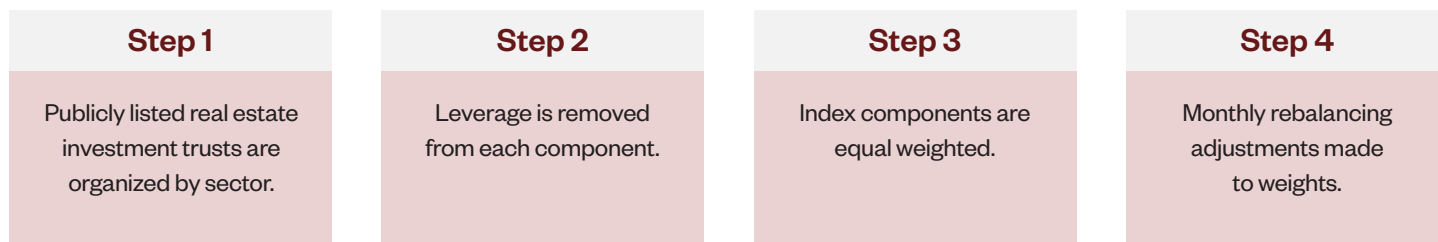
BRIXX Options will trade on MIAx - one of the fastest, most efficient options platforms in the world, offering fully-electronic execution, unparalleled determinism, low latency, high throughput, competitive exchange fees, and unmatched uptime.

These options provide an opportunity to invest in liquid, unlevered commercial real estate in real-time across the residential, retail, office and hospitality sectors.

BRIXX Sector Levels



BRIXX Index Construction



BRIXX Methodology

The individual sector indexes are priced on per unit metrics (“Per Unit Values”):

Sector	Pricing	Symbol
Residential	\$/Unit/1,000	(BRIXR)
Retail	\$/Square Foot	(BRIXT)
Office	\$/Square Foot	(BRIXO)
Hospitality	\$/Key/1,000	(BRIXH)

Weighting of Components

Component weights for all indexes are reset monthly. Each component is equally weighted taking into account each of the components’ Leverage Ratio with the equity component equal to Market Cap/Enterprise Value, as described in the equations below:

$$\text{Market Cap} = \text{Common Shares Outstanding} * \text{Common Share Price}$$

$$\text{Enterprise Value} = \text{Market Cap} + \text{Total Liabilities} + \text{Minority Interest} + \text{Preferred Equity} - \text{Cash \& Equivalents}$$

$$\text{Leverage Ratio} = 1 - (\text{Market Cap} / \text{Enterprise Value})$$

$$\text{Initial Component Index Weight} = (1 - \text{Leverage Ratio}) / \text{Number of Components}$$

$$\text{Per Unit Value}_i = \text{Enterprise Value}_i / \# \text{ Units}$$

of Units

The # of Units for each Component is sourced from the latest quarterly filings and earnings reports (10-Q, 10-K, 8-K, or Supplemental).

BRIXX Residential Index = amount of residential units owned by the Component.

BRIXX Retail Index = amount of square footage owned by the Component.

BRIXX Office Index = amount of square footage owned by the Component.

BRIXX Hospitality Index = amount of hotel rooms owned by the Component.

The weights are then adjusted to take into account Per Unit Value for each component, using the most recent two quarterly Per Unit Values.

$$\text{Adjustment}_i = (\text{PUV}_2 - \text{PUV}_1) / \text{PUV}_1$$

$$Z_i = (\text{Adjustment}_i / \text{sum}(\text{Adjustment}_i)) * \text{avg}(\text{Adjustment}_i)$$

$$\text{Adjusted Weight}_i = (Z_i * \text{sum}(\text{weight}_i) + \text{weight}_i) / (1 + \text{avg}(\text{Adjustment}_i))$$

These are the final weights used at each monthly rebalance to determine the index shares for each component.

Trading Examples

Example 1: Going Long – Allocation Investment

- An asset manager believes that the office values will rise significantly over the next six months
- They would like to buy \$100,000,000 of the notional exposure
- The BRIXX Office Index is currently trading at \$475.00 Per Sq. Ft.

The Trade

Option	Maturity	Strike	Option Price	Contracts	Total Cost
Call	6 Months	\$500.00	\$10.00	2,000	\$2,000,000

Potential Outcomes

Index at Maturity	Index Change	Option Value	Trade Profit/(Loss)	ROI
<\$500.00	<5%	\$0	(\$2,000,000.00)	-100%
\$510	7%	\$10.00	\$0	0%
\$520	9%	\$20.00	\$2,000,000.00	100%
\$530	12%	\$30.00	\$4,000,000.00	200%

Example 2: Hedging Private Portfolio

- Pension Fund ABC would like to buy a hedge to protect the value of their residential real estate holdings over the next two years
- They would like to buy \$1,000,000,000 of protection
- The BRIXX Residential Index is currently trading at \$300.000 per unit

The Trade

Option	Maturity	Strike	Option Price	Contracts	Total Cost
Put	12 Months	\$300.00	\$30.00	33,333	\$99,999,900

Potential Outcomes

Index at Maturity	Index Change	Option Value	Trade Profit/(Loss)	ROI
>\$300.00	>0%	\$0	(\$99,999,900.00)	-100%
\$285	-5%	\$15.00	(\$49,999,950.00)	-50%
\$260	-13%	\$40.00	\$33,333,300.00	33%
\$230	-23%	\$70.00	\$133,333,200.00	133%

Contract Specifications

BRIXX™ Indexes Contract Specifications

Description	BRIXX™ Commercial Real Estate Indexes measure real-time real estate returns. Indexes are priced using real-time public market data that aggregates over \$600 billion in property values, measuring unlevered returns in commodity pricing. The Composite Index measures the weighted average returns of the four underlying BRIXX Indexes (Residential, Retail, Office, and Hospitality). The index consists of up to 60 publicly traded real estate investment trusts / equity companies, which comprise the four underlying sector returns that are listed on a U.S. Securities Exchange.
Symbols	BRIXR, BRIXT, BRIXO, BRIXH, BRIXC
CUSIP	TBD
Multiplier	\$100
Strike Interval	Strike price intervals are set at \$2.50 where the strike price is \$50 or less, and at \$5 where the strike price is greater than \$50.
Minimum Trading Increment	\$0.05 for series trading below \$3 and \$0.10 for series trading at or above \$3. Complex Orders and PRIME Price Improvement Auctions are in \$0.01 increments.
Expiration Date	The third Friday of the expiration month.
Expiration Month	Up to twelve expiration months. Short-term, quarterly and LEAPS may also be available.
Exercise Style	European
Last Trading Day	Trading will ordinarily cease at 4:00 p.m. (Eastern Time) on the Thursday preceding an expiration Friday.
Settlement Type	Cash
Settlement Value	The exercise and settlement value will be calculated using the opening sales price in the primary market of each component security on the expiration date. The exercise-settlement amount will be equal to the difference between the settlement value and the exercise price of the option, multiplied by \$100. Exercise will result in the delivery of cash on the business day following expiration.
Settlement of Exercise	Next business day following expiration.
Position and Exercise Limits	The position limit is 25,000 contracts on the same side of the market.
Trading Hours	9:30 a.m. - 4:00 p.m. (Eastern Time)

About MIH

Miami International Holdings, Inc. (MIH) is the parent holding company of Miami International Securities Exchange, LLC (MIAX®), MIAX Pearl, LLC (MIAX Pearl™) and MIAX Emerald, LLC (MIAX Emerald™ and together with MIAX and MIAX Pearl, the MIAX Exchange Group), three fully electronic options trading exchanges.

MIAX, MIAX Pearl and MIAX Emerald leverage the MIAX Exchange Group's industry-leading technology and infrastructure to provide their member firms with traditional pricing and pro rata allocation (MIAX), maker-taker pricing and price-time allocation (MIAX Pearl) market structures, and a hybrid market structure with maker-taker pricing and pro rata allocation (MIAX Emerald).

MIAX serves as the exclusive exchange venue for cash-settled options on the SPIKES® Volatility Index (Ticker: SPIKE), a measure of the expected 30-day volatility in the SPDR® S&P 500® ETF (SPY). The MIAX Exchange Group's executive offices and National Operations Center are located in Princeton, NJ, with a Miami Operations Center and additional offices located in Miami, FL. To learn more about MIH and the MIAX Exchange Group visit www.MIAXOptions.com.

About Advanced Fundamentals

Advanced Fundamentals was established in 2017 by a team of leading index experts with more than 15 years' index composition experience. AF has developed a series of CRE and metro-based index products.

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For more information about BRIXX Indexes and Options and contact Sales at:
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