



BRIXX™ Commercial Real Estate Futures

Fact Sheet

BRIXXTM Futures 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.

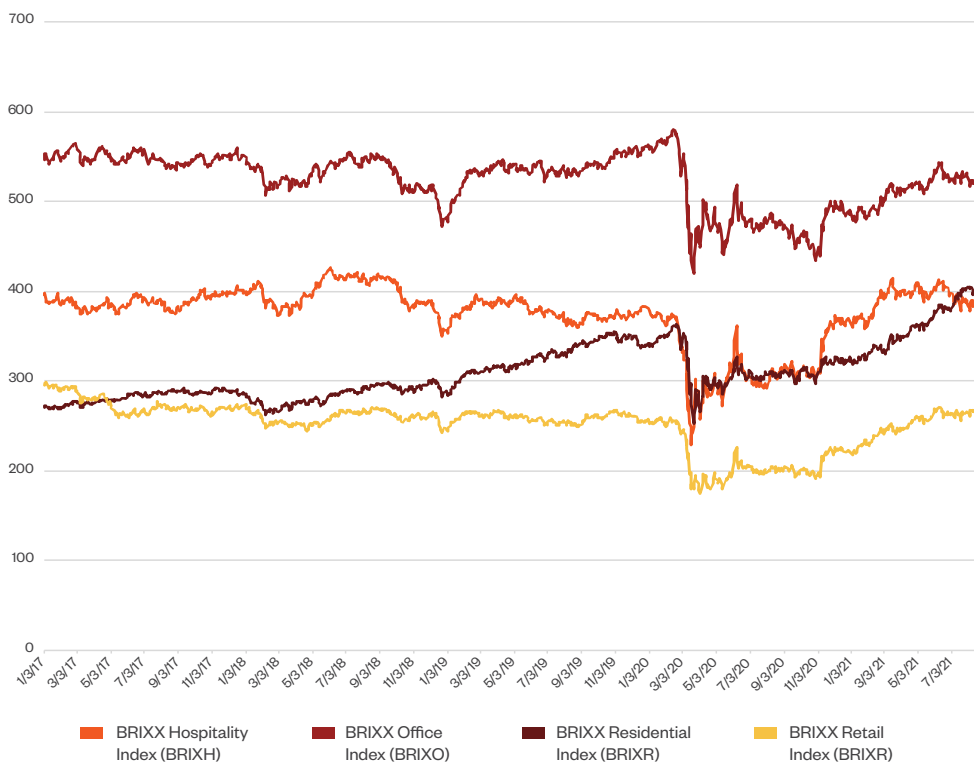
BRIXX Indexes are priced using real-time public market data that aggregates over \$750 billion in property values, measuring unlevered returns in commodity pricing such as \$/Sq. Ft, \$/ Unit, and \$/key.

BRIXX Futures

BRIXX Futures are offered by MGEXTM via the CME Globex[®] platform, and are cleared by MGEX.

These futures 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:

Market Cap = Common Shares Outstanding * Common Share Price

Enterprise Value = Market Cap + Total Liabilities + Minority Interest + Preferred Equity – Cash & Equivalents

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

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

Per Unit Value_i = Enterprise Value_i / # 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).

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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: Positioning Long – Allocation Investment

- An asset manager believes that retail real estate is currently undervalued and property values will increase more than the market anticipates over the next 6 months.
- They would like to buy \$10,000,000 of notional exposure.
- The BRIXX Retail Index is currently pricing at \$200.00 Per SF. The 6-month future is trading at \$208.00, reflecting an assumed annualized increase of 8%.

The Trade

Position	Maturity Date	Futures Price	Contracts	Notional	Margin	Total Outlay
Long	6 months	\$208.00	500	\$10,000,000	4.50%	\$450,000*

Potential Outcomes

Index at Maturity	Index Change	Notional Value	Trade Profit/(Loss)	Return on Notional
\$190	-5%	\$9,500,000	(\$900,000)	-9%
\$200	0%	\$10,000,000	(\$400,000)	-4%
\$210	5%	\$10,500,000	\$100,000	1%
\$220	10%	\$11,000,000	\$600,000	6%
\$230	15%	\$11,500,000	\$1,100,000	11%

Example 2: Hedging Portfolio

An asset manager currently has exposure to \$500 million of office property and would like to hedge against a potential reduction in value over the next 12 months.

They would like to short \$100,000,000 of notional exposure.

The BRIXX Office Index is currently pricing at \$500.00 Per SF. The 12-month future is trading at \$525.00, reflecting an assumed annualized increase of 5%.

The Trade

Position	Maturity Date	Futures Price	Contracts	Notional	Margin	Total Outlay
Short	12 months	\$525.00	2,000	\$100,000,000	4.50%	\$4,500,000*

Potential Outcomes

Index at Maturity	Index Change	Notional Value	Trade Profit/(Loss)	Return on Notional
\$475	-5%	\$95,000,000	\$10,000,000	10%
\$500	0%	\$100,000,000	\$5,000,000	5%
\$525	5%	\$105,000,000	\$0	0%
\$550	10%	\$110,000,000	(\$5,000,000)	-5%
\$575	15%	\$115,000,000	(\$10,000,000)	-10%

BRIXX™ Futures Contract Specifications

For the following contracts, collectively “BRIXX Futures Contracts”:

Symbols	BXT BRIXX Retail Futures BXR BRIXX Residential Futures BXO BRIXX Office Futures BXH BRIXX Hospitality Futures
Trading Hours	Regular Trading Session: 8:30 a.m. – 3:00 p.m. (Monday – Friday, Central Time)
Multiplier	The contract multiplier for each contract is \$100 (USD)
Contract Months	Each contract will have three monthly contracts available for trading plus three quarterly expirations, on the March cycle, listed out 1 year. Thus, six contracts will be listed at any given time. The first trading day of the new 6 th month contract will begin with the Regular Trading Session on the settlement day of the expiring front month.
Minimum Price Increment	The minimum price increment in each contract will be 0.10 index points, which has a value of \$10.
Calendar Spreads	Standard calendar spreads are available. The same tick functionality as the single contract exists. The individual legs and net prices may be in increments of 0.10 index points, which has a value of \$10. Implied orders functionality is enabled.
Block Trades	Block Trades are permitted to be executed given they meet minimum quantity thresholds. The Block Trade minimum threshold is 500 contracts. Block Trades will include a minimum price increment of 0.10 index points, which has a value of \$10.
Exchange for Related Position	Exchange for Related Position (EFRP) transactions are permitted to be executed provided certain criteria are met. The transaction must also be proved to be a bona fide EFRP transaction and must be submitted to the Exchange in accordance with applicable Rules. See MGEX Rule 719.00 for additional information related to EFRP transactions.
Daily Price Limits	There are no price limits during the Regular Trading Session.
Trading Halts	Trading halts can be triggered by volatility in the S&P 500 Index, including the following market declines: Level 1: 15-minute trading halt following a seven percent (7%) decline in the S&P 500 Index (unless decline occurs after 2:25 p.m. Central Time or 11:25 a.m. Central Time in the case of early close). Level 2: 15-minute trading halt following a thirteen percent (13%) decline in the S&P 500 Index (unless decline occurs after 2:25 p.m. Central Time or 11:25 a.m. Central Time in the case of early close). Level 3: Trading halt for the remainder of the trading session following a twenty percent (20%) decline in the S&P 500 Index, effective during all regular Hours of Trading.

**Last Trading Day/
Termination of Trading**

The Last Trading Day will be at 3:00 p.m. Central Time on the trading day immediately before the Final Settlement Date (generally 3:00 p.m. Central Time Thursday afternoon on the Thursday preceding the Third Friday of the month).

Final Settlement Date

The Final Settlement Date is generally the Third Friday of the month.

Final Settlement Value

The Settlement Value will be calculated using the opening sales price in the primary market of each component security on the expiration date. The Final Settlement Value will be equal to the difference between the Settlement Value and the price of the future, multiplied by \$100.

BRIXX Futures Contracts will cash settle to the Final Settlement Value, as published by MGEX, on the Final Settlement Date. Settlement will result in the transfer of a cash settlement amount on the business day immediately following Settlement Date. The cash settlement amount will be the final mark to market amount against the final settlement price of the BRIXX Futures Contract multiplied by \$100.

Settlement Symbol

BRXST, BRXSR, BRXSH, BRXSO

**Trade at Settlement
Transactions (TAS)**

Trade at settlement transactions (TAS) will **not** be available for BRIXX Futures Contracts.

Position Accountability

The position accountability levels for BRIXX Futures Contracts are as follows:

Ownership or control at any time of more than 25,000 contracts net long or short in all BRIXX Futures Contracts combined.

Ownership or control of more than 15,000 contracts net long or net short in the expiring BRIXX Futures, effective at the start of Hours of Trading for the Friday prior to the Final Settlement Date of the expiring BRIXX Futures.

Ownership or control of more than 5,000 contracts net long or net short in the expiring BRIXX Futures, effective at the start of the Hours of Trading for the Business Day immediately preceding the Final Settlement Date of the expiring BRIXX Futures.

**Reportable Position
and Volume Level**

Any open position level at the close of trading on any trading day equal to, or in excess of, 25 contracts on either side of the market is required to be reported to the CFTC.

A volume threshold account that has trading volume during a single trading day equal to, or in excess of, 50 contracts is required to be reported to the CFTC.

About MIH

Miami International Holdings, Inc., MIAX's parent holding company, owns Miami International Securities Exchange, LLC (MIAX®), MIAX PEARL, LLC (MIAX Pearl®), MIAX Emerald, LLC (MIAX Emerald®), the Minneapolis Grain Exchange, LLC (MGEX), and the Bermuda Stock Exchange (BSX).

MIAX, MIAX Pearl and MIAX Emerald are national securities exchanges registered with the Securities and Exchange Commission (SEC) that leverage MIAX's industry-leading technology and infrastructure to provide U.S. listed options trading to their member firms. 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). In addition to options, MIAX Pearl facilitates the trading of cash equities through MIAX Pearl Equities™.

MGEX is a registered exchange with the Commodity Futures Trading Commission (CFTC) and is a Notice Registered Securities Futures Product Exchange with the SEC. MGEX serves as the exclusive market for a variety of products, including Hard Red Spring Wheat and SPIKES Futures. In addition, MGEX is a Designated Contract Market (DCM) and Derivatives Clearing Organization (DCO) under the CFTC, providing DCM, DCO and cash market services in an array of asset classes.

The BSX is a leading electronic international securities market regulated by the Bermuda Monetary Authority (BMA) specializing in the listing and trading of capital market instruments such as equities, debt issues, funds, hedge funds, derivative warrants and insurance linked securities. A full member of the World Federation of Exchanges and affiliate member of the International Organization of Securities Commissions, the BSX is globally recognized, including by the SEC.

MIAX's executive offices and National Operations Center are located in Princeton, NJ, with additional offices located in Miami, FL, Minneapolis, MN, and Hamilton, Bermuda.

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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