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ADVISOR SYMPOSIUM

MARCH 12–14, 2018

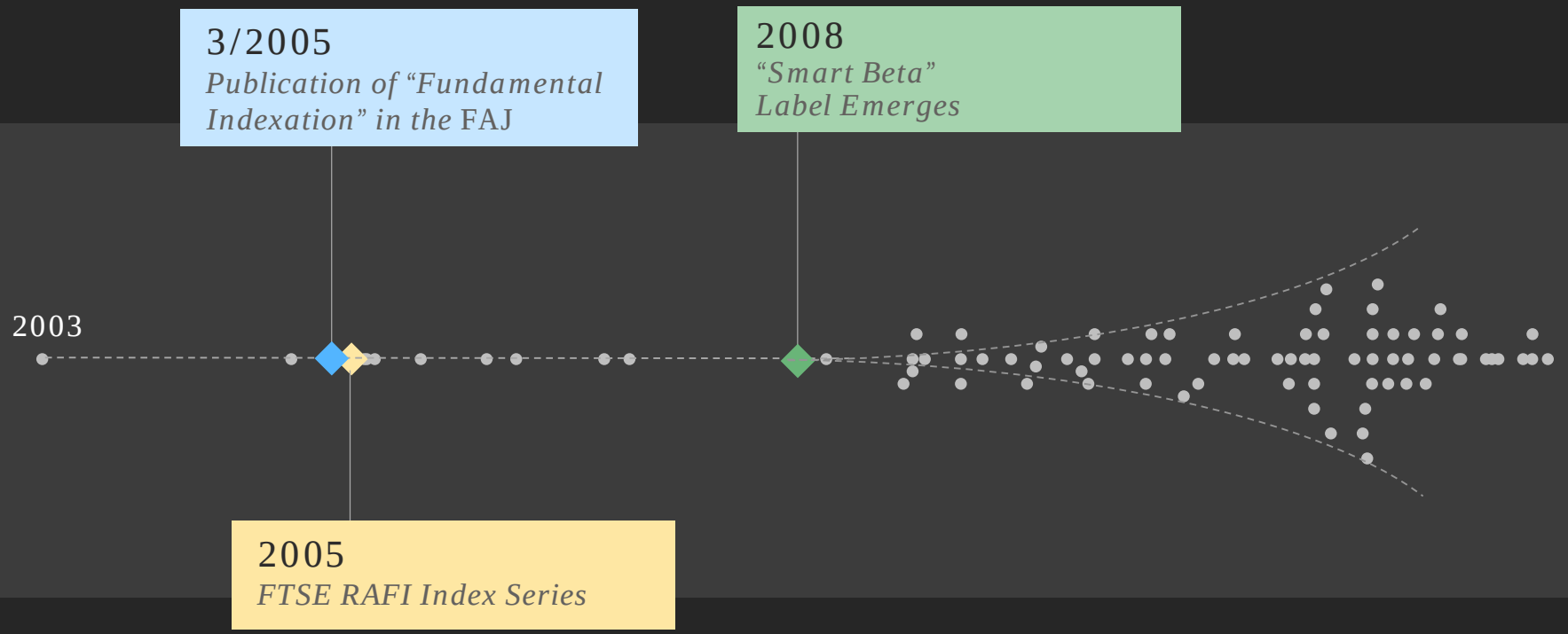
THE ISLAND HOTEL

NEWPORT BEACH

Smart Beta Selection

— Pick the Right One!

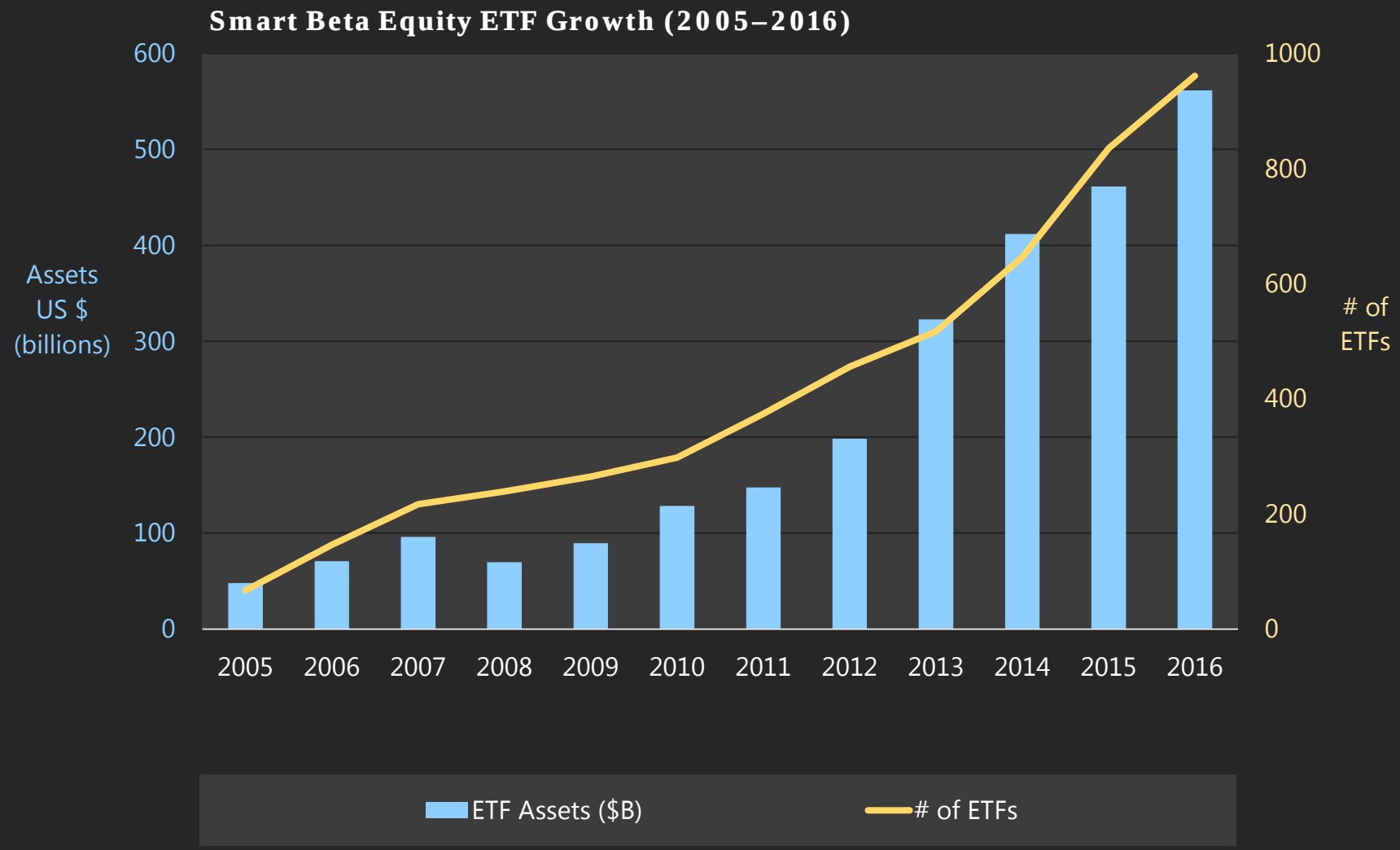
The Proliferation of Smart Beta Index Strategies



- Each dot represents a "family" of smart beta index strategies, which could have dozens of underlying indices (geography, size, etc.)
- For example, there are over 100 indices associated with the RAFI Fundamental Index [1]

[1] Includes FTSE RAFI, Russell RAFI, and RAFI Indices, LLC strategies. Note: Chart represents smart beta index strategies launched since 2003.

Has Led to ETF Product Proliferation



Source: Research Affiliates, LLC, based on data from Morningstar.

Too.
Many.
Options.

What to Do!?

» DO NOT chase performance
  – We've all gotten burned before...

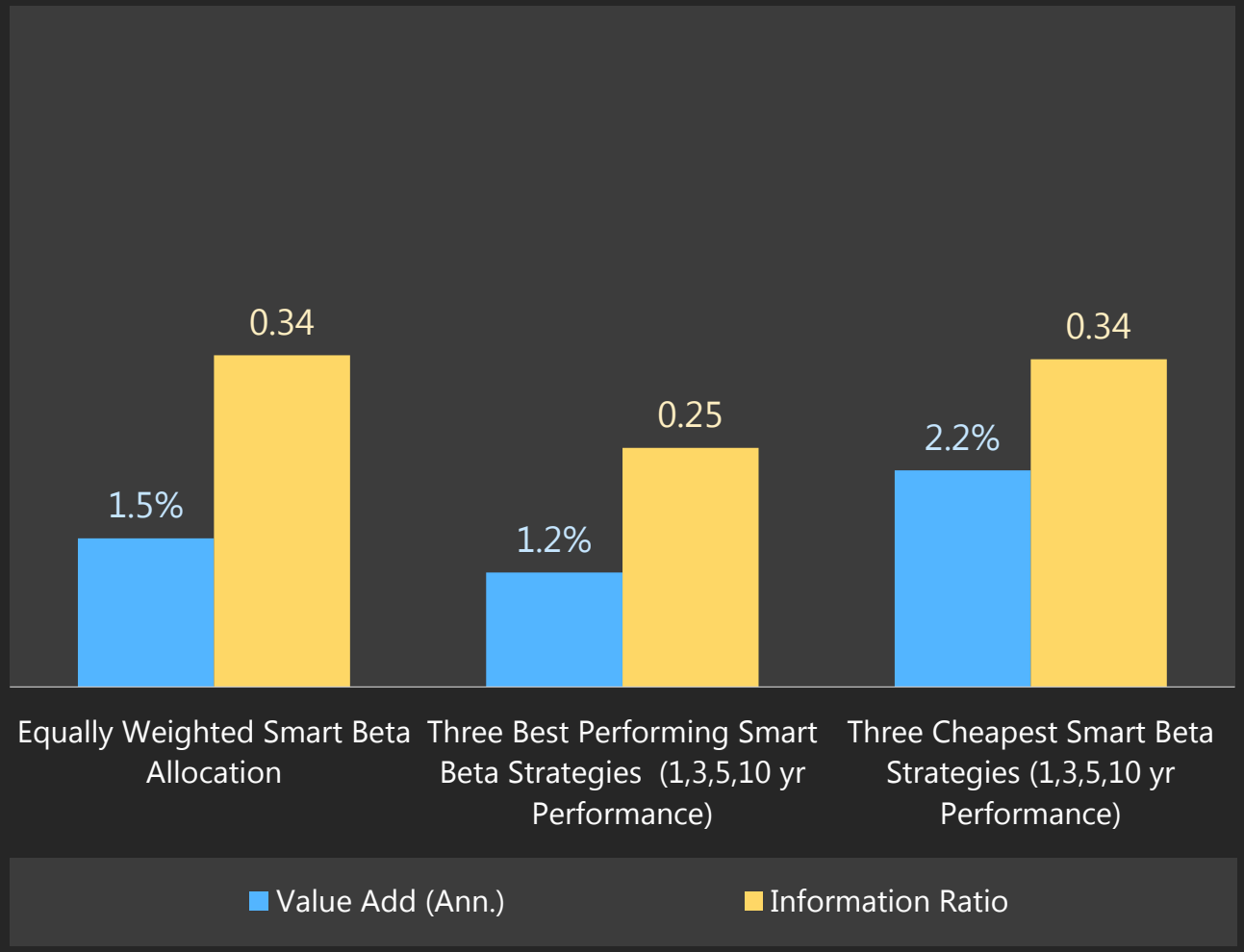
» DO choose robust Smart Beta strategies
  – There are only a few!

» DO focus on product craftsmanship
  – Reliably impactful to investment return!

Trend Chasing is Dangerous

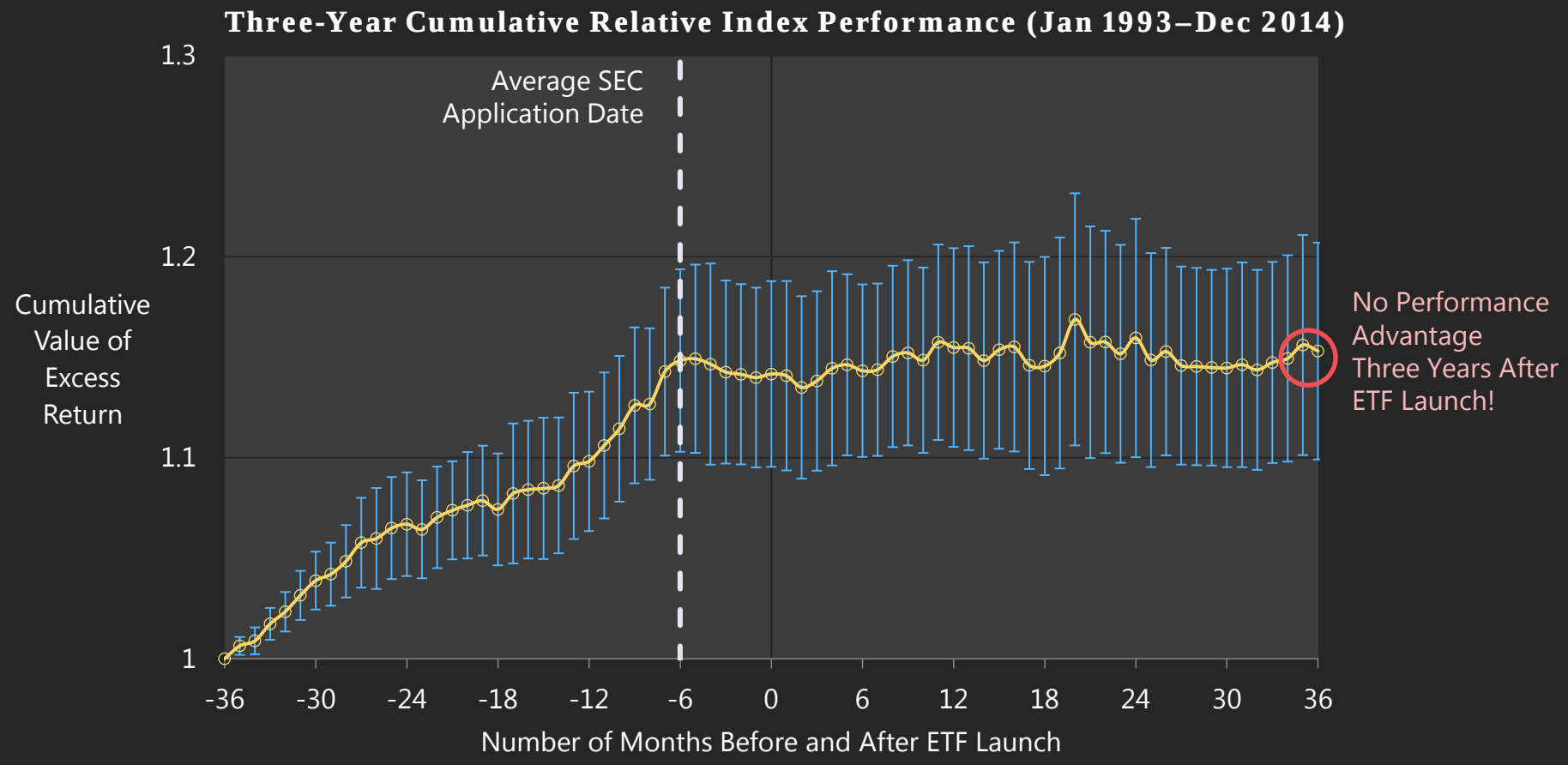
Trend Chasing Is Costly

Performance Characteristics of Trend-Chasing and Contrarian Allocations, Smart Beta Strategies, United States (Jan 1977–Aug 2016)



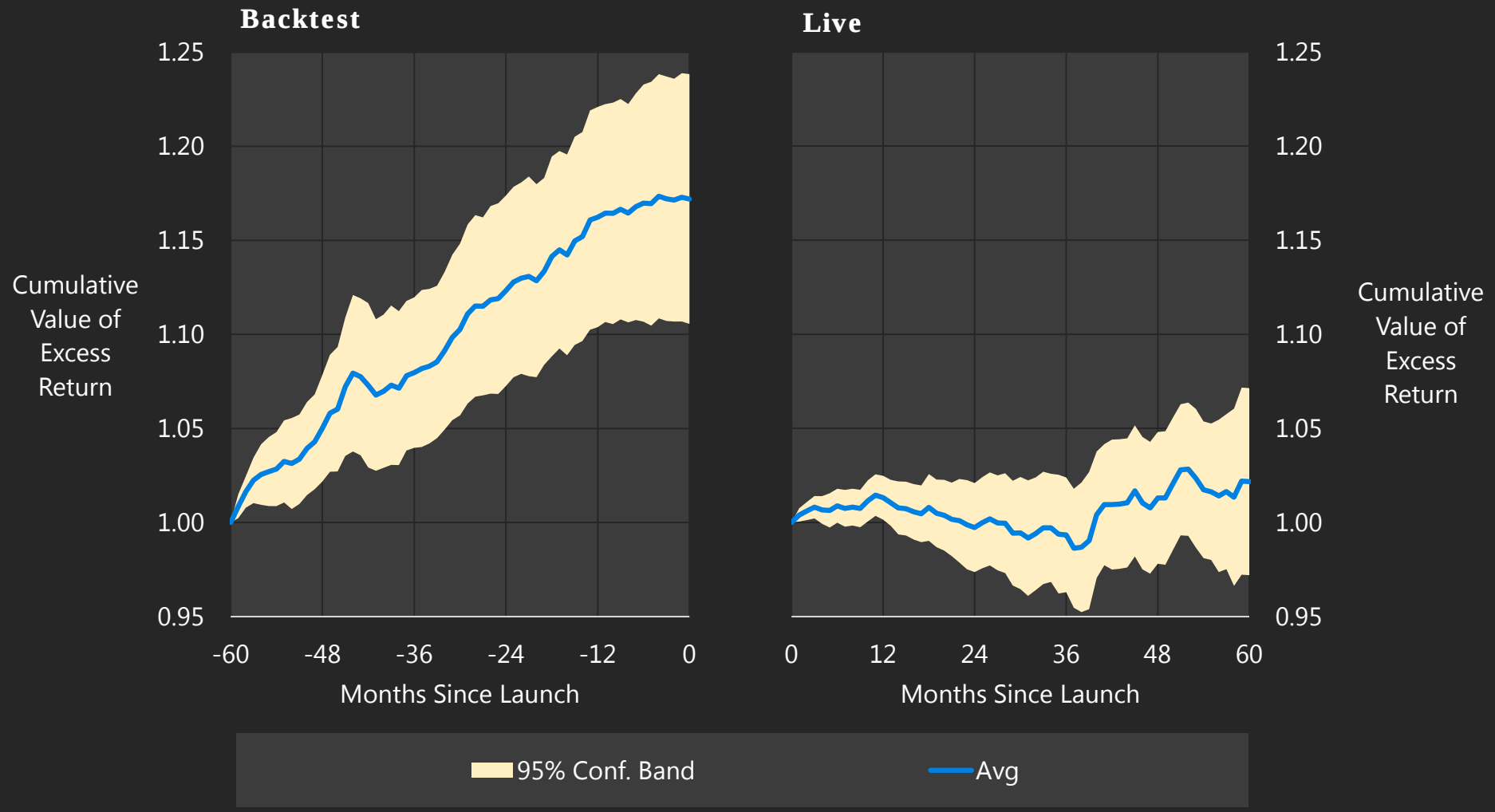
Source: Research Affiliates, LLC, using CRSP/Compustat and Worldscope/Datastream data. For more information, please see Arnott, R., N. Beck, and V. Kalesnik. 2016. "Timing 'Smart Beta' Strategies? Of Course! Buy Low, Sell High!" (September).

Most Product Providers Are Trend Chasers!



Source: Research Affiliates, LLC, based on data from Bloomberg.

Cumulative Excess Return Before/After Index Launch



Source: Research Affiliates, LLC, using data from Bloomberg. Note: Our sample consists of 125 US equity smart beta indices on which exchange-traded funds (ETFs), characterized as strategic beta by Morningstar, are based. We exclude sector indices; indices for which we are not able to obtain the launch date; and indices with less that one year of backtest or live return data. If two or more ETFs track the same index, we include that index only once. Excess returns are measured as of the launch date for the respective index.

1,000+ SB ETFs. Many don’t work!

How do we know which Smart Beta strategies are robust?

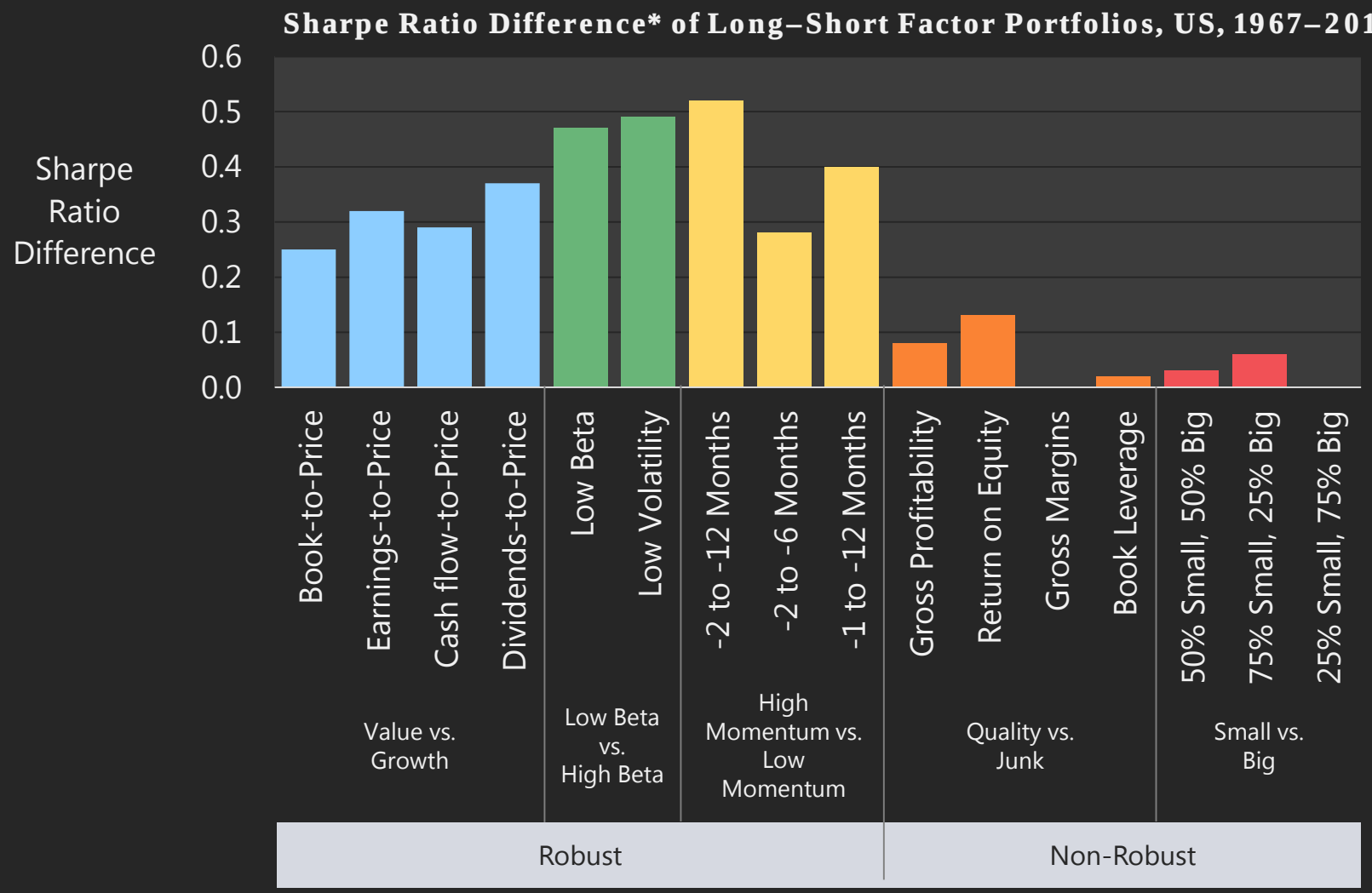
» Those based on factors that have been vetted, replicated, and debated in top academic journals over decades.

» The strategy works across geographic regions.

» The strategy offers a robust premium across minor variations in the signal definition/construction.

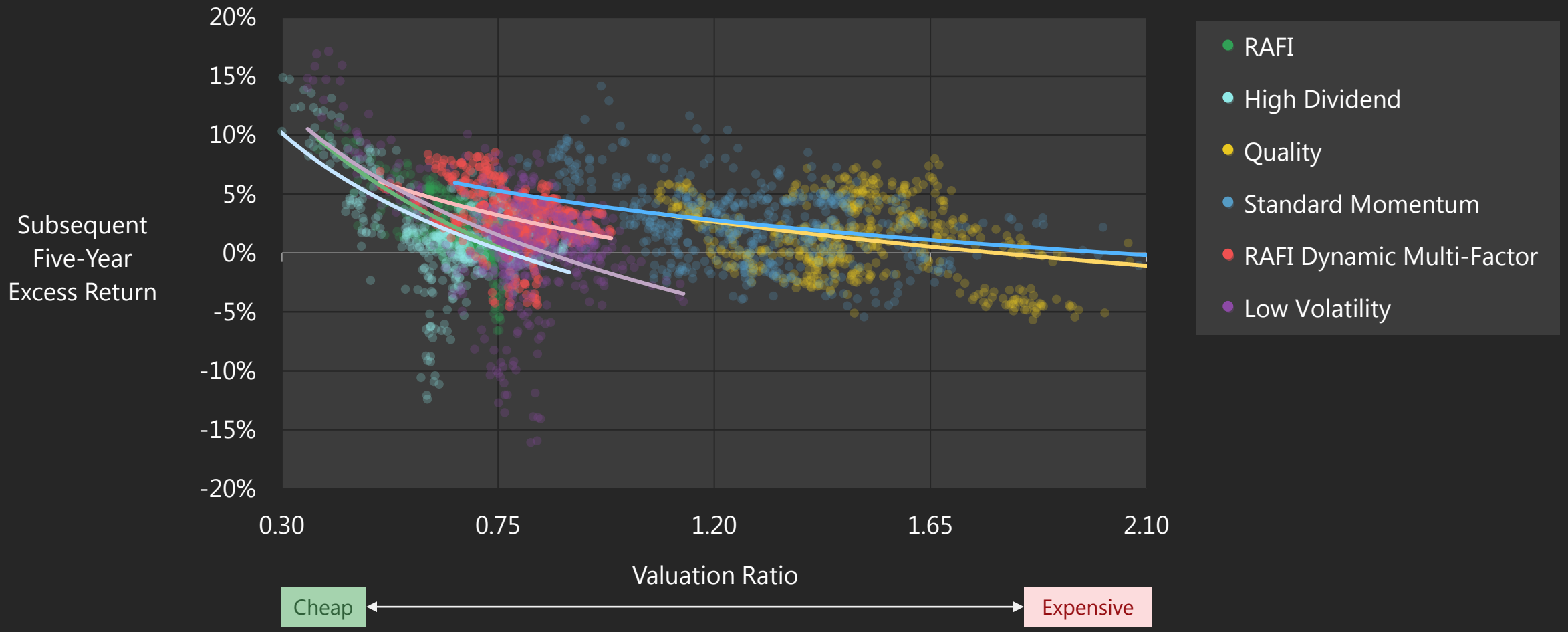
» Trading costs do not erode the return premium offered by the corresponding factor.

Not All Popular Factor Strategies Are Robust



*Sharpe ratio of long portfolio minus short portfolio for each factor.
Source: Beck et al. 2016. "Will Your Factor Deliver? An Examination of Factor Robustness and Implementation Costs." *Financial Analysts Journal*, vol. 72, no. 5 (September/October).

Valuations Are Predictive of Future Returns

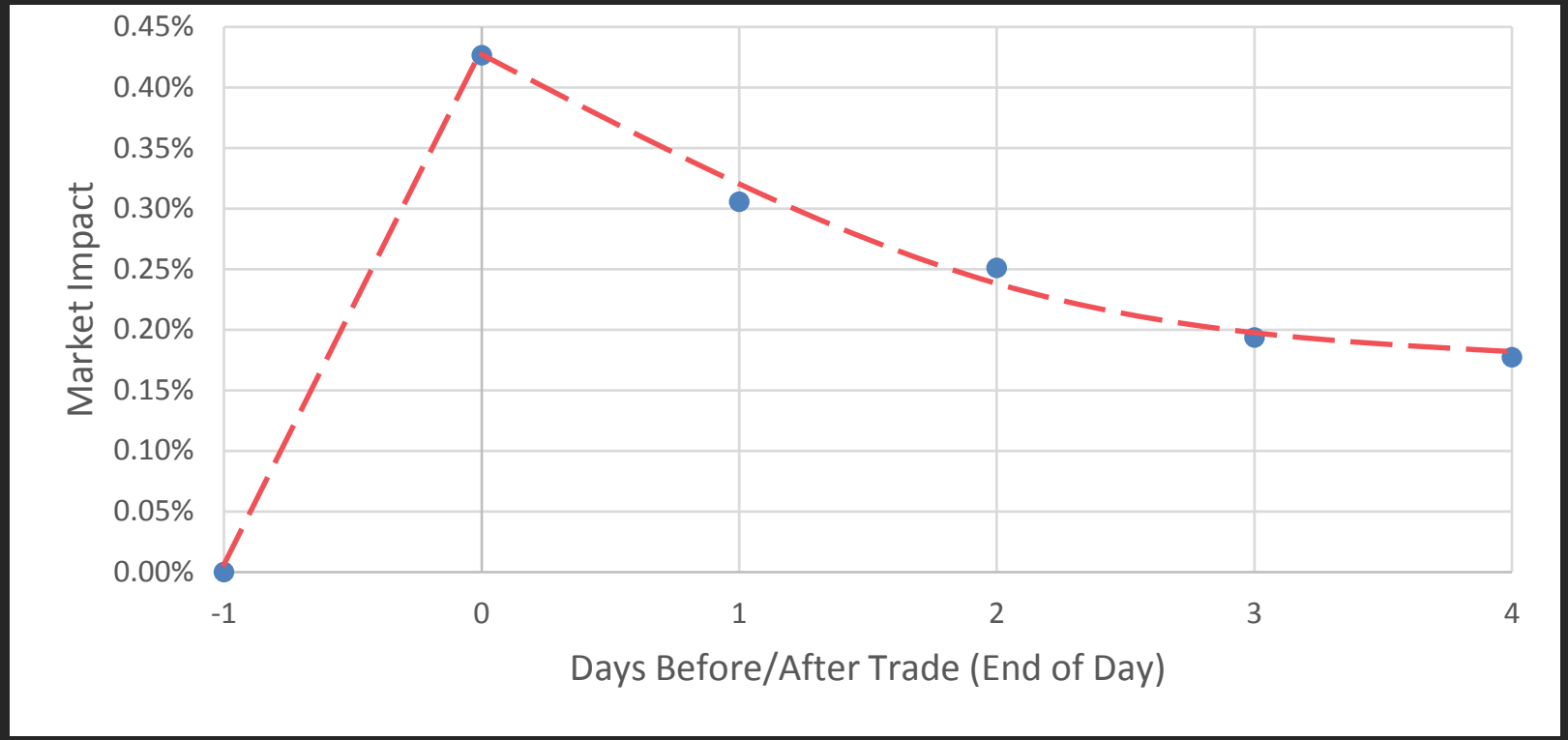


Source: Research Affiliates, LLC, using data from CRSP and Compustat. Strategy returns and characteristics are simulated for US region. Please see strategy descriptions at the end of this presentation. Valuation ratio is calculated as the average of the following four ratios for each respective strategy vs. cap weight: P/B, P/5Yr. Sales, P/5Yr. Earnings, P/5Yr. Dividends. RAFI strategy is for the period Jan 1962–Sep 2012. Low Volatility, Quality, and Standard Momentum strategies are for the period Jan 1968–Sep 2012. High Dividend and RAFI Dynamic Multi-Factor are for the period Jul 1968–Sep 2012.

Difference in expense ratios for smart beta strategies: 2–20 bps
Market impact of poorly engineered funds: 200+ bps!

Implicit Cost of Indexing Strategies

» Zero Tracking Error ≠ No Cost!



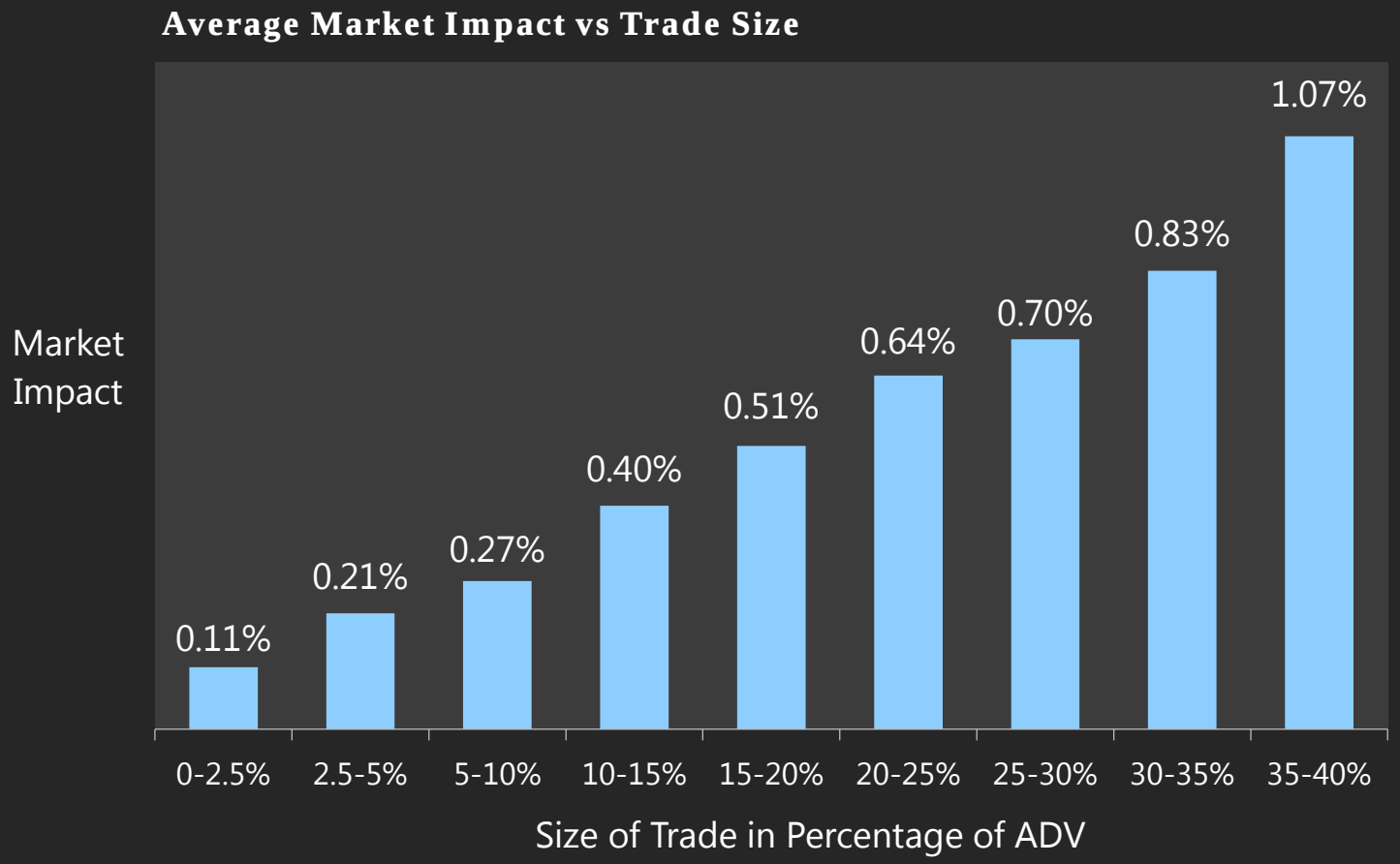
Day 0
Purchase a security after 43 bps impact – 0% TE

Day 4+
Value of holding reverses by 24 bps

Future rebalance day
Suffer 43 bps impact when sell the security

Source: Research Affiliates, LLC, based on data from Bloomberg, Worldscope, and Datastream.
Trade impact measured for all FTSE RAFI rebalance trades for the period 2009–2016. See also Chow et al. 2017. "Cost and Capacity: Comparing Smart Beta Strategies." Research Affiliates Publications (July).

Market Impact Transaction Cost Study: What are the implicit costs when trading stocks?



- For every 10% ADV traded in a stock, implicit transaction costs are 0.30% (30 bps).
- This relationship is persistent across US, developed ex US, and emerging markets trading.

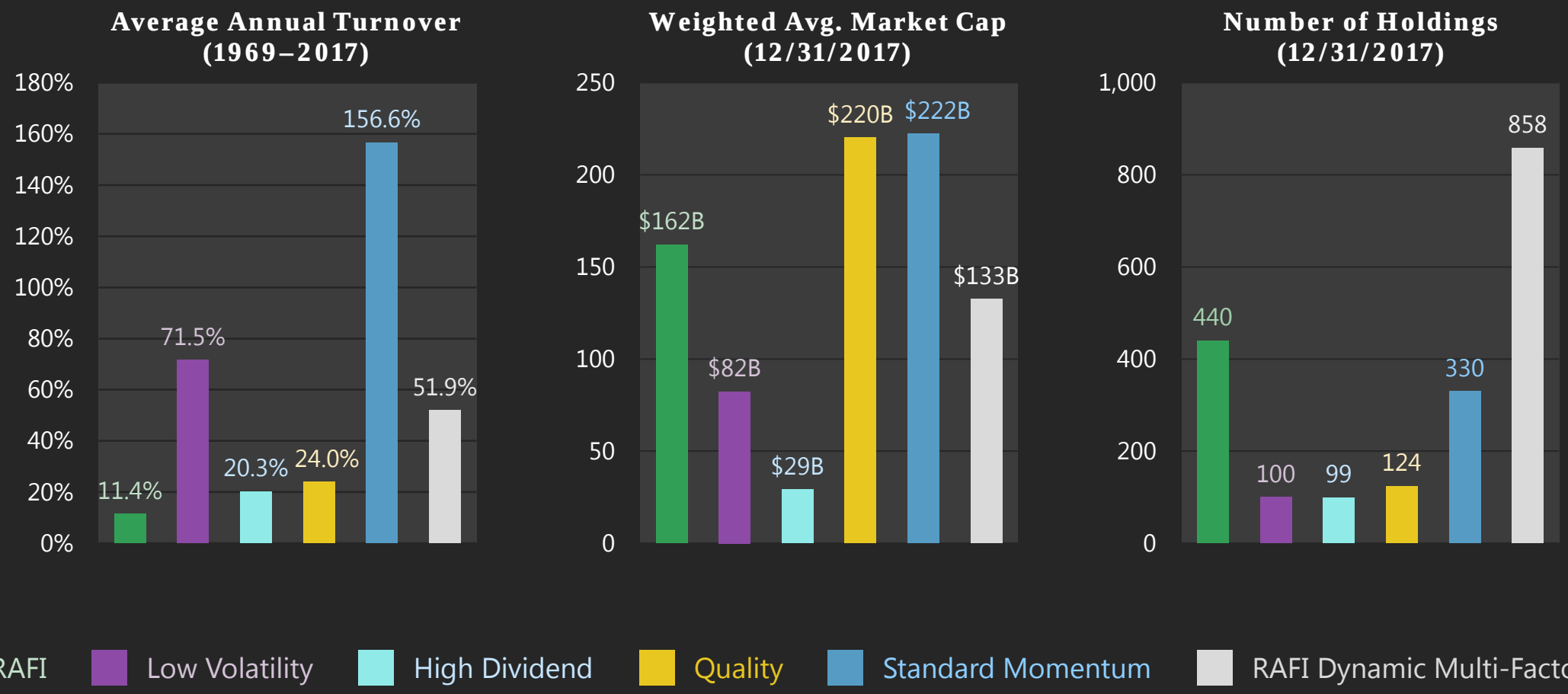
Source: Research Affiliates, LLC. Measured for 25,000 trades across all geographies for four years from 2010 to 2013, using FTSE RAFI. Interestingly, studies by two of our contemporaries, AQR and INTECH, confirm our statistical analysis of the relationship between ADV and market impact cost (10% ADV = 0.30% Cost).

Usual Suspects Associated with High Trading Costs

- High Turnover
- Low Weighted-Average Market Cap
- Low Number of Holdings

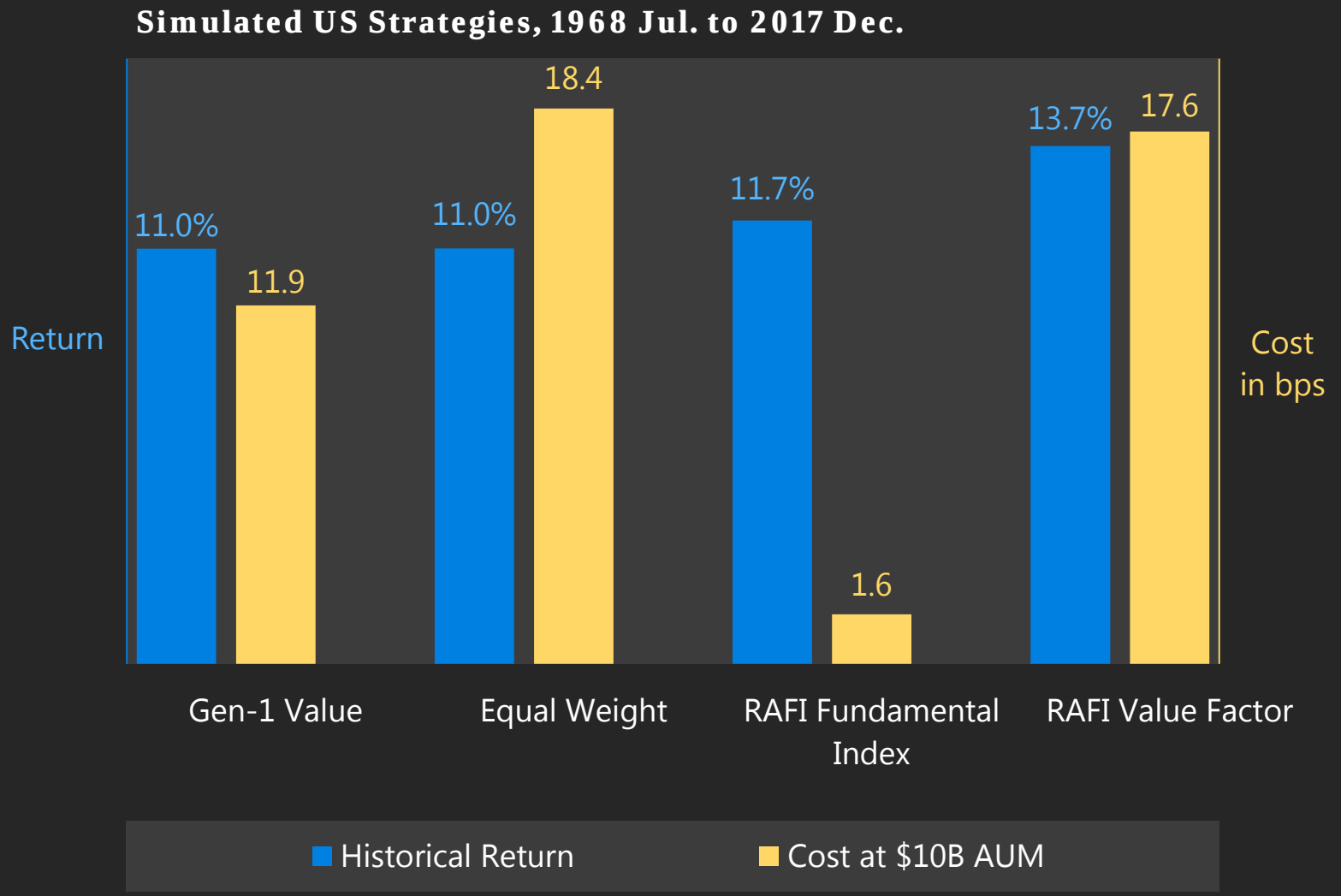
- What craftsmanship is needed to achieve net-of-cost benefit?
  - Coverage and weighting mechanism
  - Signal definition
  - Measurement period
  - Rebalancing frequency

Which Index Strategy Is More Expensive?



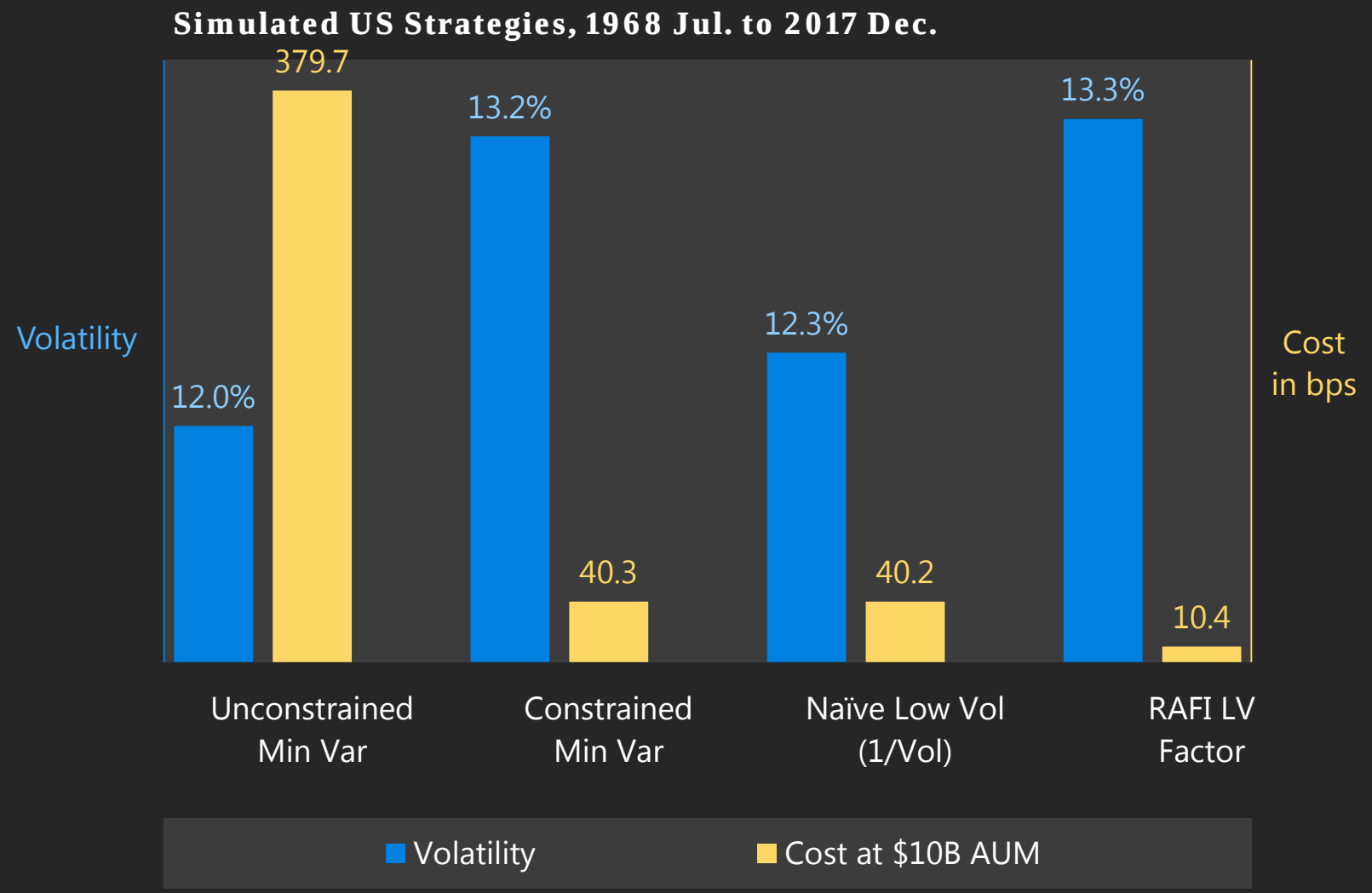
Source: Research Affiliates, LLC, based on data from CRSP/Compustat. Strategy returns and characteristics are simulated. Please see strategy descriptions at the end of this presentation.

Craftsmanship Matters: Value Strategies



Source: Research Affiliates, LLC, based on data from CRSP/Compustat. Strategy returns and characteristics are simulated. Please see strategy descriptions at the end of this presentation.

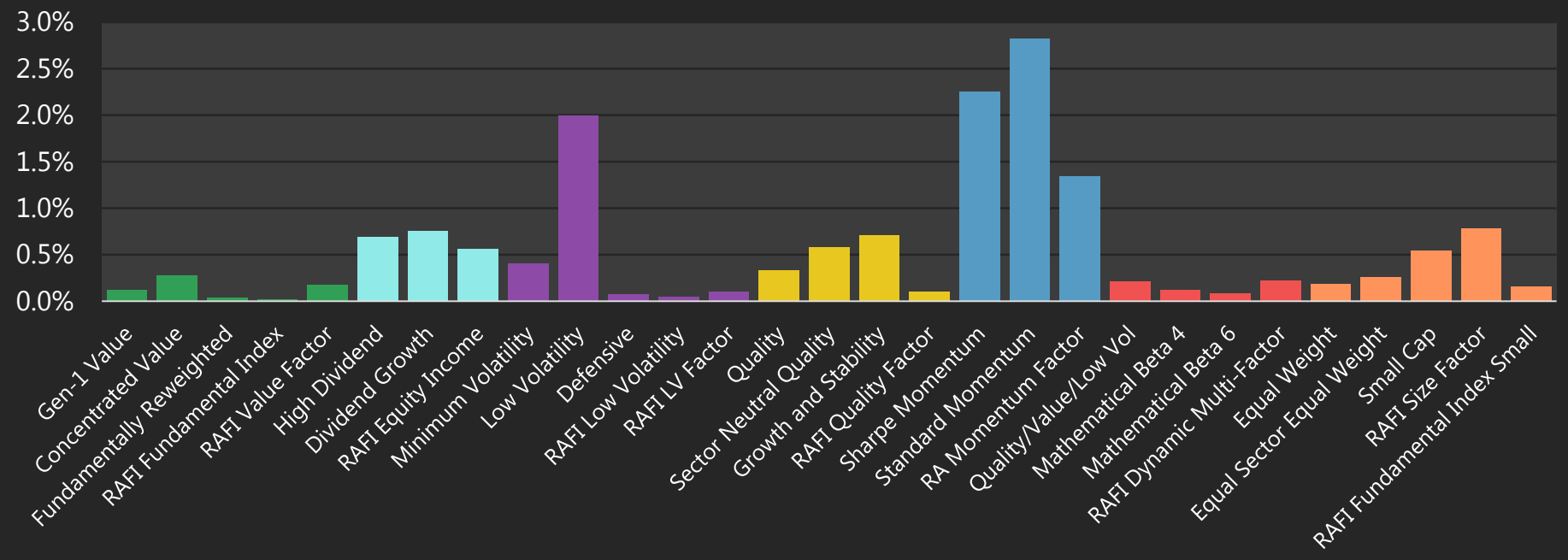
Craftsmanship Matters: Low Risk Strategies



Source: Research Affiliates, LLC, based on data from CRSP/Compustat. Strategy returns and characteristics are simulated. Please see strategy descriptions at the end of this presentation.

Transaction Costs for Smart Beta Strategies: The Hidden Component May Dominate

Estimated Market Impact (Implicit Cost), US



Expected Expense Ratio (Explicit Cost)

Value	Income	Low Vol	Quality	Momentum	All Styles
24 ± 13 bps	33 ± 19 bps	19 ± 8 bps	36 ± 19 bps	33 ± 26 bps	*32 ± 18 bps*

Source: Research Affiliates, LLC, based on data from CRSP/Compustat. Please see strategy descriptions https://interactive.researchaffiliates.com/smart-beta#!/strategies?expanded=implementationBarChart&expandedSelection=Estimated+Trading+Cost. Market impact costs of US strategies are estimates as of 12/2017, based on AUM of $10B for each strategy. Expected expense ratios reflect the average +/- standard deviation of prospectus expense ratio of the 161 US-based Large+Mid Cap strategic beta ETFs tracked by Morningstar as of 12/2017.

Clunky Implementations ≠ “Smart” Beta

Recap

» You can identify great smart beta strategies if you…
  – DO NOT chase performance
  – DO choose robust smart beta strategies
  – DO focus on product craftsmanship

» …these strategies deliver well understood sources of excess returns through simple, transparent, low cost indices that lead to…
  – Better net-of-cost return and Sharpe ratios
  – Improved client outcomes

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