ACADIAN

Global Long-Short Strategies

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Three Common Types of Long-Short Equity Strategies (for a $100 investment)

- **Market Neutral**
  - **Long = roughly $100 stocks**
  - **Short = $100 index futures or other derivatives**
- **Market Neutral, Long and Short Stocks**
  - **Long = $100, high positive alpha issues**
  - **Short = $100, low alpha issues**
- **Leveraged Market Neutral (e.g., 2 to 1)**
  - **Long = $200, high alpha stocks**
  - **Short = $200, derivatives**

A Benchmark for Long-Short Strategies

Active Residual Return:

Excess return above cash equivalents

Active Residual Risk:

Standard deviation of that excess return

Objective:

Maximize expected active return/active risk

Return and Risk

Excess Returns

$$\text{Alpha}_{LS} = \text{Alpha}_{L} + \text{Alpha}_{S}$$

(double alpha!)

Residual Risk

(zero net beta, similar long and short portfolios)

$$\text{VAR}_{LS} = 2\ \text{VAR}_{L}\ (1 + \text{correlation}_{LS})$$

Implications

- **Total risk decreases**
- **Active residual risk increases**

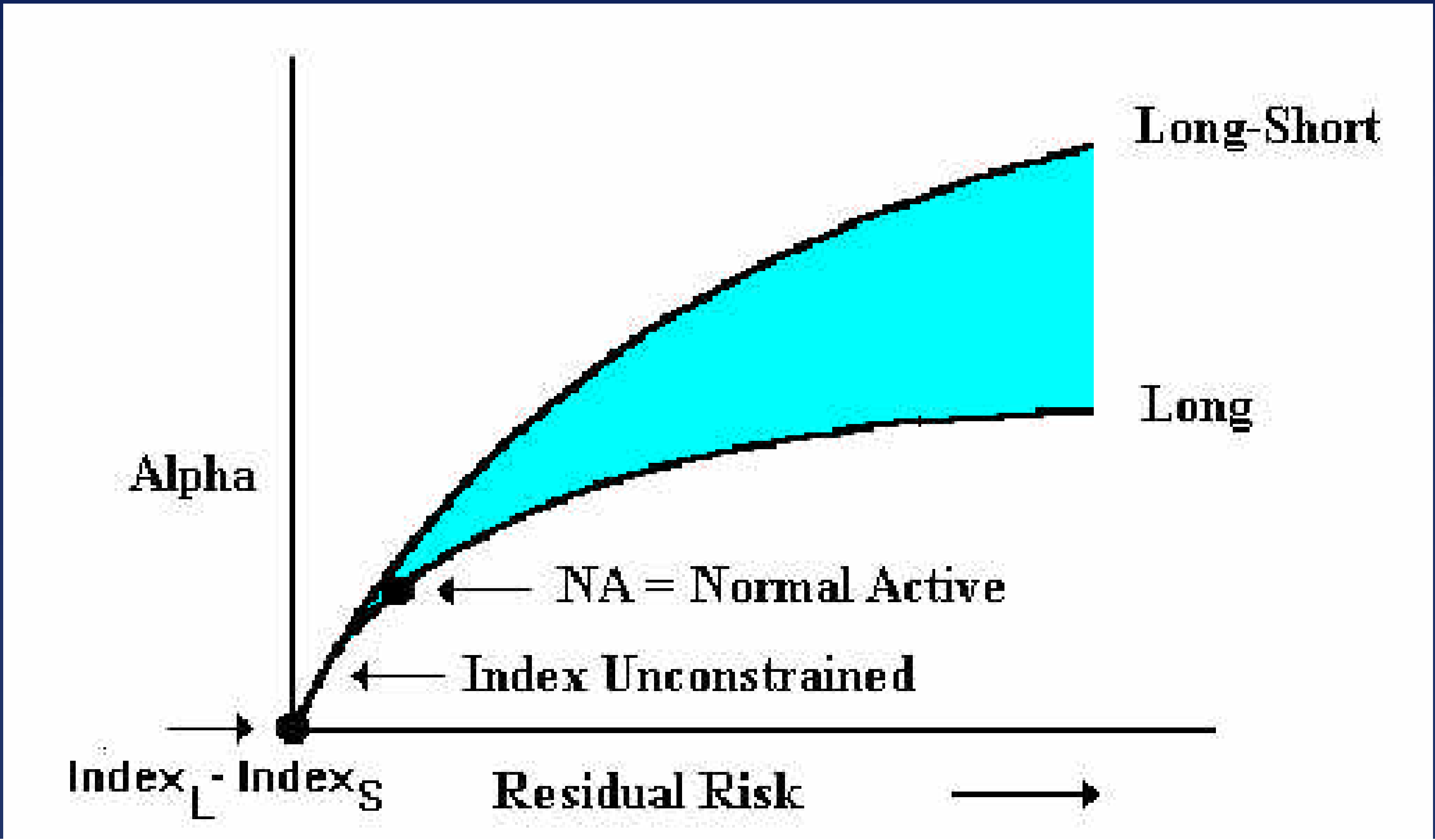
Long-Short Portfolio vs. Long-Only

- **50-stock long-only portfolio with S&P 500 benchmark is "short" 450 stocks in an index-relative world**
- **"Long" active weights sum to "short" active weights**
- **Problem:** **Shorting small-index-weight stocks limits size of "short" positions in long-only portfolios**

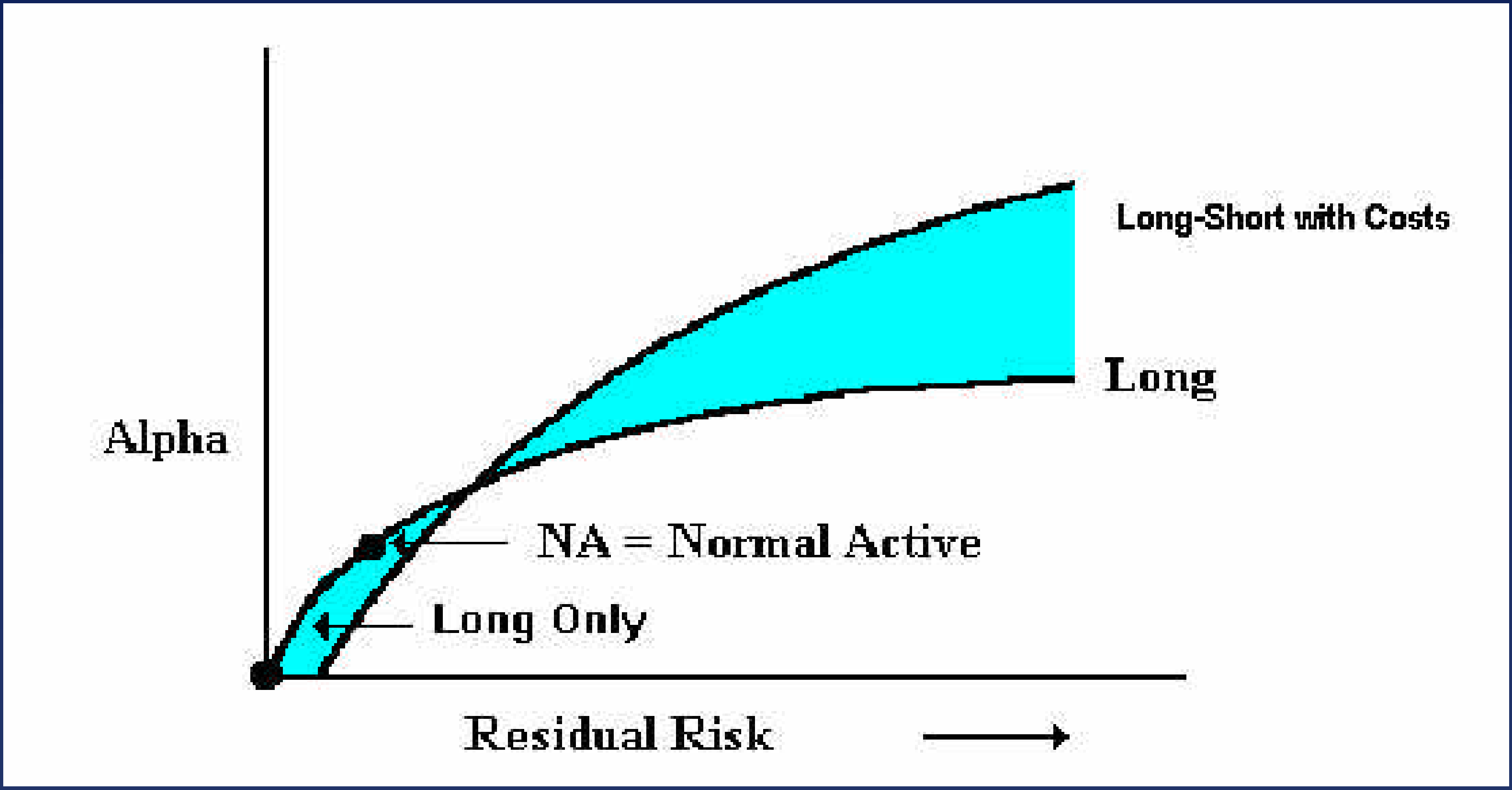
Long-Short Portfolios Can Be Less Index Constrained

- **More efficient use of sell information**
  - **<u>Example:</u> Can be "short" 3% in a stock versus its 0.1% benchmark weight**

Residual Risk/Return Efficient Frontiers
Long-Only Portfolio vs. Long-Short



Efficient Frontiers with Additional Costs of Long-Short Strategy



Some Common Questions

- A new asset class?
- Is sell-side pricing less efficient?
- Superior to all long-only strategies?

Conclusions

- A broad investment mandate (ideally global) is highly advantageous
- Judicious use of modest leverage can make a long-short strategy less index constrained and more efficient
- Long-short strategies generally more appropriate for higher residual risk targets
- Forecast reliability and sophisticated portfolio construction methodologies are critical for success

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