

The Nuts and Bolts of ETFs



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The Nuts and Bolts of ETFs

- ETF Structure
- Mechanics of the Creation Process
- Advantages/Characteristics of ETFs
- Users and Uses of ETFs
- Miscellany

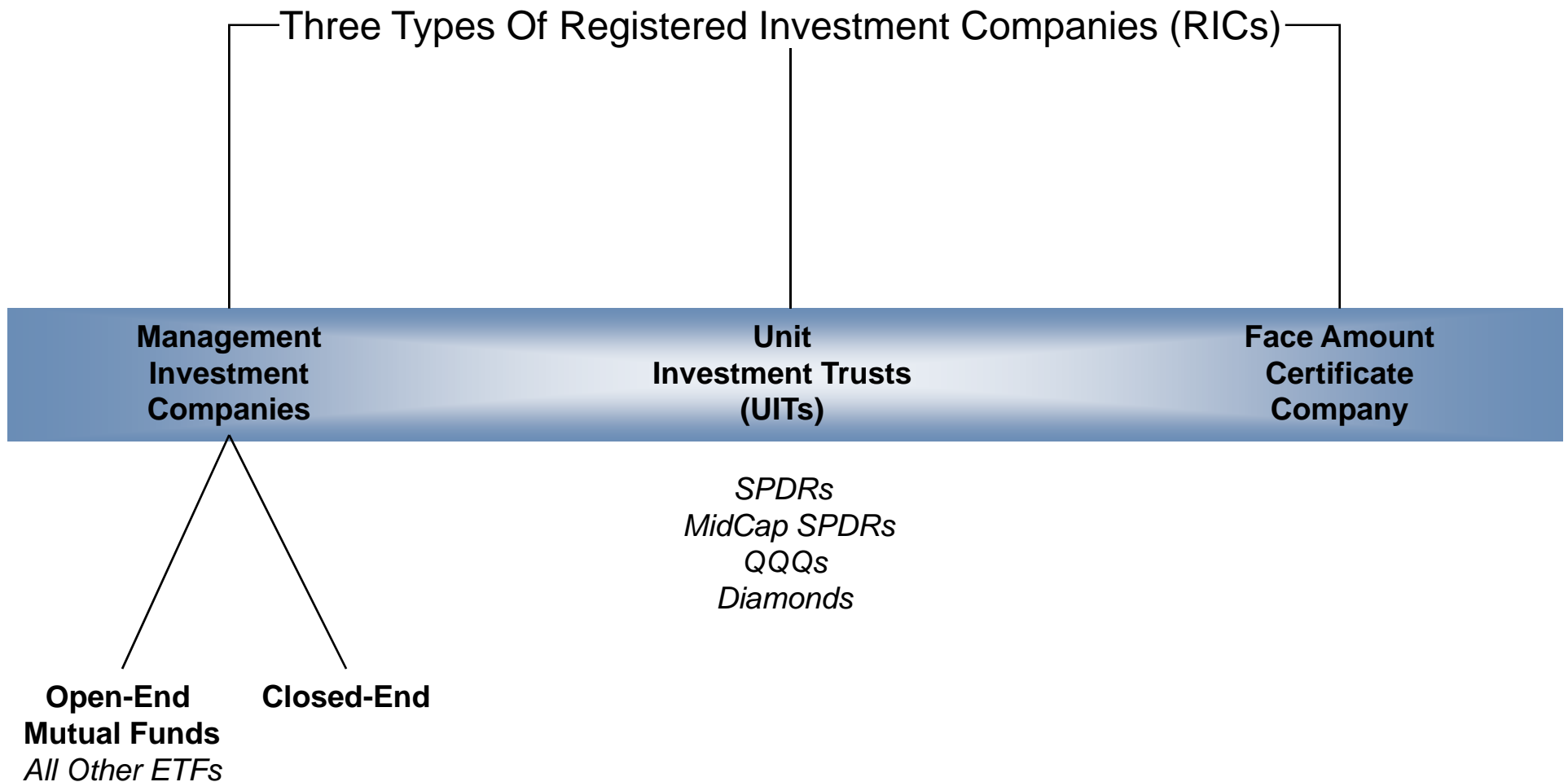
ETF Structure

“[ETFs] Are Better Than Index Mutual Funds”

*Forbes Magazine
August 21, 2000*

ETF Structure

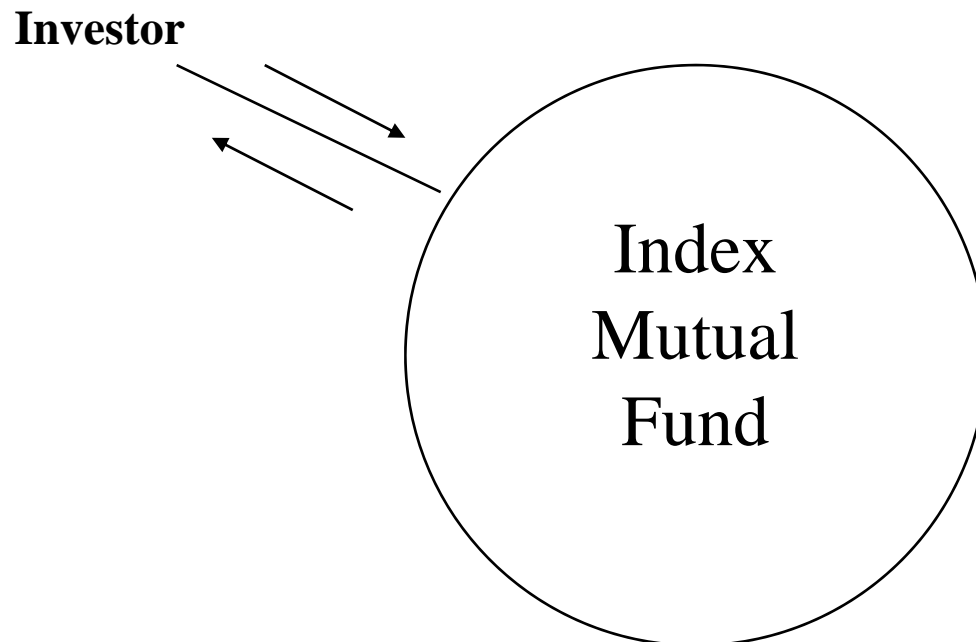
Investment Company Act of 1940



ETF Structure

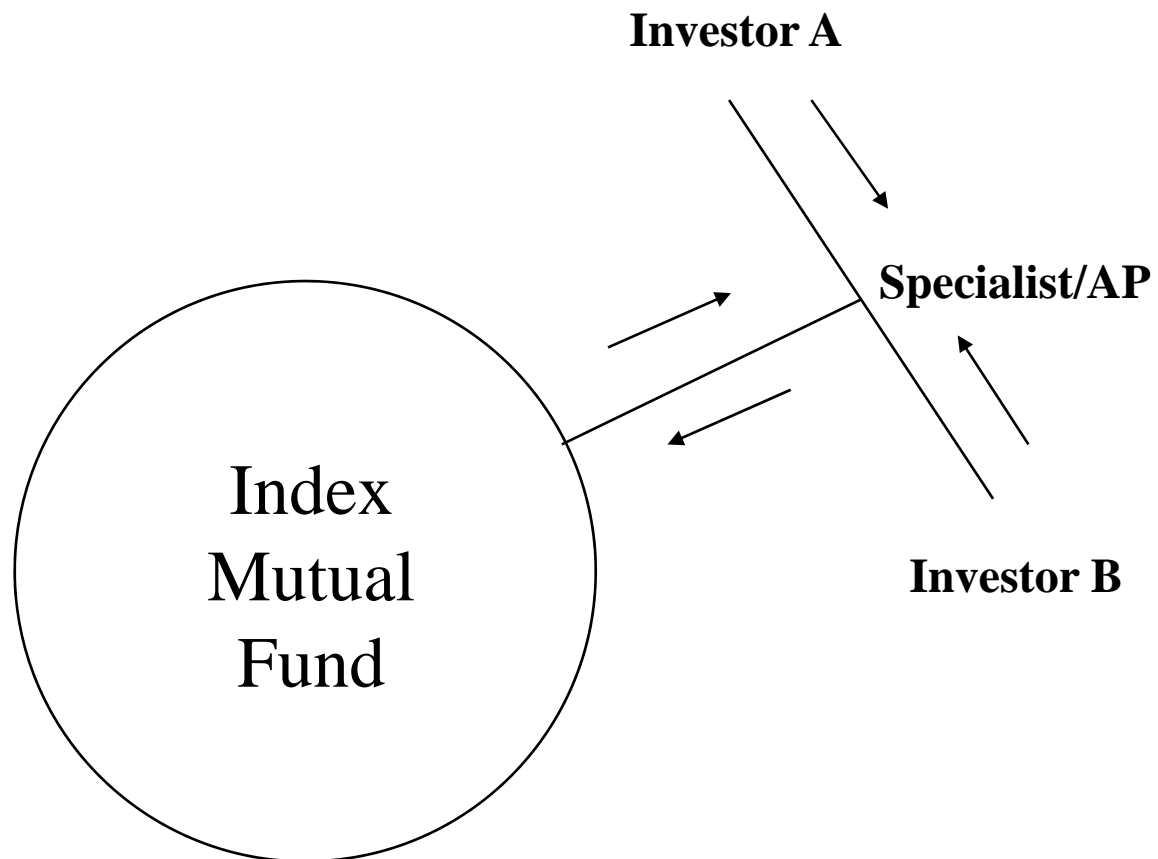
Conventional Fund Structure

Conventional Shares



ETF Structure

ETF Structure



ETF Structure

Exemptive Relief Needed To Create an ETF

2(a)(32) Mutual fund securities must be redeemable

22(d) and 22(c)-1

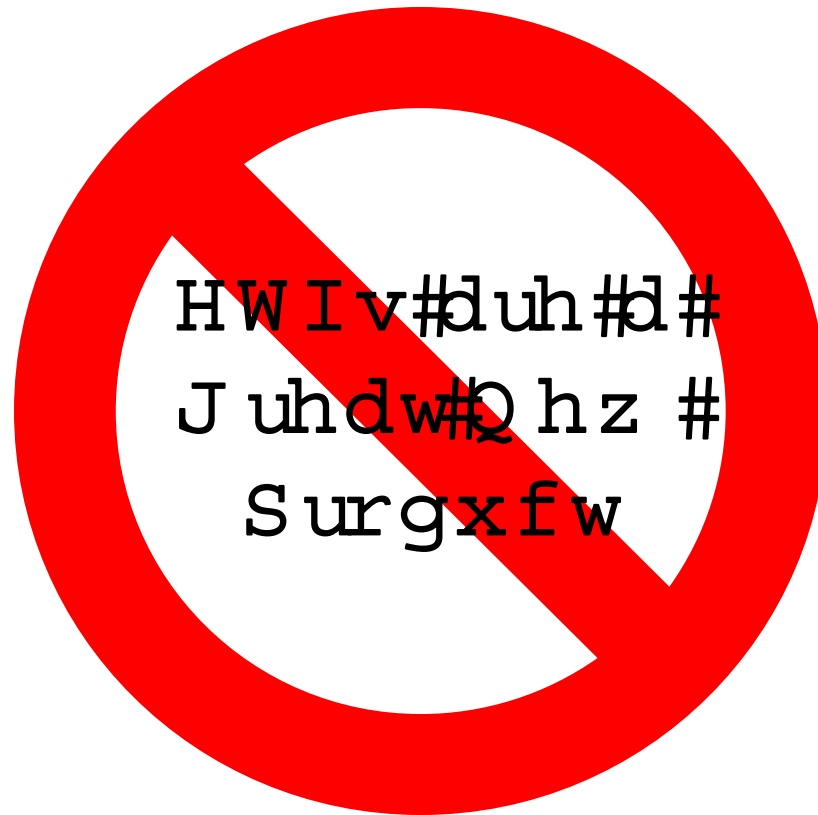
Every investment company security transaction must receive the NAV next determined

24(d) Prospectus delivery requirement for every secondary market trade

17(a)(1) and 17(a)(2)

Investors who own more than 5% of a RIC are affiliates and can not invest or redeem in kind

ETF Structure



ETF Structure

ETFs Are Another Way To Distribute An Old Product

If an investor does not want to invest in the underlying investment, then they do not want an ETF.

ETF Structure

To date ETFs have focused on index funds, but they might develop into a distribution channel for other investments

- Commodities
 - Gold (GLD)
- Active Mutual Funds
- Currencies
- Derivatives

The Nuts and Bolts of ETFs

- ETF Structure
- Mechanics of the Creation Process

Mechanics of the Creation Process

Hurdles To Creating An ETF

- Can an investment pool be created?
- Does the investment allow for transparency of the holdings?
- Is a creation/redemption unit feasible?

Mechanics of the Creation Process

Information Needed To Create An ETF

- Delivery Basket
- Intraday Indicative Value (IIV)
- Hedging Basket

- Also Need Real-Time Index Level

Mechanics of the Creation Process

Creation Process

- ETF sponsor transmits Portfolio Creation File (PCF) to Custodian on t-1

2,583 shares XOM

4,200 shares GE

4,299 shares MSFT

2,045 shares C

1,688 shares WMT

...

Residual Cash

Mechanics of the Creation Process

Creation Process

- ETF sponsor transmits Portfolio Creation File (PCF) to Custodian on t-1
- Custodian processes PCF and sends it to NSCC on t-1
- NSCC sends file to SIAC (for pricing service) and Approved Participants (AP) on t-1
- Approved participant purchases securities in PCF and Notifies sponsor of intention to create before 4 p.m. eastern standard time on t

Mechanics of the Creation Process

Source of Information Needed To Create An ETF

	Indexed	Active
• Delivery Basket	PCF	ETF
• Intraday Indicative Value (IIV)	PCF	PCF
• Hedging Basket	PCF	PCF
• Real-Time Index Level	Index Provider	N/A?

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Characteristics of Indexed ETFs

- Historical long-term outperformance
 - Low cost
- Broad diversification relative to investment style
- Relative tax efficiency
- Flexible trading
 - Real time
 - Short sale
 - Purchase on margin (if qualified)

Characteristics of Indexed ETFs

Are ETFs Low Cost Index Funds?

Yes, *But...*

- There are 106 ETFs with conventional alternatives
 - 64% compete against lower cost retail or high net worth shares
 - 100% compete against lower cost institutional shares

Characteristics of Indexed ETFs

Source Of Low Cost

- Inherent to indexed approach
- Shareholder recordkeeping cost borne by brokerage community

Characteristics of Indexed ETFs

Shareholder Recordkeeping by Fund Type

Conventional Fund → **Millions of Shareholders**

ETF → **DTC** → **Street Name** → **Millions of Shareholders**

Characteristics of Indexed ETFs

If ETFs become dominant distribution channel for long-term investments, can they maintain low cost?

Will the brokerage community continue to eat the cost of shareholder recordkeeping, or will brokers charge asset based fees?

Characteristics of Indexed ETFs

Source of Relative Tax Efficiency

- Inherent to low turnover index strategy
- Tax loophole for RICs for in-kind distributions

Characteristics of Indexed ETFs

Arbitrage Ensures ETFs Trade Near Fair Value

- ETFs are open to creation/redemption daily
- ETF trading rich...
 - AP sells ETF at premium and hedges position by purchasing stocks in market
 - AP submits stocks for creation unit at fair value at end of day

Characteristics of Indexed ETFs

Comparison of ETFs And Conventional Classes Of Index Funds

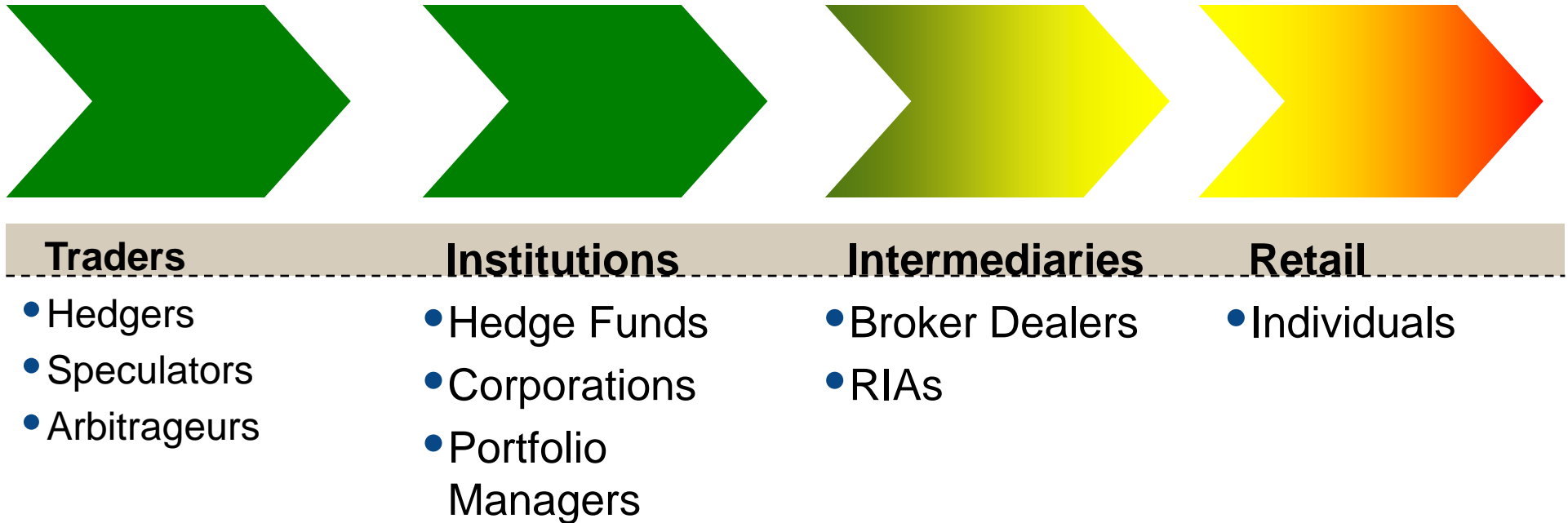
	ETF	Conventional
Expense Ratio	X	X
Transaction Costs		X
Relative Tax Efficiency	X	X
Trading Flexibility	X	
Number of Products	X	
Buy with Leverage*	X	X

* If qualified.

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Evolution of ETF Usage



Users and Uses of ETFs

Traders

- Futures Substitute
- Day Trading
- Market Timing
- Arbitrage
- Hedging

Users and Uses of ETFs

Institutions

- Long-Term Investment
- Futures Substitute
- Tactical Asset allocation
- Cash equitization
- Transition management
- Tax management
- Hedging
- Duration/Credit Fine Tuning

Users and Uses of ETFs

Intermediary Appeal

- Diversification
- Access
- Convenience/Flexibility
- Portability
- Anonymity

Users and Uses of ETFs

Intermediaries

- Asset allocation
 - Strategic
 - Long-Term Investment
 - Portfolio Completion
 - Tactical
 - Sector Rotation
- Cash equitization
- Tax management

Users and Uses of ETFs

Retail Uses

- Long-Term Investment
 - Broad Diversification
 - Portfolio Completion
- Tactical Asset allocation
- Tax management

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Miscellany

Hurdles For Active ETFs

- Preserving the integrity of the fund
 - Must provide a certain degree of transparency
- Capacity constraints (fund closure)
 - Arbitrage process breaks down—ETFs can trade at a premium (but not at a discount)
- Clone versus exchange traded share

- The SEC

Miscellany


Out-Market Making A Market Maker

- Sponsor generates incorrect PCF
- Intraday indicative value is incorrect
- If market maker doesn't recognize mistake, more astute trader can arbitrage the quotes

Miscellany

The Future For ETFs

- Consolidation of look-alike funds?
- More niche products?
- Active ETFs?
- A sea change in the way funds are distributed?
- Pricing?



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