



# Index Construction Issues for Exchange-Traded Funds

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# Outline

- Indexing in Theory
- Indexing in Practice
- Future ETF Development



# Indexing in Theory

# Indexing and ETFs

- All current ETFs are index funds
- Creating active ETFs requires resolution of conflict between
  - Full disclosure of ETF holdings
  - Active managers' desire for secrecy
- ETF performance differences largely index-driven

# “The Arithmetic of Active Management” -1

- Assumes that all managers own all stocks
- The weighted sum of all portfolios = the market portfolio
- The weighted sum of all *active* portfolios = the market portfolio
- The average active manager cannot outperform the market portfolio
- Creates a presumption in favor of passive asset class exposure

# Investment Approaches

- Passive
- Active
  - Allocation
  - Selection
- ETFs are useful as
  - Components for allocation strategies
  - Diversifiers for selection strategies

# Core-Satellite Portfolio Allocation

- Combines passive core with active satellites in integrated program
- Active bets placed where they seem likely to have the most positive impact
  - Can be allocation or selection bets
  - Can combine index ETFs with active funds
- Passive core reduces management and transaction costs

# “The Arithmetic of Active Management” - 2

- The market portfolio contains
  - Everything active managers can buy
  - Nothing they can't buy
- Otherwise said, the market portfolio is both *comprehensive* and *float-weighted*
- Many popular benchmark indices are *neither* comprehensive *nor* float-weighted



# Understanding Benchmark Indices

- Comprehensive or sampled?
- Rules-based or discretionary?
- How weighted?
- Consistent over time?
- Sensible subdivisions?

# Distinguishing Style Indices

- Are growth and value *categories* or *quantities*?
- What determines or measures them?
- How many companies are classified?
- Are companies divisible?
- Are growth and value indices
  - Mutually exclusive?
  - Collectively exhaustive?



# Indexing in Practice

# From the Market Portfolio to Benchmark Indices

- Benchmark indices provide cheap diversification
- Replacing active managers can produce
  - Lower fees
  - Lower transactions costs

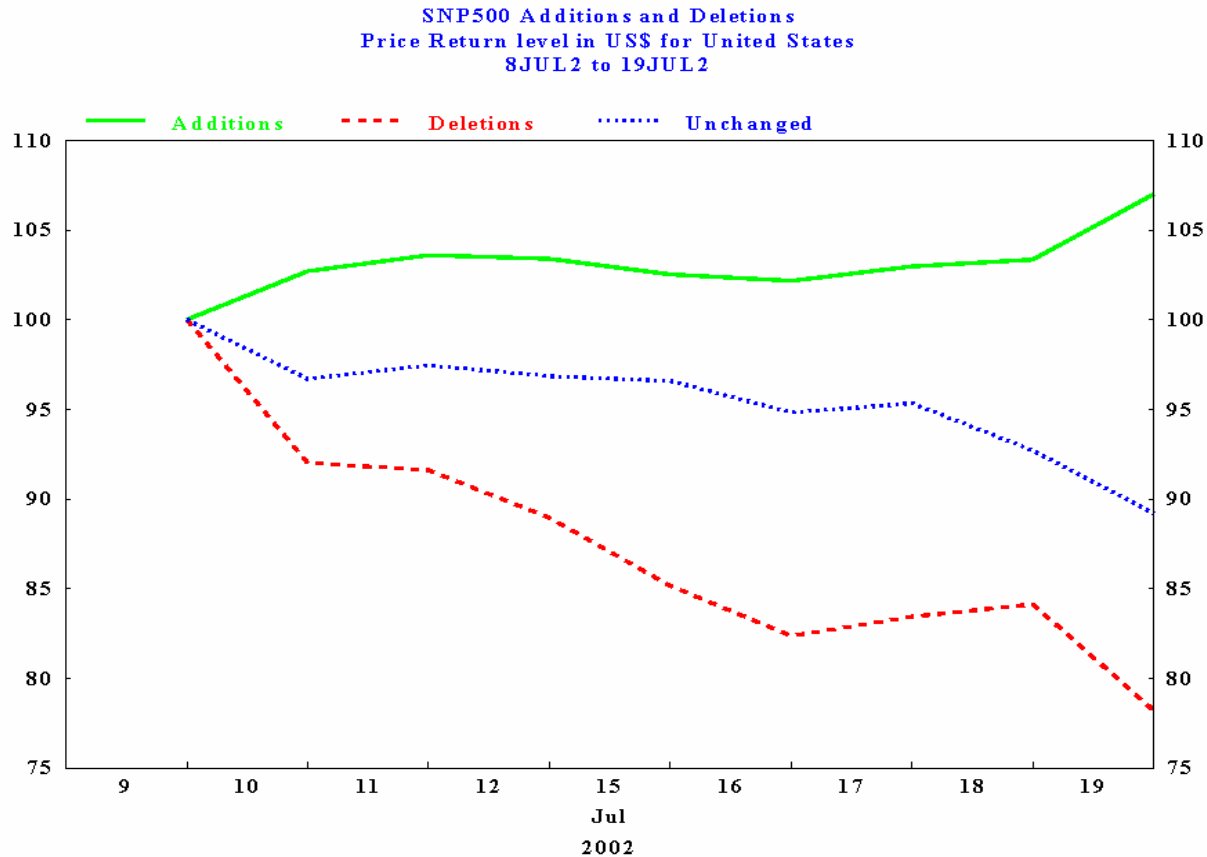
# Benchmark Indices as Index Fund Templates

- Benchmark indices were available and license fees were low
- No stock stories to affect portfolio choices
  - Index maintenance publications provided necessary “research”
- Index funds were very small
  - Costs of changing fund portfolios when the indices changed were small
  - Early index funds focused on large-cap stocks which typically have lower relative transaction costs

# Index Fund Transaction Costs

- Transaction cost components
    - Commissions - the smallest element
    - Market impact - highly variable, increasingly important in index changes and reconstitutions
    - Timing delays
    - Missed trades
- } usually unimportant in indexing
- Transaction costs for index changes
    - S&P 500
    - Russell 2000

# Example of Benchmark Index Additions and Deletions



Source: Salomon Smith Barney, 2002

# Future Index Transaction Costs

- Growth of indexing using the same benchmark indices for more assets suggests increased market impact from index changes
  - Cost of more shares traded
  - Impact of more distinct traders
- Can mitigate by using very broad indices – Wilshire 5000, Russell 3000
  - Do not meet all clients' needs
- The more concentrated the index, the greater the impact of an index change





# Future ETF Development

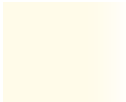
# Benchmark vs. Fund-Friendly Indices

- Different indices serve different purposes
- Most benchmark indices were designed to measure active manager performance
  - Requires pre-announcement of index changes
- An index *designed* to serve as a fund template would operate differently
  - Benchmark index funds are the only funds whose portfolio targets are preannounced
  - “Silent” index concept

# Silent Indices as Fund Templates

- Controlling principle: No one other than the fund manager needs to know in advance what an index change will be and when it will occur
- Index membership rules and rebalancing schedules must be
  - Specific enough that buyers will understand what they're buying, but
  - Ambiguous enough that opportunistic traders can't front-run the fund

Note: The Securities and Exchange Commission has not approved a silent index as a fund template.



“Knowledge of future trading  
is THE most valuable  
commodity on Wall Street.”

Wayne Wagner  
Chairman  
Plexus Group

# Additional “Fund-Friendly” Index Construction Rules

- RIC compliance at the index level
- Float weighting
- Rebalancing and replacement rules that minimize turnover costs
  - Buffer ranges
  - Gradual entries and exits

# Gaining Acceptance of Silent Index Funds

- Cost of revealing trading plans of benchmark index funds is obvious even if it is hard to measure precisely
  - Expected outperformance of silent index funds on average is an easy case to make on a cost basis
- Mutual fund reporters willing to spend a little time will find a good public interest cause
- Forward-looking institutions will probably be first to embrace silent indices

# Silent Indices May Stimulate Institutional Use of ETFs

- Benchmark ETFs are usually a bad buy for a major institution
  - ETF benchmark index fund managers are encouraged to trade only at market close on day of index changes
  - Institutions can obtain more flexibility at lower cost
- A silent index ETF will be the only way to get exposure to a *specific* silent index
- Costs of an institutional ETF position could be comparable to or lower than setting up a custom silent index portfolio

# Obstacles to Use of Silent Indices

- SEC policy on separating ETF manager and index provider
- Index branding vs. fund branding
- Inertia and timidity
- Opposition by the biggest index fund managers
  - Vested interest in preserving their installed base
  - Can beat standard benchmarks more easily than they could improve upon a silent index return



# Does a Silent Index Fund Have to be an ETF?

- Improved index products need to pool investors with different asset levels who are used to different levels of cost and service
- ETF form is a natural way to accomplish this pooling
  - Tax and trading advantages relative to conventional fund structure
- Multi-share class ETF could accommodate different investor profiles

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