



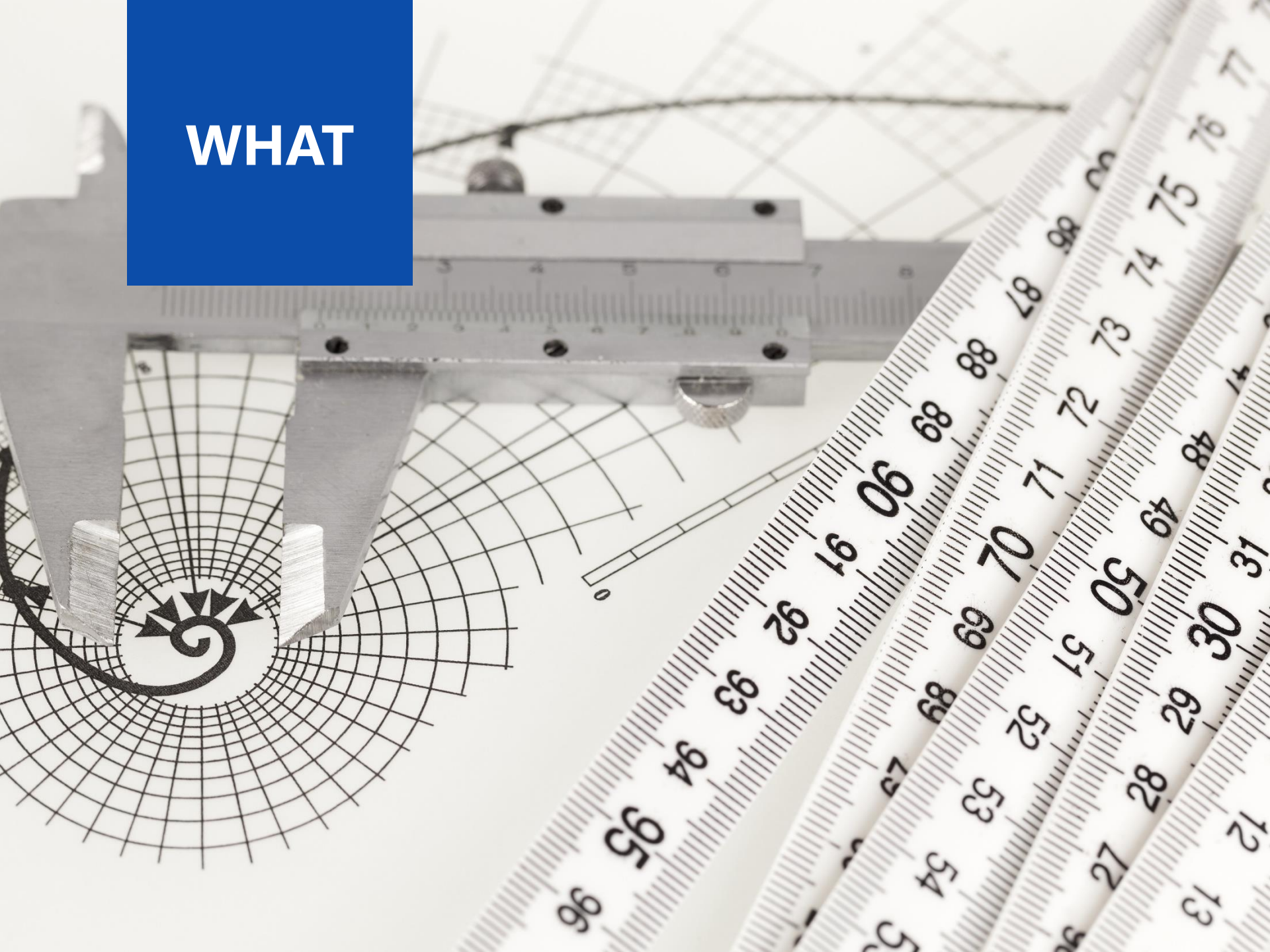
CANADIAN HIGH DIVIDEND EQUITY

FACTOR-BASED MODEL PORTFOLIO STRATEGY



2019/11

WHAT



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Summary

Key Points in a Nutshell

1

The Factor-Based Canadian High Dividend Equity Strategy focuses on high-yielding equities, low portfolio turnover and tax-efficiency.

2

The strategy consists of approximately 25 quality at a reasonable price (QARP) dividend-paying equities with above-average yields and the ability to sustain and grow their dividends.

3

The strategy gained an annualized return of 16.9% since January 1st, 2000. It has proven to outperform on a relative basis against the S&P/TSX TR.



Objectives

Setting a Way to Achieve Success

The portfolio is targeted towards investors with medium risk tolerance seeking exposure to Canadian dividend-paying equities using a rigorous bottom-up factor-based quantitative approach to stock selection.

- 1 Provide a steady stream of income by investing in Canadian Equities.
- 2 Maximize tax efficiency by having a low portfolio turnover ratio.
- 3 Consistently outperform the S&P/TSX TR Index over a 5-year period.

Characteristics

Comparison of Smart Beta Strategies

| | Market Cap Weighted Index | Factor-Based Canadian HD Equity |
|------------------------|---------------------------|---------------------------------|
| Risk management goals | None | None |
| Systematic rebalancing | Quarterly | Quarterly |
| Human input required | No | Supervised |
| Use of Leverage | None | None |
| Systematic Risk | Medium | Medium |
| Portfolio turnover | Low | Low |
| Investment process | None | Bottom-Up |
| Investment style | None | QARP |
| Market behavior | Trend Following | Relative return |



QARP stands for Quality At Reasonable Price. We focus on selecting reasonably priced securities with attractive fundamentals, consistency of dividends and the ability to increase dividends.



Methodology

Quantitative Modeling



HOW IT WORKS

A quantitative model systematically identifies mispriced stocks and attempts to deliver absolute and relative performance. Equities are ranked and sorted from a pre-selected universe of S&P TSX constituents with periodic rebalances and adjustments in the event of fundamental deterioration over time.

WHY IT WORKS

By adhering to a stock selection framework based on a thoroughly tested ranking system, we are able to remove emotion and yield chasing from the investment process. Studies indicate that 80% of portfolio managers do not beat their respective benchmark because they essentially mimic it or their emotions cloud their investment decisions.

A high-contrast, black and white close-up photograph of several interlocking metal gears. The gears are made of a polished, reflective metal, likely steel, and their teeth are sharply defined. The lighting creates strong highlights and deep shadows, emphasizing the three-dimensional texture of the gear surfaces. A blue rectangular box is overlaid in the upper-left corner, containing the word "HOW" in white, bold, sans-serif capital letters.

HOW

Philosophy

Factor-Based (FB)

1. QARP (Quality At Reasonable Price)

The end goal is to invest in quality companies trading at attractive multiples that consistently generate wealth for their shareholders.

2. Undexing

Our goal is to beat the market over the long run. We believe the best way to do it is to create a portfolio that looks very different from it.

3. Concentration

We strive to achieve a balance between diversifying to remove specific risk yet not over-diversifying and mimicking the S&P TSX Total Return Index.

4. Low Turnover

Excessive portfolio turnover increases trading costs and tax-efficiency. It also introduces emotional reactions and a lack of confidence in the process.

Overview

Our Investment Process

6. Monitoring

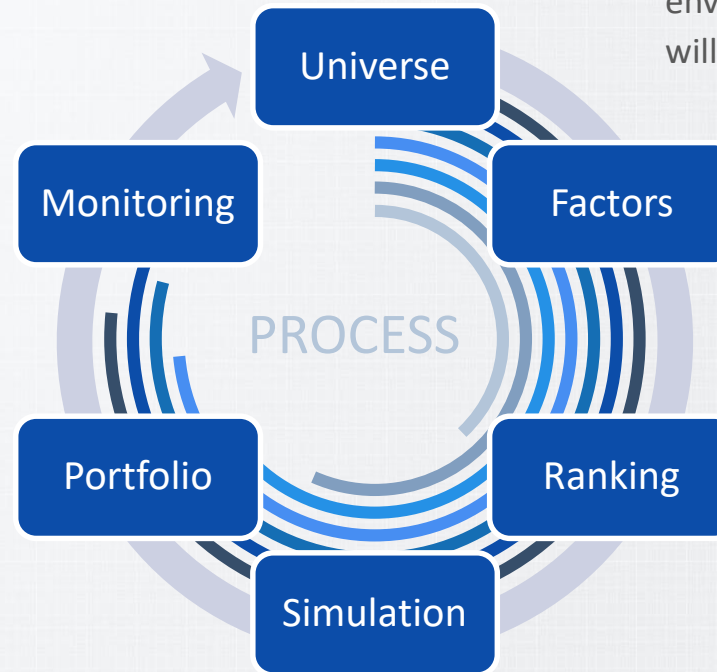
Monitor, rebalance and analyze performance attribution.

5. Portfolio

Invest the funds based on the defined methodology.

4. Simulation

Form a strategy resulting from a mix of set rules and filters applied to the ranking system.



1. Universe

Define the investment environment in which we will pick our companies.

2. Factors

Design factors based on academic literature and innovative concepts.

3. Ranking

Create a composite of factors to rank companies from our defined universe.



Universe

Our Investment Environment

1

\$billion of market cap minimum. This is considered large cap equity in Canada compared to the U.S. where \$6 billion is the cut-off. .

10

\$million of average daily liquidity for the past month expressed as price times volume (P x V).



300

Stocks passing the universe filter. All S&P TSX Composite members including real estate investment trusts (REITs).

25

Stocks in the portfolio are chosen from the top-ranking decile.

Factor

Our Selection Method

We backtested our selection universe using hundreds of factors to identify those that generated the most alpha adjusted for risk over the previous two market cycles. We then selected the top factors using the four criteria.



Ranking

Based on Our Factor Selection



Earnings Quality (EPSQ) ↑

This ratio is calculated as the Operating Cash Flow minus Earnings divided by Total Assets.

What: Is the company manipulating accruals in its financial statements?

Why: The interpretation of this ratio is that higher is always better.

Dividend Yield (DIVY) ↑

This ratio is calculated as the Projected Dividend divided by the current Price, multiplied by 100.

What: How much Dividends are paid by the company relative to its Price?

Why: The interpretation of this ratio is that higher is always better.

Average True Range (LVOL) ↓

This ratio is a measure of volatility decomposing the entire range of an asset price for a period.

What: How volatile are the shares of a company relative to the market?

Why: The interpretation of this ratio is that lower is always better.

* Volatility could be considered in a factor style of its own but we will include it with quality due to the indirect relationship with it. Stocks that are growth oriented are more difficult to forecast for market participants and tend to be more volatile while for quality companies it is the reverse.



Ranking

Based on Our Factor Selection

Value

Price To Cash Flow Per Share Ratio



This ratio is the current Price divided by Cash Flow Per Share for the trailing twelve months. Cash Flow is defined as Income Before Extraordinary Items plus Depreciation and Amortization.

What: How much Cash Flow per unit of Price is the company making?

Why: The interpretation of this ratio is that lower is always better.

Discounted Free Cash Flow / EV (FCFV)



This ratio is calculated as the output of a Discounted Free Cash Flow model, based on the next five years and using the Mean Long Term Growth as the discount rate, divided by the EV of the company.

What: How much Discounted Free Cash Flow per unit of EV is the company making?

Why: The interpretation of this ratio is that higher is always better.



Ranking

Based on Our Factor Selection

Momentum

Analyst Revisions 1W (REV1)

This ratio is calculated as a scaled difference between Next Fiscal Year EPS Mean of today vs last week.

What: Was there any weekly EPS revisions and how large were they?

Why: The interpretation of this ratio is that higher is always better.

Analyst Revisions 4W (REV4)

This ratio is calculated as a scaled difference between Next Fiscal Year EPS Mean of today vs 4 weeks ago.

What: Was there any monthly EPS revisions and how large were they?

Why: The interpretation of this ratio is that higher is always better.

Trend (TREN)

This ratio is calculated as 20-Day EMA divided by the 200-Day EMA and measures the price slope.

What: Is the company's price trading in a medium-term uptrend?

Why: The interpretation of this ratio is that higher is always better.



Simulation

Our Portfolio Rules and Filters

G General Rules

- The model portfolio strategy is long-only with no leverage.
- Approximately 25 stocks are held. We allow a max weight deviation of 30% at initial purchase: Avg W: 4.0% | Min W: 2.8% | Max W: 5.2%
- Transactions are recorded at the average high | low of the trade day.
- Rebalancing frequency is quarterly and sent before market open.
- Variable slippage (average daily \$ traded) is taken into account.

B Buy Rules

- No stocks trading below \$1.00 are included in the simulation.
- Stocks with stale SEDAR / EDGAR financial statements are excluded from the buy list.
- Only stocks with a dividend yield greater than 2.75% are considered for purchase.
- The maximum weight in a GICS Level 1 Sector is capped at 30%.
- The correlation between the new candidates and existing holdings must be less than 0.67.

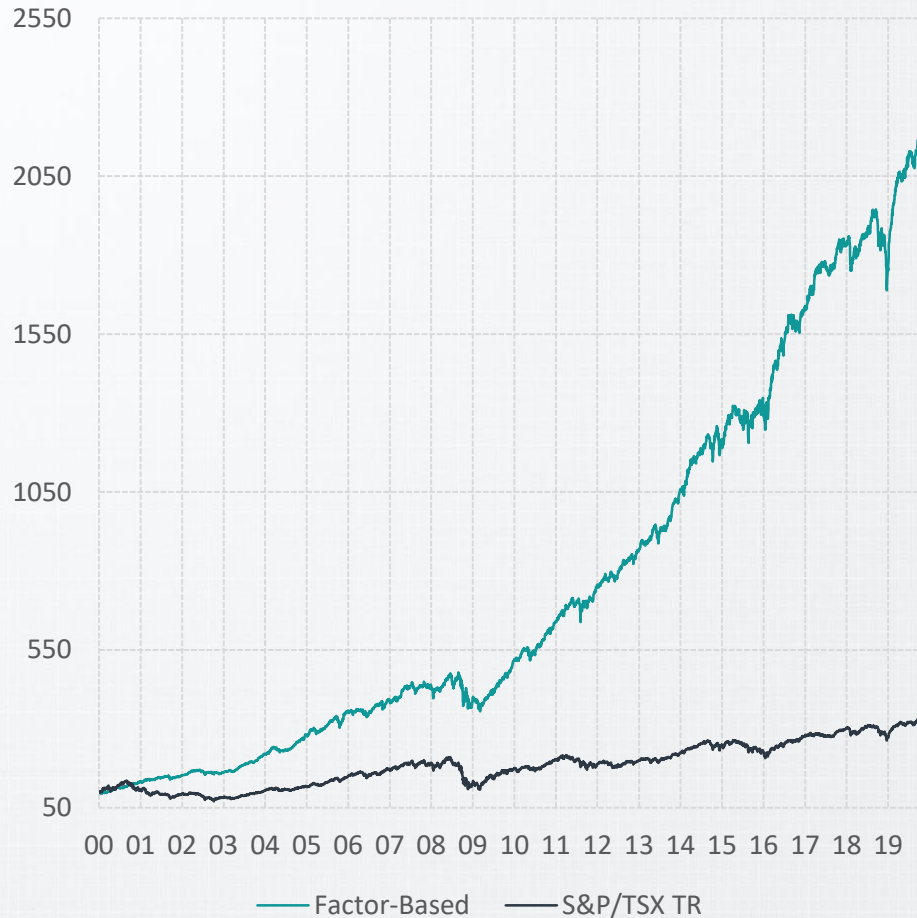
S Sell Rules

- Sell stocks when its rank falls below the third decile.
- Trim stocks weights back to 10% and below if their individual weights in the portfolio goes above 10%.
- We force positions in the universe even if they are replaced inside our universe.



Portfolio

Historical Performance



Key Portfolio Statistics

Annualized Return (%)
(S&P/TSX TR = 6.3) 16.9

Maximum Drawdown (%)
(S&P/TSX TR = -48.5) -25.7

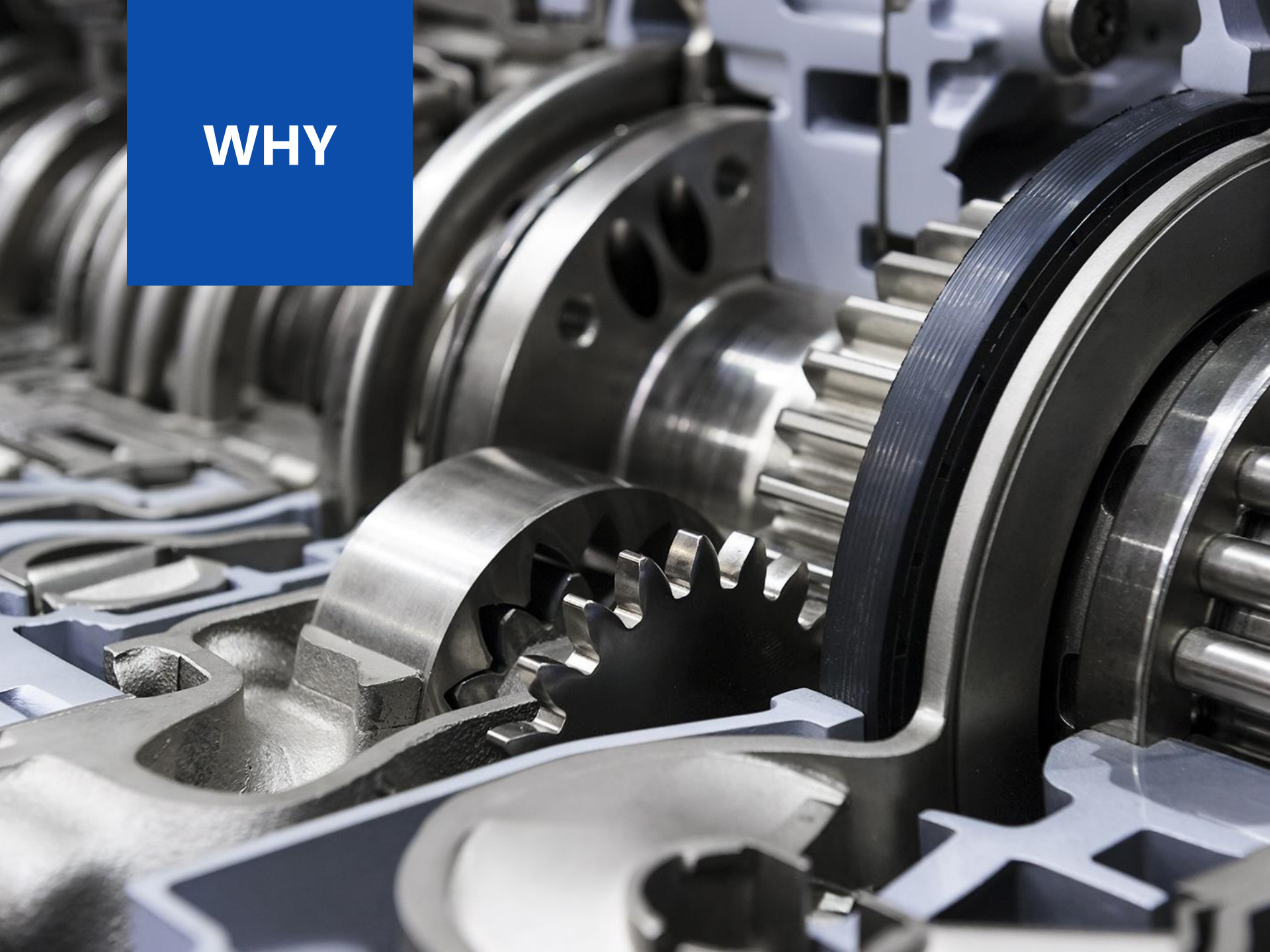
Portfolio Turnover (%)
(S&P/TSX TR = 6.3) 55.5

Index Correlation
(S&P/TSX TR = 1.00) 0.60

Sharpe Ratio
(S&P/TSX TR = 0.37) 1.64

Since Inception (January 1st, 2000)

WHY



Statistics

Calendar Performance

Yearly

Legislative changes
to REIT exemption &
taxation in 2006.

| Calendar Returns | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 |
|------------------|------|-------|-------|------|------|------|------|------|-------|------|
| Factor-Based | 34.7 | 13.5 | 5.9 | 36.8 | 27.0 | 26.6 | 10.5 | 12.0 | -11.3 | 32.6 |
| S&P/TSX TR | 7.4 | -12.6 | -12.4 | 26.7 | 14.5 | 24.1 | 17.3 | 9.8 | -33.0 | 35.1 |
| Difference | 27.3 | 26.1 | 18.3 | 10.0 | 12.5 | 2.5 | -6.7 | 2.1 | 21.7 | -2.5 |

The recovery was
too strong for a
QARP strategy.

| Calendar Returns | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | YTD |
|------------------|------|------|------|------|------|------|------|------|------|------|
| Factor-Based | 23.3 | 17.6 | 15.4 | 22.2 | 14.9 | 9.9 | 22.0 | 12.9 | -4.6 | 29.0 |
| S&P/TSX TR | 17.6 | -8.7 | 7.2 | 13.0 | 10.6 | -8.3 | 21.1 | 9.1 | -8.9 | 22.3 |
| Difference | 5.7 | 26.3 | 8.2 | 9.2 | 4.4 | 18.2 | 0.9 | 3.8 | 4.3 | 6.7 |

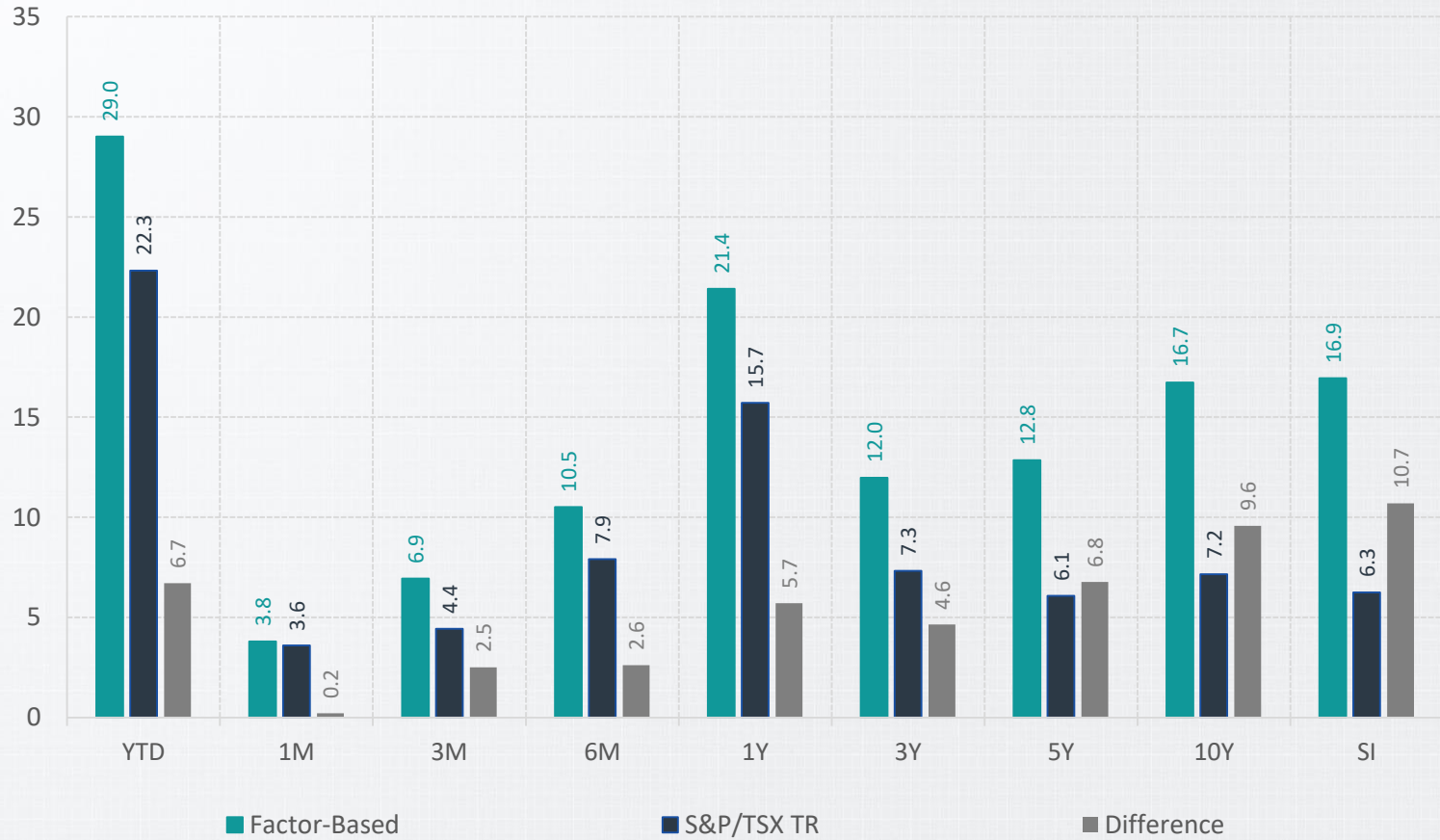
Monthly

| Calendar Returns | 12-18 | 01-19 | 02-19 | 03-19 | 04-19 | 05-19 | 06-19 | 07-19 | 08-19 | 09-19 | 10-19 | 11-19 |
|------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Factor-Based | -5.9 | 8.4 | 3.9 | 3.3 | 0.4 | -0.1 | 2.1 | 0.9 | 0.3 | 2.8 | 0.2 | 3.8 |
| S&P/TSX TR | -5.4 | 8.7 | 3.1 | 1.0 | 3.2 | -3.1 | 2.5 | 0.3 | 0.4 | 1.7 | -0.9 | 3.6 |
| Difference | -0.5 | -0.4 | 0.8 | 2.3 | -2.8 | 3.0 | -0.4 | 0.5 | -0.1 | 1.1 | 1.1 | 0.2 |



Statistics

Trailing Performance



Statistics

Return & Risk Measurements

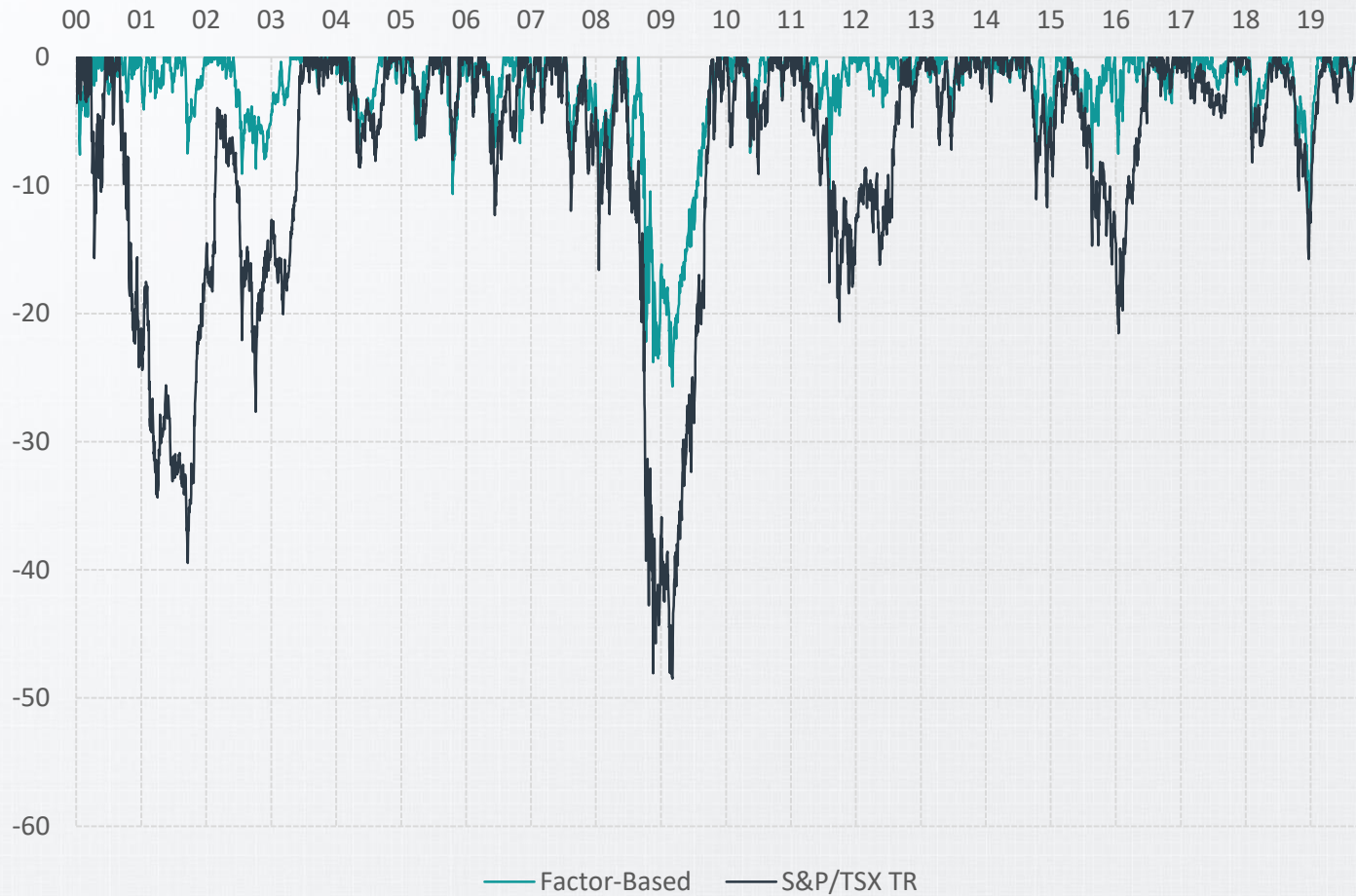
| Trailing 3 Year | Factor-Based | S&P/TSX TR | Difference |
|------------------------|--------------|------------|------------|
| Annualized Return (%) | 12.0 | 7.3 | 4.6 |
| Standard Deviation (%) | 8.2 | 9.0 | -0.8 |
| Max Drawdown (%) | -13.2 | -15.7 | 2.6 |
| Portfolio Turnover | 55.5 | 6.3 | 49.2 |
| Sharpe Ratio | 1.30 | 0.75 | 0.55 |
| Sortino Ratio | 1.65 | 1.05 | 0.60 |
| Index Correlation | 0.84 | 1.00 | -0.16 |
| R-Squared | 0.71 | 1.00 | -0.29 |
| Beta | 0.76 | 1.00 | -0.24 |
| Alpha (%) (Annualized) | 4.64 | 0.00 | 4.64 |

| Since Inception | Factor-Based | S&P/TSX TR | Difference |
|------------------------|--------------|------------|------------|
| Annualized Return (%) | 16.9 | 6.3 | 10.7 |
| Standard Deviation (%) | 8.6 | 13.3 | -4.8 |
| Max Drawdown (%) | -25.7 | -48.5 | 22.8 |
| Portfolio Turnover | 55.5 | 6.3 | 49.2 |
| Sharpe Ratio | 1.64 | 0.37 | 1.27 |
| Sortino Ratio | 2.21 | 0.48 | 1.73 |
| Index Correlation | 0.60 | 1.00 | -0.40 |
| R-Squared | 0.36 | 1.00 | -0.64 |
| Beta | 0.39 | 1.00 | -0.61 |
| Alpha (%) (Annualized) | 10.69 | 0.00 | 10.69 |



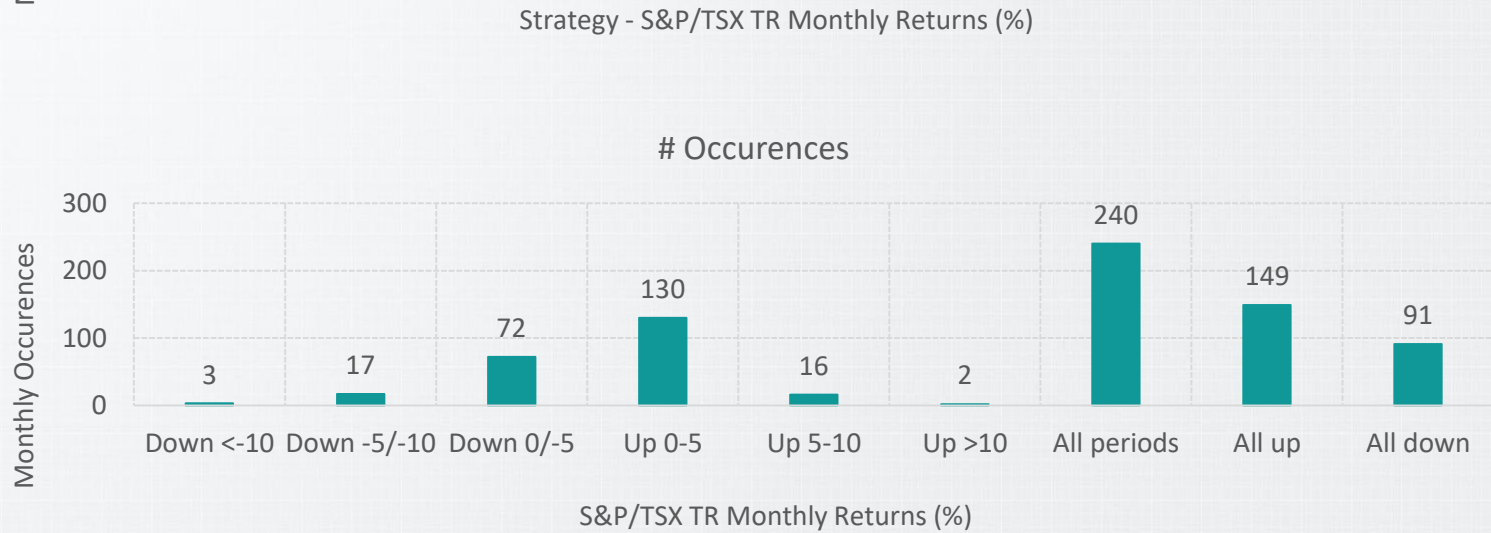
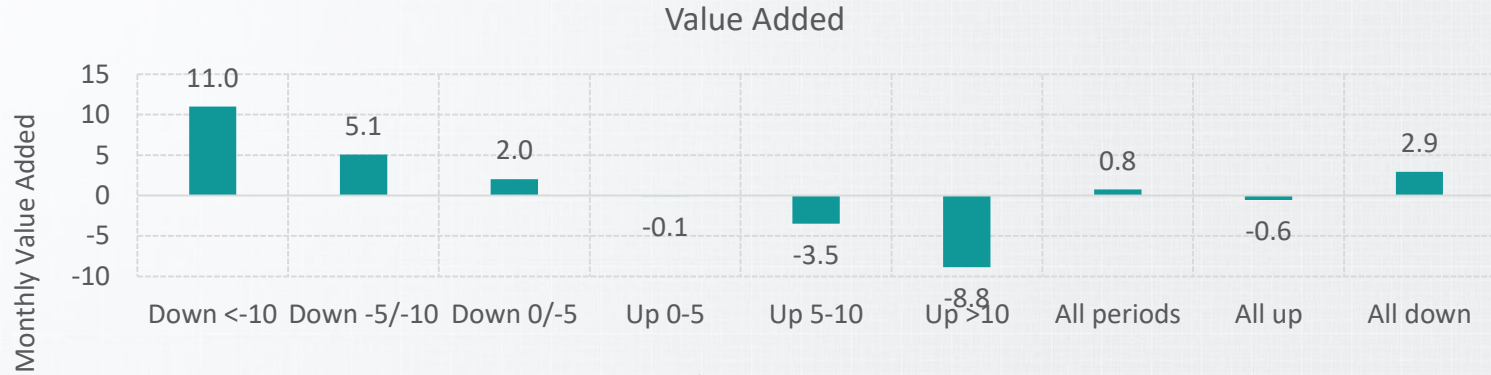
Statistics

Rolling Maximum Drawdown



Statistics

Outperformance in Different Market Conditions



Characteristics

Top Ten Holdings & Fundamentals

| Ticker | Weight (%) | Sector |
|-----------|------------|-------------|
| BEP.UN:CN | 5.2 | Utilities |
| EMA:CN | 4.8 | Utilities |
| GEI:CN | 4.8 | Energy |
| RNW:CN | 4.5 | Utilities |
| GRT.UN:CN | 4.5 | Real Estate |
| IAG:CN | 4.4 | Financials |
| CHP.UN:CN | 4.3 | Real Estate |
| FN:CN | 4.2 | Financials |
| NVU.UN:CN | 4.2 | Real Estate |
| D.UN:CN | 4.0 | Real Estate |

| Median | Factor-Based | S&P/TSX TR |
|-------------------|--------------|------------|
| Market Cap (\$B) | 21.6 | 2.8 |
| Price / Earnings | 15.7 | 15.5 |
| Price / Book | 1.7 | 1.7 |
| Price / Sales | 2.8 | 2.0 |
| Price / Cash Flow | 10.3 | 10.2 |
| Return on Equity | 13.2 | 9.0 |
| Dividend Yield | 4.5 | 1.8 |
| 5Y EPS Growth | 8.8 | 10.3 |
| Debt / Equity | 1.5 | 0.7 |
| 5Y Beta | 0.81 | 1.00 |



Allocation

Sector Weights & Benchmark Deviations

| Weights | Factor-Based | S&P/TSX TR | Deviations |
|---------------|--------------|------------|------------|
| Real Estate | 28.4 | 3.6 | 24.8 |
| Utilities | 25.3 | 4.7 | 20.6 |
| Telecom | 6.7 | 5.6 | 1.1 |
| Health Care | 0.0 | 1.3 | -1.3 |
| Staples | 0.0 | 4.0 | -4.0 |
| Energy | 12.0 | 16.2 | -4.2 |
| Discretionary | 0.0 | 4.3 | -4.3 |
| Info Tech | 0.0 | 5.4 | -5.4 |
| Industrials | 3.6 | 11.2 | -7.6 |
| Financials | 23.0 | 33.0 | -10.1 |

WHO



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Who We Are

Factor-Based (FB)



IN A NUTSHELL...

Factor-Based (FB) is a financial research firm that specializes in equities and bonds for investment advisors and institutional clients. We are dedicated to produce exceptional risk adjusted returns for our investors by strictly adhering to factor-based investing methods.

Disclosures

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