



# Exchange Traded Funds

## *Some Insights from the Trenches*

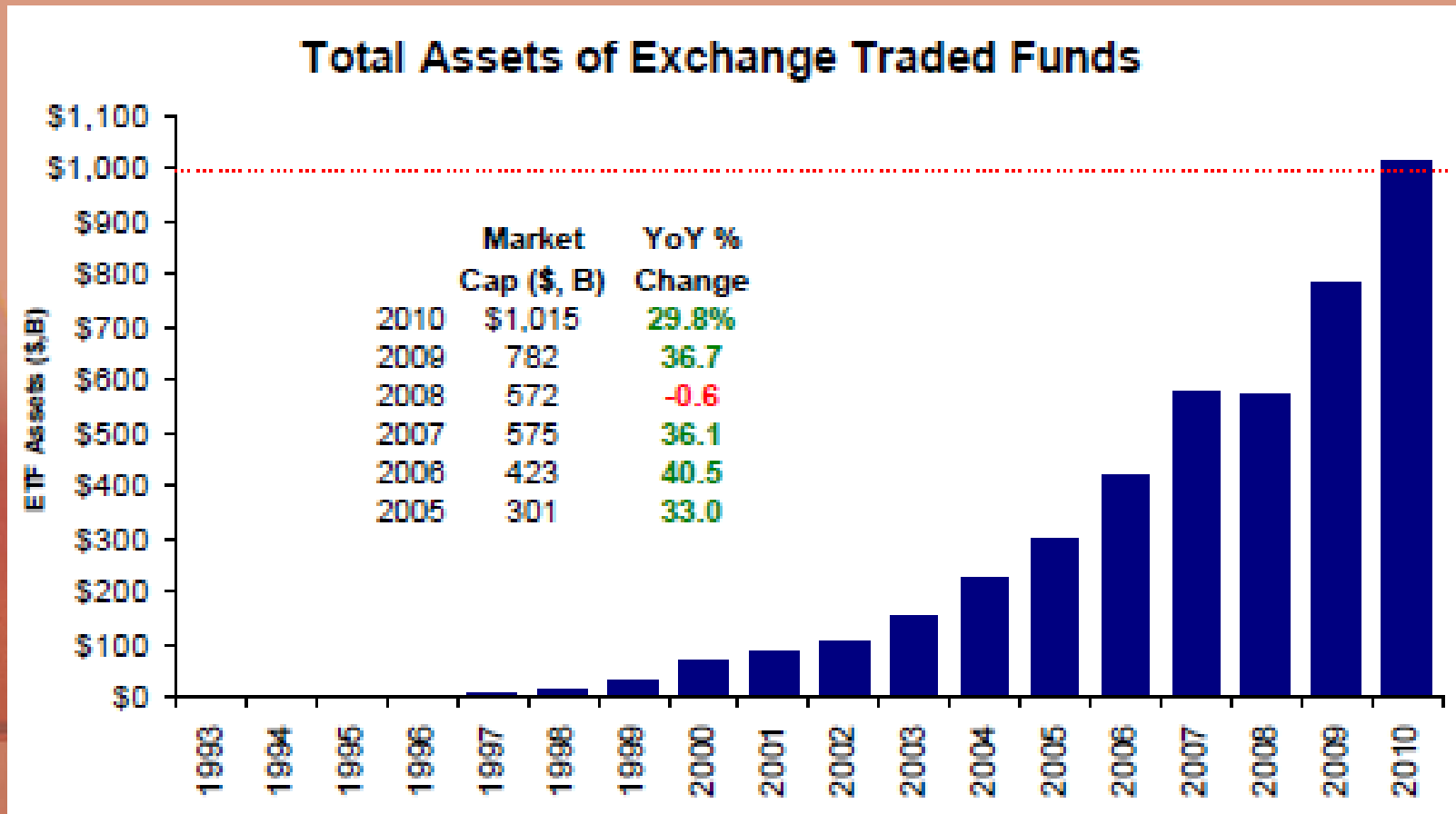
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# Outline of Discussion

1. Brief Intro to ETFs
2. Foliofn Experience with Barclays
3. Rydex and Profunds
4. IndexIQ
5. Conclusion/Discussion

# 1. Brief Intro to ETFs

- Growth



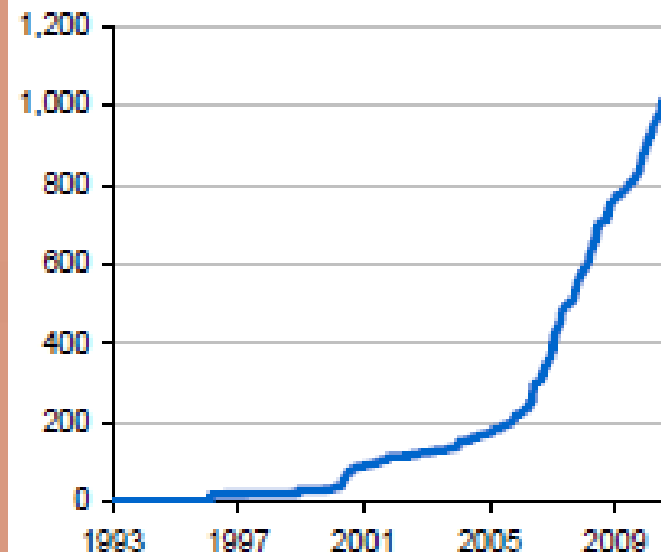
# 1. Brief Intro to ETFs

- Growth

## Largest ETFs by Market Cap

| Ticker | Category         | Mkt Cap<br>(\$ B) |
|--------|------------------|-------------------|
| SPY    | US - Large Cap   | 89.92             |
| GLD    | Commodity - Gold | 58.50             |
| EEM    | Emerging Markets | 47.55             |
| VWO    | Emerging Markets | 44.57             |
| EFA    | Foreign - EAFE   | 36.92             |
| IVV    | US - Large Cap   | 25.80             |
| QQQQ   | US - Large Cap   | 22.07             |
| TIP    | Bond - TIPS      | 19.41             |
| VTI    | US - Large Cap   | 18.24             |
| IWM    | US - Small Cap   | 17.50             |

## Number of ETFs



# 1. Brief Intro to ETFs

- Performance in 2010

## Top Performing ETFs in 2010

|      |   | 2010<br>% Change | Leverage |
|------|---|------------------|----------|
| AGQ  | ProShares Ultra Silver                    | 182.44%          | 2X       |
| BHH  | B2B Internet HOLDRs Trust                 | 106.71           |          |
| BAL  | iPath Dow Jones-UBS Cotton TR             | 96.22            |          |
| SLV  | iShares Silver Trust                      | 82.48            |          |
| SIVR | ETFS Silver Trust                         | 82.16            |          |
| DBS  | PowerShares DB Silver Fund                | 81.16            |          |
| USV  | E-TRACS UBS Bloomberg CMCI Silver ETN     | 80.74            |          |
| TNA  | Direxion Daily Small Cap Bull 3X Shares   | 69.48            | 3X       |
| JO   | iPath Dow Jones-UBS Coffee TR             | 65.37            |          |
| DGP  | PowerShares DB Gold Double Long           | 62.37            | 2X       |
| DRN  | Direxion Daily Real Estate Bull 3x Shares | 59.43            | 3X       |
| JJS  | iPath Dow Jones-UBS Softs Subindex TR     | 58.86            |          |
| JJT  | iPath Dow Jones-UBS Tin Subindex TR       | 58.74            |          |
| UGL  | ProShares Ultra Gold                      | 58.28            | 2X       |
| UYM  | ProShares Ultra Basic Materials           | 57.15            | 2X       |
| UKK  | ProShares Ultra Russell2000 Growth        | 55.80            | 2X       |
| GDXJ | Market Vectors Junior Gold Miners ETF     | 54.97            |          |
| EPU  | iShares MSCI All Peru Capped Index Fund   | 54.01            |          |
| MVV  | ProShares Ultra MidCap400                 | 52.75            | 2X       |
| THD  | iShares MSCI Thailand Index Fund          | 52.06            |          |

|      |  | 2010<br>% Change | Leverage |
|------|--|------------------|----------|
| ZSL  | ProShares UltraShort Silver                    | -79.50%          | 2X       |
| VXX  | iPATH S&P 500 VIX Short-Term Futures           | -72.40           |          |
| DRV  | Direxion Daily Real Estate Bear 3x Shares      | -71.86           | 3X       |
| TZA  | Direxion Daily Small Cap Bear 3X Shares        | -68.34           | 3X       |
| MWN  | Direxion Daily Mid Cap Bear 3x Shares          | -62.04           | 3X       |
| LHB  | Direxion Daily Latin America Bear 3X Shares    | -60.52           | 3X       |
| ERY  | Direxion Daily Energy Bear 3X Shares           | -60.02           | 3X       |
| EDZ  | Direxion Daily Emerging Markets Bear 3X Shares | -59.34           | 3X       |
| CZI  | Direxion Daily China 3X Bear Shares            | -56.32           | 3X       |
| SMN  | ProShares UltraShort Basic Materials           | -54.68           | 2X       |
| SRS  | ProShares UltraShort Real Estate               | -51.63           | 2X       |
| SKK  | ProShares UltraShort Russell2000 Growth        | -51.56           | 2X       |
| FAZ  | Direxion Daily Financial Bear 3X Shares        | -51.36           | 3X       |
| TWM  | ProShares UltraShort Russell2000               | -50.14           | 2X       |
| SMK  | ProShares UltraShort MSCI Mexico               | -49.66           | 2X       |
| SJH  | ProShares UltraShort Russell2000 Value         | -49.00           | 2X       |
| BGZ  | Direxion Daily Large Cap Bear 3X Shares        | -48.74           | 3X       |
| SDD  | ProShares UltraShort SmallCap800               | -48.38           | 2X       |
| AGA  | PowerShares DB Agriculture Double Short ETN    | -47.12           | 2X       |
| BXDD | Barclays Leveraged ETN Linked to S&P 500       | -46.74           | 3X       |

# 1. Brief Intro to ETFs: US Comp.

| Provider                             | YE-2010   |                  |            |              | Dec-10<br>NNA<br>(US\$ Bn) | 2010 NNA<br>(US\$ Bn) | YTD change |           |                  |          |                   |
|--------------------------------------|-----------|------------------|------------|--------------|----------------------------|-----------------------|------------|-----------|------------------|----------|-------------------|
|                                      | #<br>ETFs | AUM<br>(US\$ Bn) | %<br>total | #<br>planned |                            |                       | #<br>ETFs  | %<br>ETFs | AUM<br>(US\$ Bn) | %<br>AUM | % market<br>share |
| iShares                              | 216       | \$431.4          | 48.4%      | 9            | \$3.9                      | \$27.5                | 30         | 16.1%     | \$67.0           | 18.4%    | -3.2%             |
| State Street Global Advisors         | 92        | \$176.8          | 19.8%      | 34           | \$10.9                     | \$11.7                | 4          | 4.5%      | \$27.0           | 18.0%    | -1.4%             |
| Vanguard                             | 63        | \$148.3          | 16.6%      | 5            | \$1.6                      | \$40.5                | 17         | 37.0%     | \$56.3           | 61.2%    | 3.6%              |
| PowerShares                          | 111       | \$41.5           | 4.7%       | 48           | -\$1.0                     | \$3.4                 | 5          | 4.7%      | \$7.9            | 23.5%    | -0.1%             |
| ProShares                            | 100       | \$21.6           | 2.4%       | 101          | -\$0.9                     | \$2.1                 | 22         | 28.2%     | -\$1.6           | -7.0%    | -0.9%             |
| Van Eck Associates Corp              | 29        | \$20.0           | 2.2%       | 31           | \$0.6                      | \$3.7                 | 6          | 26.1%     | \$7.5            | 60.2%    | 0.5%              |
| Bank of New York                     | 1         | \$12.2           | 1.4%       | 0            | \$0.4                      | \$1.6                 | 0          | 0.0%      | \$3.6            | 42.2%    | 0.2%              |
| WisdomTree Investments               | 44        | \$9.9            | 1.1%       | 72           | \$0.4                      | \$3.0                 | -8         | -15.4%    | \$3.5            | 53.5%    | 0.2%              |
| Direxion Shares                      | 39        | \$6.6            | 0.7%       | 172          | -\$0.5                     | \$2.1                 | 13         | 50.0%     | \$1.6            | 30.9%    | 0.0%              |
| First Trust Advisors                 | 43        | \$5.4            | 0.6%       | 7            | \$0.5                      | \$2.8                 | 3          | 7.5%      | \$3.4            | 169.3%   | 0.3%              |
| Rydex SGI                            | 24        | \$5.0            | 0.6%       | 96           | \$1.0                      | \$1.6                 | -7         | -22.6%    | \$1.9            | 62.7%    | 0.1%              |
| Guggenheim Funds                     | 38        | \$3.6            | 0.4%       | 31           | \$0.0                      | \$0.4                 | 6          | 18.8%     | \$0.6            | 21.9%    | 0.0%              |
| Charles Schwab Investment Management | 11        | \$2.7            | 0.3%       | 2            | \$0.4                      | \$2.1                 | 5          | 83.3%     | \$2.4            | 683.0%   | 0.3%              |
| PIMCO                                | 13        | \$2.2            | 0.2%       | 9            | \$0.0                      | \$1.7                 | 4          | 44.4%     | \$1.7            | 356.4%   | 0.2%              |
| Global X Funds                       | 17        | \$1.3            | 0.1%       | 29           | \$0.1                      | \$1.0                 | 10         | 142.9%    | \$1.2            | 1402.8%  | 0.1%              |
| ALPS ETF Trust                       | 3         | \$0.7            | 0.1%       | 7            | \$0.2                      | \$0.7                 | 1          | 50.0%     | \$0.7            | 2542.2%  | 0.1%              |
| RevenueShares                        | 6         | \$0.5            | 0.1%       | 8            | \$0.0                      | \$0.2                 | 0          | 0.0%      | \$0.2            | 72.1%    | 0.0%              |
| Emerging Global Advisors             | 9         | \$0.4            | 0.0%       | 14           | \$0.1                      | \$0.4                 | 5          | 125.0%    | \$0.4            | 800.9%   | 0.0%              |
| IndexIQ Advisors                     | 9         | \$0.3            | 0.0%       | 24           | \$0.0                      | \$0.2                 | 4          | 80.0%     | \$0.2            | 194.2%   | 0.0%              |
| Fidelity Management & Research       | 1         | \$0.2            | 0.0%       | 0            | \$0.0                      | \$0.0                 | 0          | 0.0%      | \$0.0            | 16.4%    | 0.0%              |
| AdvisorShares                        | 5         | \$0.2            | 0.0%       | 9            | \$0.0                      | \$0.1                 | 4          | 400.0%    | \$0.1            | 586.5%   | 0.0%              |
| Jefferies Asset Management           | 4         | \$0.1            | 0.0%       | 2            | \$0.0                      | \$0.0                 | 1          | 33.3%     | \$0.1            | 72.4%    | 0.0%              |
| DBX Strategic Advisors               | 5         | \$0.1            | 0.0%       | 39           | \$0.0                      | \$0.0                 | 0          | 0.0%      | \$0.0            | -22.0%   | 0.0%              |
| Grail Advisors                       | 5         | \$0.0            | 0.0%       | 3            | \$0.0                      | \$0.0                 | 0          | 0.0%      | \$0.0            | 46.2%    | 0.0%              |
| Javelin Investment Management        | 1         | \$0.0            | 0.0%       | 0            | \$0.0                      | \$0.0                 | 0          | 0.0%      | \$0.0            | -17.5%   | 0.0%              |
| FaithShares                          | 5         | \$0.0            | 0.0%       | 0            | \$0.0                      | \$0.0                 | 0          | 0.0%      | \$0.0            | -9.5%    | 0.0%              |
| US One Trust                         | 1         | \$0.0            | 0.0%       | 2            | \$0.0                      | \$0.0                 | 1          | 100.0%    | \$0.0            | 100.0%   | 0.0%              |
| Pax World Management                 | 1         | \$0.0            | 0.0%       | 2            | \$0.0                      | \$0.0                 | 1          | 100.0%    | \$0.0            | 100.0%   | 0.0%              |
| Old Mutual Global Shares             | 0         | \$0.0            | 0.0%       | 0            | \$0.0                      | \$0.0                 | -1         | -100.0%   | -\$0.1           | -100.0%  | 0.0%              |

# 1. Brief Intro to ETFs: Why?

## Transparency

- Investors can generally see the ETF composition at any given time

## Liquidity

- ETFs offer two sources of liquidity:
  - Traditional liquidity measured by secondary market trading volume
  - The liquidity of the underlying assets via the creation and redemption process

## Diversification

- ETFs provide immediate exposure to a basket or group of securities for instant diversification
- Broad range of asset classes including equities, bonds, commodities, investment themes etc

## Flexibility

- ETFs are listed on exchanges and can be traded at any time the market is open
- Pricing is continuous throughout the day

## Cost effectiveness

- ETFs offer a cost-effective route to diversified market exposure
- The average total expense ratio (TER) for equity ETFs in the United States is 34 bps versus 93 bps (per annum) for the average equity index tracking fund and 146 bps (per annum) for the average active equity fund<sup>1</sup>

## Securities lending

- ETF units and underlying assets can be lent out to potentially offset holding costs

# 1. Brief Intro to ETFs: Uses.

## Strategic

- **Market exposure:**  
Implement a wide variety of investment strategies using a broad range of market exposures
- **Directional views:**  
Establish a broad directional market position, use long and short trades to implement market view(s)
- **Core satellite:**  
Achieve strategic focus
- **Rebalancing:**  
Adjust drift in a portfolio's asset allocation or style
- **Completion:**  
Add uncorrelated instruments and/or asset classes to strategy

## Tactical

- **Interim beta:**  
Maintain exposure to a given market while searching for a specific market opportunity
- **Cash management:**  
Invest cash rapidly and cost effectively to gain desired market exposures
- **Derivatives alternative:**  
Broad opportunity set of Delta 1 exposures with single line cash based settlement
- **Exposure management:**  
Shift portfolio emphasis by adjusting exposures (e.g. duration, credit)
- **Thematic:**  
Implement thematic exposures (e.g. dividends, alternatives)



# 1. Brief Intro to ETFs: Who uses?

| Type of Institution   | 1997       | 1998       | 1999       | 2000       | 2001         | 2002         | 2003         | 2004         | 2005         | 2006         | 2007         | 2008         |
|-----------------------|------------|------------|------------|------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Investment advisor    | 109        | 200        | 319        | 549        | 802          | 923          | 1,023        | 1,167        | 1,380        | 1,564        | 1,946        | 2,152        |
| Hedge fund            | 9          | 20         | 30         | 73         | 114          | 144          | 152          | 180          | 209          | 285          | 340          | 438          |
| Bank and trust        | 14         | 19         | 30         | 67         | 92           | 109          | 120          | 139          | 161          | 174          | 189          | 193          |
| Pension fund          | 5          | 8          | 9          | 15         | 22           | 28           | 28           | 33           | 45           | 36           | 45           | 48           |
| Brokerage firm        | 14         | 11         | 15         | 15         | 16           | 25           | 28           | 31           | 37           | 40           | 45           | 48           |
| Insurance company     | 13         | 19         | 27         | 39         | 50           | 60           | 65           | 66           | 74           | 80           | 23           | 17           |
| Endowment fund        | 1          | 1          | 1          | 3          | 3            | 3            | 5            | 5            | 7            | 8            | 9            | 9            |
| Private equity        | 0          | 0          | 0          | 0          | 0            | 0            | 0            | 0            | 1            | 4            | 7            | 9            |
| Holding company       | 0          | 0          | 0          | 0          | 0            | 1            | 2            | 3            | 3            | 4            | 3            | 5            |
| Corporation           | 0          | 0          | 0          | 0          | 1            | 1            | 1            | 1            | 4            | 16           | 5            | 4            |
| Foundation            | 0          | 0          | 0          | 0          | 1            | 0            | 2            | 1            | 2            | 3            | 3            | 2            |
| Sovereign wealth fund | 0          | 0          | 0          | 0          | 0            | 0            | 0            | 0            | 0            | 0            | 0            | 1            |
| Venture capital       | 0          | 0          | 0          | 1          | 2            | 3            | 1            | 1            | 1            | 0            | 1            | 0            |
| <b>Total</b>          | <b>165</b> | <b>278</b> | <b>431</b> | <b>762</b> | <b>1,103</b> | <b>1,297</b> | <b>1,427</b> | <b>1,627</b> | <b>1,924</b> | <b>2,214</b> | <b>2,616</b> | <b>2,926</b> |

# COMMENTS? QUESTIONS?

## 2. Foliofn and ETFs

- In 1999, went to build Foliofn – basket trading brokerage.
- Launched many portfolios – revolutionary, but also ETFs starting to gain.
- Business deal with Barclays – Folios of ETFs with Barclay logo

## 2. Foliofn and ETFs

Dear All:

I spoke with the man in charge of the IShares product at Barclays. Here is some information relevant to our desire to bring "cash" to our folios:

(1) The filing has just recently been sent to the SEC. As we know by now, this may take some time to get through. He thinks Barclays will have to go through a few rounds of discussions with the SEC on it.

(2) He estimates that these bond ETFs will be launched in the 4th quarter of this year and the ABSOLUTE EARLIEST, the third quarter. Thus, the March 24, 2001 deadline you guys mentioned to me has a probability 0.01 % of being met.

(3) They have filed for 5 Bond ETFs: (a) 1-3 year maturity (b) 7-10 year maturity (c) 20+ maturity (d) entire US yield curve (e) govt/corp index.

All of these are based on the actual Lehman Brothers indices, so you can check those out for more information. I also have some documents on these from a previous lifetime.

(4) I asked him why no one has considered a MONEY MARKET ETF. He said that they have no plan on offerering one and the biggest reason is LACK OF DEMAND. They just don't think there is a market for a money market ETF.

(5) I mentioned that it could be interesting for FOLIOfn to make folios with "simulated cash" and "asset allocation" folios (which I am working on right now). He said that "he would put this on his radar screen".

I hope that helps.

Ludwig

## 2. Foliofn and ETFs

### Barclays to Roll Out Exchange-Traded Bond Funds

by Eric Jacobson | 01:54 PM | 01-08-01 | [E-mail Article to a Friend](#)

Barclays intends to roll out several exchange-traded funds (ETFs) that will mimic the performance of well-known Lehman Brothers bond indexes, according to filings made this month with the Securities and Exchange Commission. Like mutual funds, ETFs are portfolios of securities owned by many investors; however they usually carry very low expense ratios and their holdings are tied to indexes.

Barclays' new bond ETFs will join the firm's already-existing lineup of iShares, the rest of which focus on stock indexes. Barclays' move comes on the heels of a similar announcement from Chicago-based John Nuveen [JNC](#). That company [declared its intention](#) to roll out Fixed-Income Trust Receipts, which will track indexes constructed by Ryan Labs, Inc.

Barclays hasn't yet released information about the new portfolios' expenses, but if the firm's stock-index ETFs are any indication, costs are likely to be quite low. As with those offerings, Barclays will provide a mechanism by which the funds will trade on an exchange, but it also will help prevent their market prices from deviating greatly from net asset value.

As with other ETFs, these portfolios should offer another way for investors to easily access a particular segment of the investment marketplace. The ETFs should appeal to many investors because they presumably will have low costs and they'll be easy to buy and sell on an exchange. Indeed, Barclays notes that financial advisors like ETFs because they're easy to use.

Long-term buy-and-hold investors should carefully consider individual Treasury bonds or low-cost bond mutual funds before deciding to go with ETFs, though, even though ETF expenses will probably be low. Because investors pay commissions on every ETF trade, ETFs could become costly to use as part of a regular investment plan. Furthermore, while stock-index ETFs give investors more control over capital gains, the same advantage doesn't apply to bond-index ETFs. That's because most bond portfolios don't generate much in the way of capital gains in the first place. Meanwhile, bond mutual funds throw off tons of taxable income by design, and ETFs aren't able to mitigate that tax bite either.

## 2. Foliofn and ETFs

### **iShares Value**

#### **Investment Objective**

To offer investors a very diversified exposure to the S&P Barra Value index, while placing an equal importance on large, mid, and small-cap stocks. The S&P Barra Value Index is constructed by Barra using price-to-book ratios of the stocks as a criteria for distinguishing value from growth stocks. The value index contains firms with higher book-to-price ratios; conversely, the growth index has firms with lower book-to-price ratios. The value and growth indexes are capitalization-weighted, meaning that each stock is weighted in proportion to its market value. Furthermore, this value/growth division is done for each set of S&P stocks, the S&P500 (considered large-cap stocks), the S&P400 (considered mid-cap stocks), and the S&P600 (considered small-cap stocks). This folio consists of Barclays ETFs (exchange-traded funds) that trade on exchanges in the United States. The ETFs that make up this folio seek investment results that correspond generally to the price and yield performance, before fees and expenses, of the S&P 500/BARRA Value Index, S&P MidCap 400/BARRA Value Index, and S&P SmallCap 600/BARRA Value Index respectively. There is no assurance that the performance of the S&P/BARRA Value Indices can be fully matched.

#### **How were the ETFs in this Folio selected?**

Here is a summary of some of the steps taken to create this Folio:

1. We identified the Barclays ETFs that represented the Barra Value indices.
2. We then equally weighted the ETFs, meaning that each ETF's proportion of the folio is the same.

#### **How many stocks are in this Folio?**

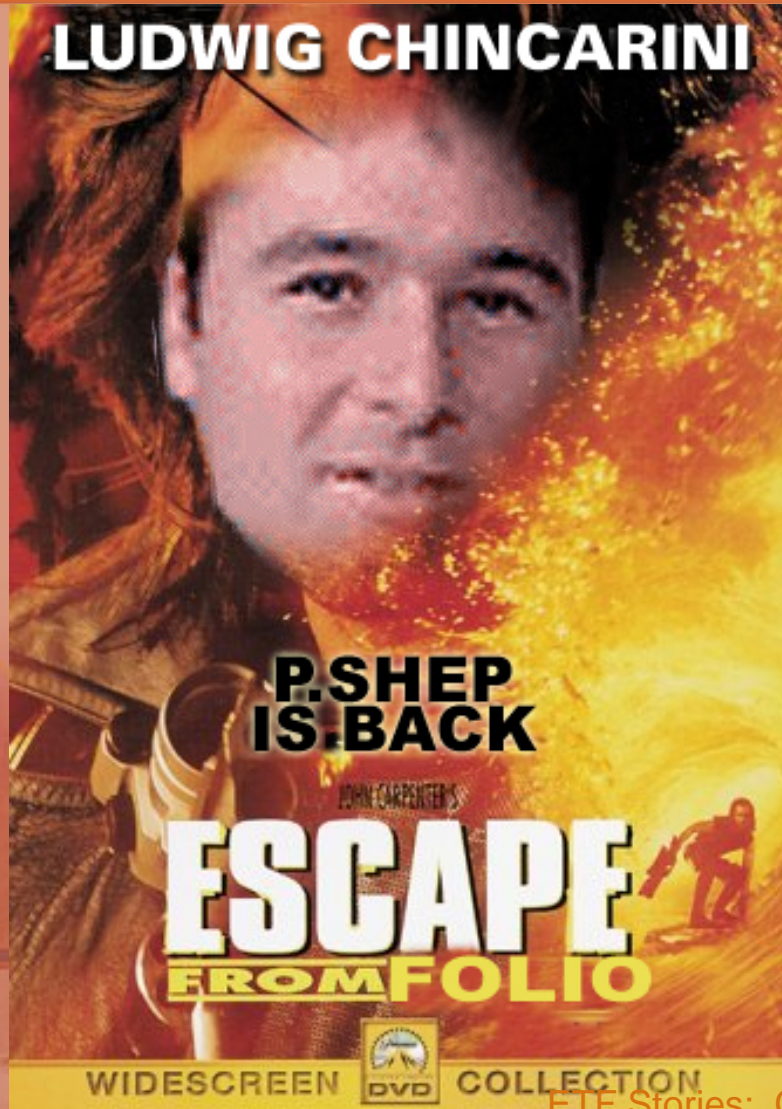
There are 3 ETFs in this folio.

## 2. Foliofn and ETFs

- At Folio, my group managed about 120 portfolios.
- Many of them were equal-weighted indices, versus market-cap.
- We recognized the value in these.



## 2. Foliofn and ETFs



- CEO not listening and taking company in wrong direction
- Senior members / creators depart



**COMMENTS?**  
**QUESTIONS?**

### 3. Rydex and the RSP: Intro

- Left Foliofn and joined Rydex as Director of Research.
- Another Folio employee had joined Rydex in Bus. Dev.
- There was a “Folio-bias” of equal-weight in the firm.
- Rydex felt it had to enter ETF space for fear of losing its business

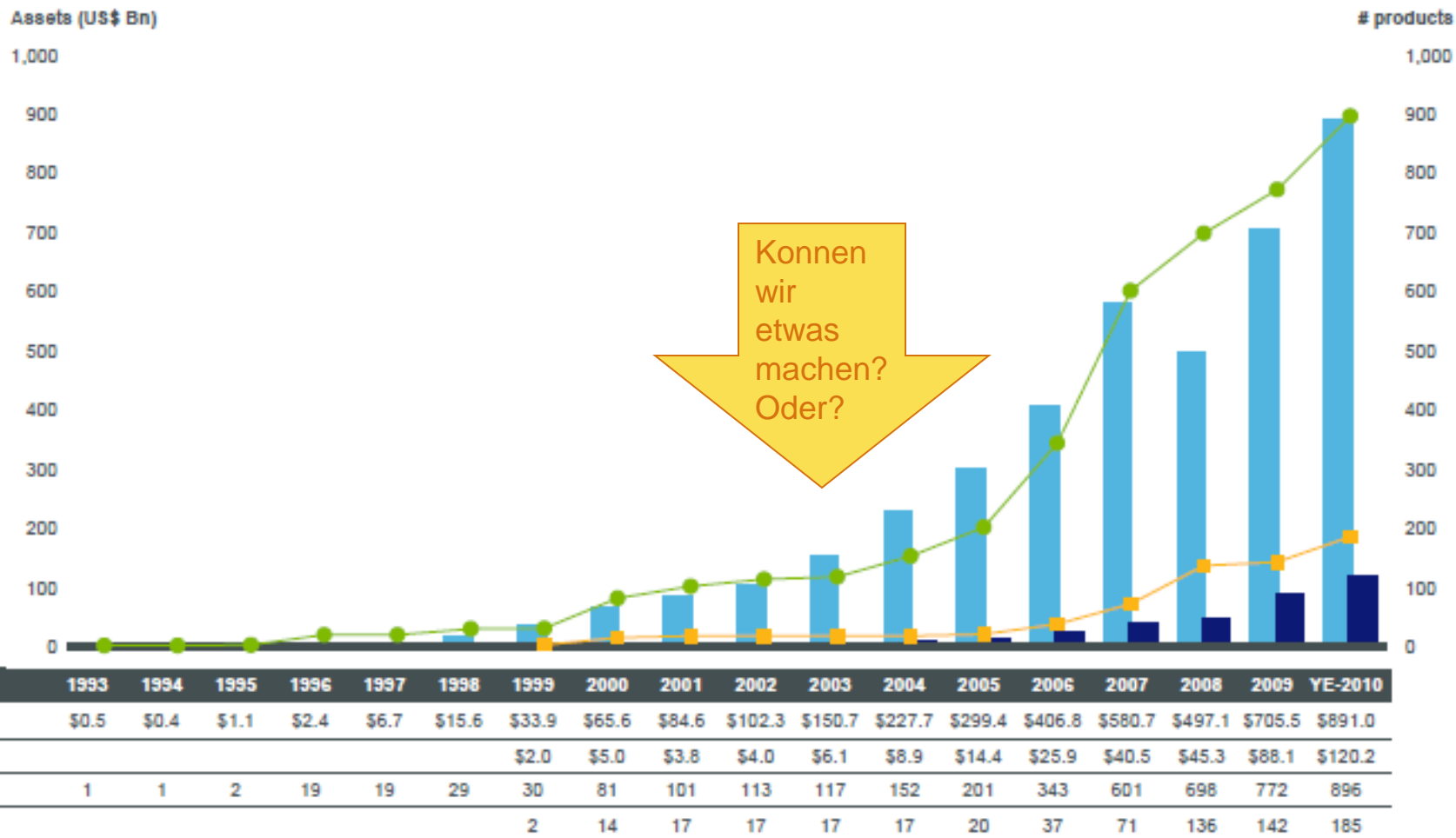
### 3. Rydex and the RSP: Intro

- Competitor, Profunds, had beat Rydex to register “leveraged ETFs”

### 3. Rydex and the RSP: Challenge

- It's 2003, ETFs have grown, dominant players exist: iShares, State Street, PowerShares.
- How does Rydex get in the space?
- Many ideas floating around, including equal-weight S&P 500.
- Fortune 50...hmmm?

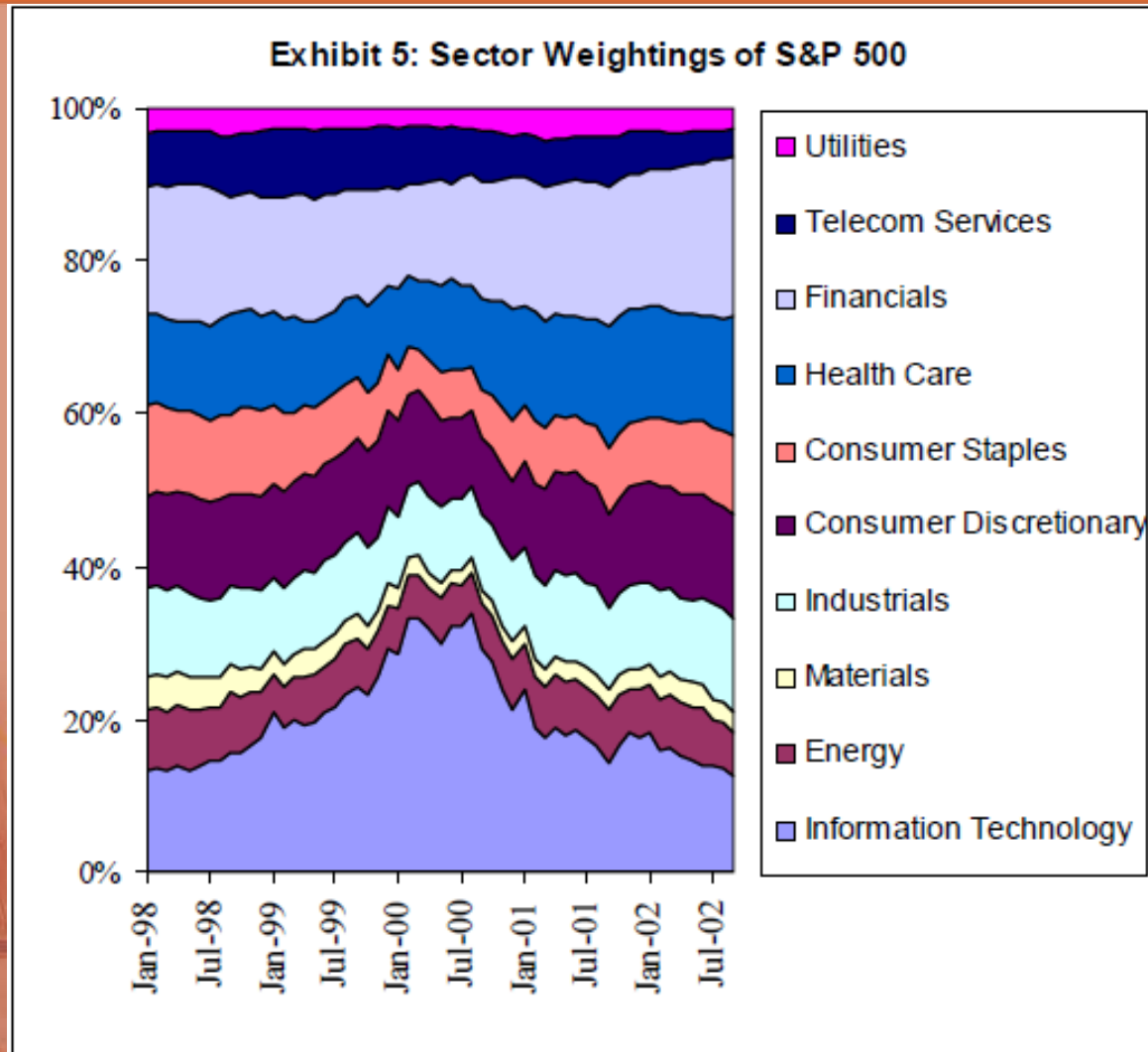
# 3. Rydex and the RSP: Challenge



### 3. Rydex and the RSP: Challenge

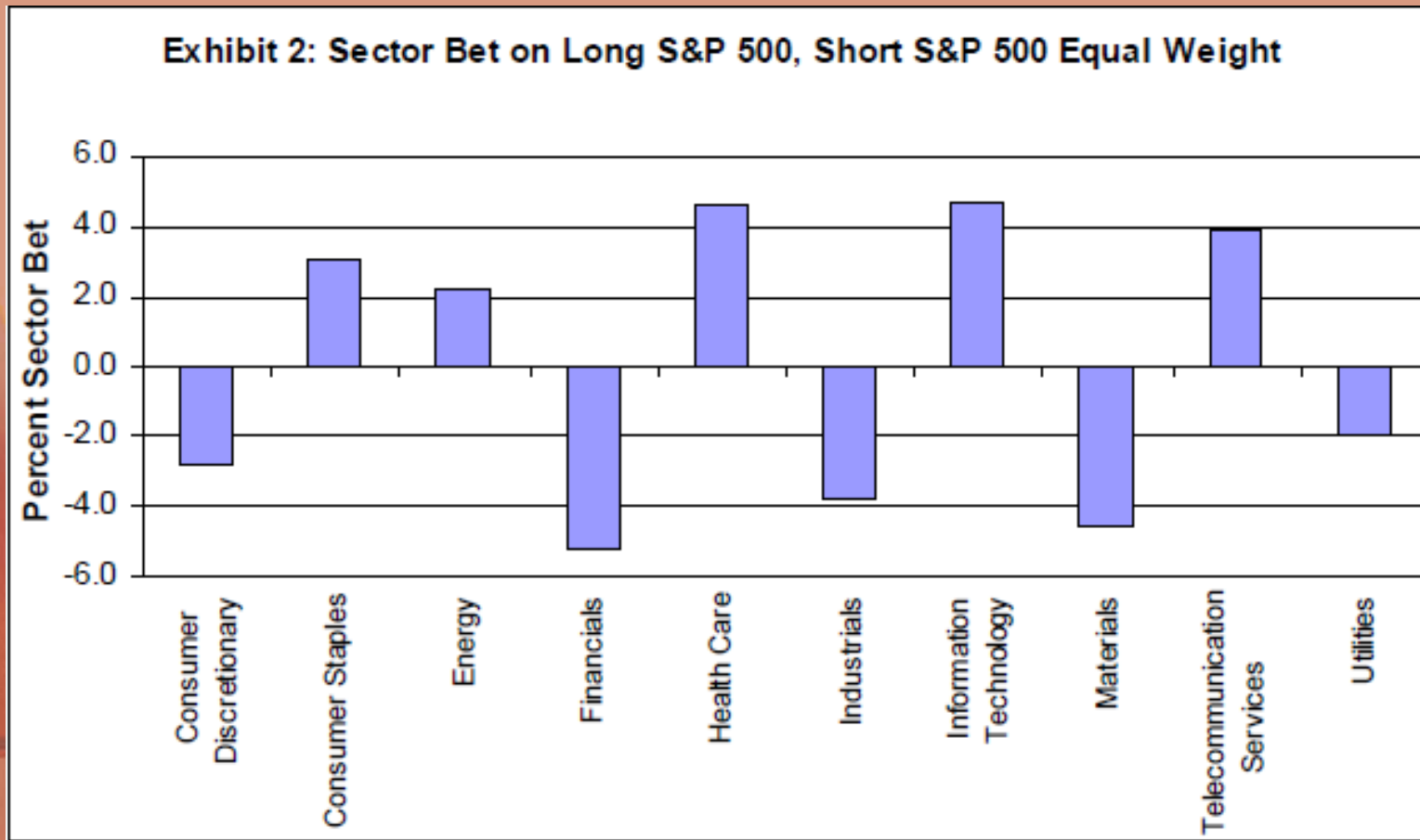
- Settled on S&P 500 Equal-Weight.
- Why? (a) Performance (b) Diversification.
- Not tax efficient as mutual fund, but as ETF could be.

### 3. Rydex and the RSP: Challenge



### 3. Rydex and the RSP: Challenge

- Using both ETFs to take long-short bets.





### 3. Rydex and the RSP: Execution

- Wanted S&P to create index
- Many meetings with Blitzer and Srikant Dash and team showing research we did
- S&P worried about cannibalizing their number one index and product: S&P 500
- S&P upset at Rydex for not paying licensing fees for 10 years – Rydex cut a big check.

### 3. Rydex and the RSP: Execution

- Agree to launch index – many meetings deciding how to do index
- Published joint research paper with S&P (first time done)

### 3. Rydex and the RSP: Seeding

- In 2003, it was still a “buyers” market, thus we could take bids from specialists.
- We approached, Bear Hunter (of Bear Stearns), Spear-Kellogg (Goldman), and Susquehanna.
- They bid for seeding. Bear gave us the most at \$40M and we went with them.

### 3. Rydex and the RSP: Taxes

- S&P 500 EW stretched the boundaries of in-kind transfers and basket swaps
- ETFs are tax efficient for three reasons:
  - (a) Purchases and Redemptions lead to “in-kind” low basis transfers, reducing taxable base of ETF. Mutual funds can’t really do this easily.
  - (b) Rebalance capital gains can be curtailed through “basket swapping”.

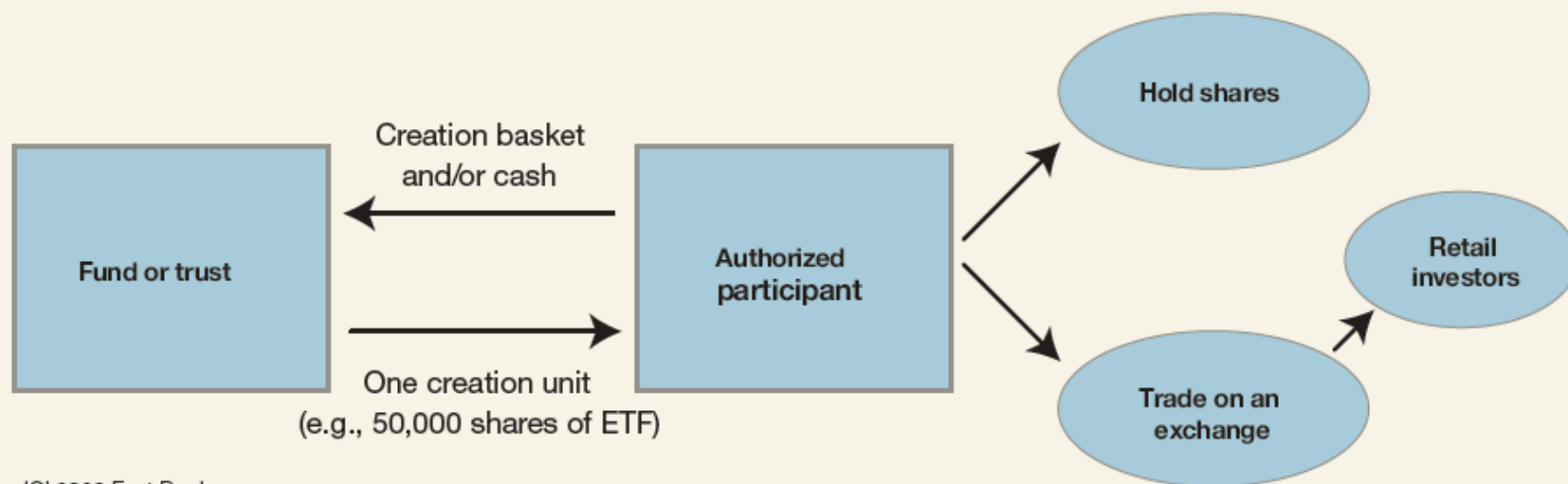
### 3. Rydex and the RSP: Taxes

- **Purchase & Redemption Example**
- Two types of traders of ETF
  - Small Guy – buy/sell shares from others on exchange
  - Big players or APs which do it in-kind with lots of 50K or 25K shares

*The second are very important for tax efficiency.*

### 3. Rydex and the RSP: Taxes

FIGURE 1: ETF OVERVIEW — CREATION OF AN EXCHANGE-TRADED FUND



Source: ICI 2009 Fact Book

### 3. Rydex and the RSP: Taxes

- **Purchase & Redemption Example**
- Big Player wants to sell some of ETF, 1 block.
- The fund will deliver 1 block with each proportional share of the stocks in the fund as a portfolio to the AP. Thus, no tax event (no cap gains/losses).
- Plus deliver lowest basis tax lots of each security, thus improving the future tax efficiency of fund.

# 3. Rydex and the RSP: Taxes

## • Purchase & Redemption Example

**TABLE 2: EVOLUTION OF ETF TAX EFFICIENCY**

| Table 2A: ETF portfolio with tax details |        |          |           | Table 2B: Example of a redemption creation unit. |        |         | Table 2C: The new ETF portfolio with lower total AUM. |        |          |           | Table 2D: Results of change in the index. |            |
|--|--------|----------|-----------|--|--------|---------|---|--------|----------|-----------|---|------------|
|  | Shares | Basis    | Value     | Creation Unit Out                                | Shares | Basis   |   | Shares | Basis    | Value     | Index Change                              |            |
| IBM                                      | 2,000  | \$120.00 | \$240,000 | IBM  | 500    | \$80.00 | IBM   | 2,000  | \$120.00 | \$240,000 | Remove "CSCO"                             |            |
|  | 1,000  | \$100.00 | \$100,000 |  |        |         |   | 1,000  | \$100.00 | \$100,000 | Current Price                             | \$17.25    |
|  | 2,000  | \$80.00  | \$160,000 |  |        |         |   | 1,500  | \$80.00  | \$120,000 | Shares Out                                |            |
| Ave                                      | 5,000  | \$100.00 |           |  |        |         | Ave   | 4,500  | \$102.22 |           | 10,800                                    | \$186,300  |
| MSFT                                     | 4,000  | \$25.00  | \$100,000 | MSFT   | 1,500  | \$15.00 | MSFT  | 4,000  | \$25.00  | \$100,000 |   |            |
|  | 2,000  | \$15.00  | \$30,000  |  |        |         |   | 500    | \$15.00  | \$7,500   |   |            |
|  | 2,000  | \$35.00  | \$70,000  |  |        |         |   | 2,000  | \$35.00  | \$70,000  | Add "T"                                   | \$20.00    |
| Ave                                      | 8,000  | \$25.00  |           |  |        |         | Ave   | 6,500  | \$27.31  |           | Shares In                                 |            |
| CSCO                                     | 5,000  | \$22.00  | \$110,000 | CSCO   | 1,200  | \$12.00 | CSCO  | 5,000  | \$22.00  | \$110,000 | 9,315                                     | \$186,300  |
|  | 4,000  | \$15.00  | \$60,000  |  |        |         |   | 4,000  | \$15.00  | \$60,000  |   |            |
|  | 3,000  | \$12.00  | \$36,000  |  |        |         |   | 1,800  | \$12.00  | \$21,600  |   |            |
|  | 12,000 | \$17.17  | \$206,000 |  |        |         |   | 108,00 | \$17.74  | \$191,600 | Tax Impact                                | (\$19,700) |



### 3. Rydex and the RSP: Taxes

- Rebalance Swapping
- With rebalance to equal-weight or something else, capital gains taxes are generated for the fund which will eventually have to be redistributed.

### 3. Rydex and the RSP: Taxes

|     | t      |       |        |
|-----|--------|-------|--------|
|     | Shares | Price | Weight |
| ABC | 10     | 10    | 0.5    |
| XYZ | 10     | 10    | 0.5    |

|     | t+1    |       |        |
|-----|--------|-------|--------|
|     | Shares | Price | Weight |
| ABC | 10     | 20    | 0.667  |
| XYZ | 10     | 10    | 0.333  |

| t+1 (new) |       |        |
|-----------|-------|--------|
| Shares    | Price | Weight |
|           |       | 0.5    |
|           |       | 0.5    |

### 3. Rydex and the RSP: Taxes

| Actions |         | Tax Effect | Tax Rate 0.31 |  | Return BT | Return AT |
|---------|---------|------------|---------------|--|-----------|-----------|
| Shares  | Dollars |            |               |  |           |           |
| 2.5     | 50      | 25         | 7.75          |  | 50.00%    | 46.13%    |
| 5       | 50      |            |               |  |           |           |

### 3. Rydex and the RSP: Taxes

- What if...

| AP Gives Portfolio |   |
|--------------------|---|
| ABC                | 0 |
| XYZ                | 5 |

| Fund Gives Portfolio |     |
|----------------------|-----|
| ABC                  | 2.5 |
| XYZ                  | 0   |

- No tax effects from basket swap. But not always in play. “Create” basket and “Redeem” basket plus cash to make hole. The “program trade” basket.
- Loser (tcosts) – incentive for program trades.
- Might sell (odd lots) some gains.

### 3. Rydex and the RSP: Taxes

- Still can't avoid
  - dividend taxes
  - left over rebalance capital gains
  - corporate actions

### 3. Rydex and the RSP: Fees

- RSP – charges 40bps.
- 5 bps to S&P for index licensing
- 4-5 bps to Bank of NY for fund admin, accounting, transfer agent
- 30 bps to Rydex

### 3. Rydex and the RSP: Distribution

- Very different product.
- Went on road show to JP Morgan and other banks to talk to ETF analysts to get them excited about product and write about it.
- S&P 500 already successful – little cousin

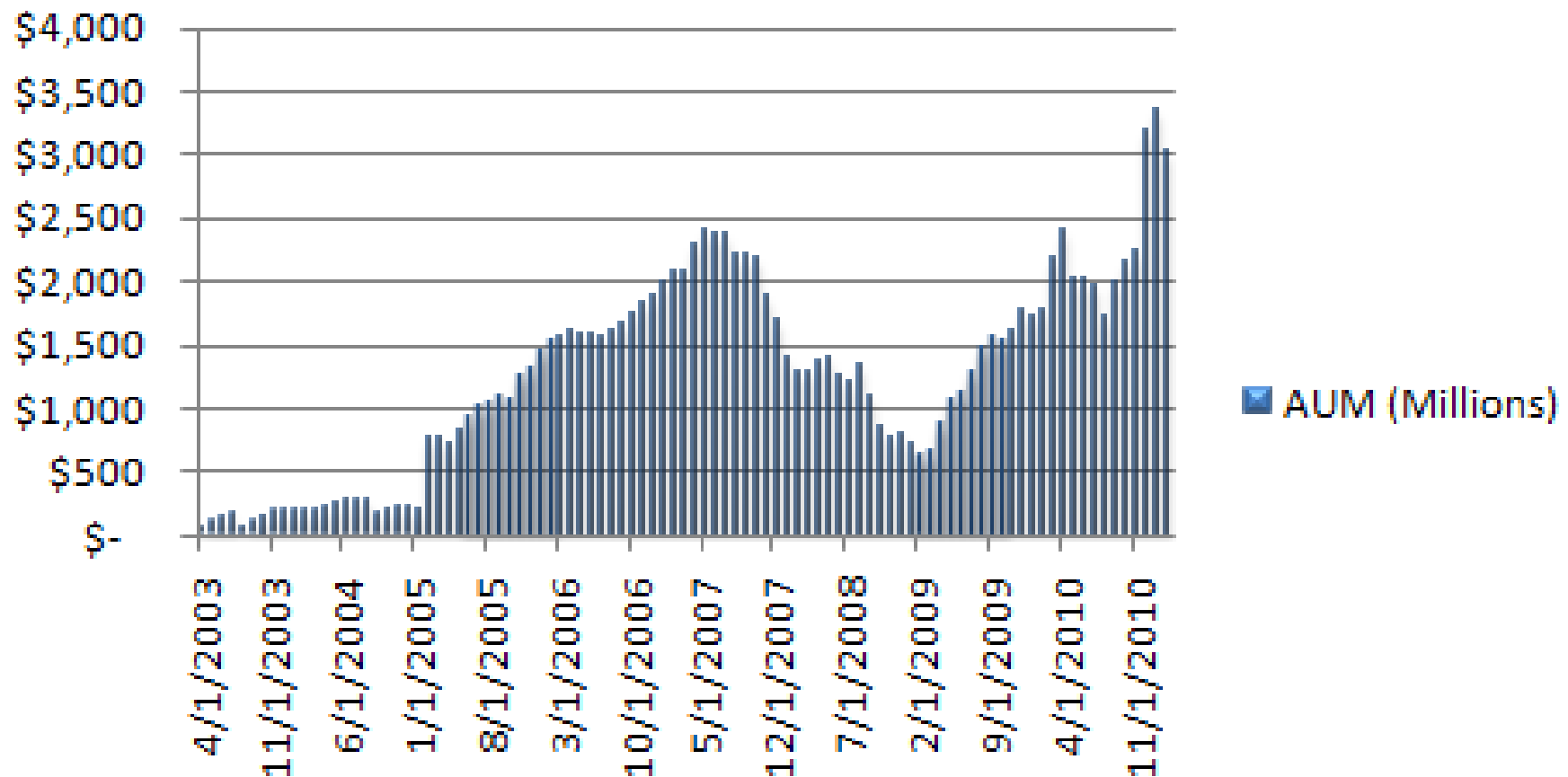
### 3. Rydex and the RSP: Evolution

- I wasn't convinced it would work.
- State of Michigan and \$40M
- Dorsey-Wright (technical advisor) endorses and promotes ETF EW as benchmark



### 3. Rydex and the RSP: Evolution

#### RSP (Equal-Weight S&P 500)



### 3. Rydex and the RSP: Evolution

- A lesson in contract negotiation.
- As of 03/22/11. 3.02 Billion - \$9Million per year

# COMMENTS? QUESTIONS?

## 4. IndexIQ: Introduction

- Adam Patti, David Fogel initially start as an index shop. Idea to make money off index licensing. I told them it wouldn't be enough – had to do ETFs.
- Adam at Time (Fortune Indices – State Street Fortune 500).
- Arun in Fortune's library at night on Bloomberg.
- David, Greg, and Adam sneaking out of office for investor meetings until \$3M.

## 4. IndexIQ: Introduction

- Powershares sell to Investco...create huge valuation for ETF companies.
- Easy to raise \$4.85 Million.
- Work with academics for ideas, Ludwig Chincarini and Robert Whitelaw.
- How can we be different? Even harder than 2003? It's now January 2007.

## 4. IndexIQ: Introduction

- Small World – small office space in Rye Brook, NY right next door, former LTCM partners working on new hedge fund (**also first investors**).
- Ups and Downs of AUM and starting out.
- Academic research talks about hedge fund replication

## 4. IndexIQ: First Product

- Several studies showed that linear replication of hedge returns could create the characteristics of hedge fund indices, even though the “alpha” was generally smaller.
- Another study showed that non-linear techniques did not improve replication very much.
- Our back-tests looked very promising.

## 4. IndexIQ: Introduction

- Build Hedge Fund replication index.
- At conferences, “How can I buy it?”
- File registration for ETFs, but launch mutual fund and separate account platform immediately.



## 4. IndexIQ: SEC Registration

- First, file for exemptive relief from SEC from 40 Act (all ETFs done like this)
- File a registration statement for product, wait 75 days, unless SEC raises objections (which they always do)
- Filed for QAI (first hedge fund replicator ETF) and MCRO (macro hf replicator).

## 4. IndexIQ: Portfolio Management

- IndexIQ builds index and also manages ETF.
- Portfolio management of ETF is harder than SMA or Mutual Fund.

## 4. IndexIQ: Portfolio Management

### Some Items:

1. Corporate Actions – halted securities. Give cash (cash-in-lieu) on sell rather than security. A “look forward” file – what to deliver to custodian...locked up name, remove so no issues.
2. For Asia, market closed, but US open, do you want t+1 basket (close) – no P/L risk? Or t close trade at basket (open) – broker takes P/L?

## 4. IndexIQ: Portfolio Management

### Some Items:

3. AP delivers basket without n securities. Instructions to trade securities at VWAP into open – client takes P/L loss, not ETF.
4. Baskets delivered over several weeks in illiquid markets and AP takes hit.

## 4. IndexIQ: Liquidity

- ETFs represent about 30% of equity trading per day (\$60B)
- ETF spreads are generally small
- Liquidity is by underlying securities, not ADV of the ETF (same as for single-stock futures)
- ETF tracks price (arbitrage by APs) – unlike closed-end funds

## 4. IndexIQ: First Product

- **Benefits**
- Captures favorable characteristics of hedge funds in a mutual fund/ETF wrapper
- Broad Exposure: dynamically allocates across 6 of the most widely used hedge fund strategies
- Liquid: daily liquidity, no lock-ups
- Transparent: portfolio components updated daily – rule book on website
- No Head-Line Risk: does not invest in hedge funds
- No “3 & 30” hedge fund of funds fee structure
- Systematic, rules-based index process dynamically adjusts to changing market environment

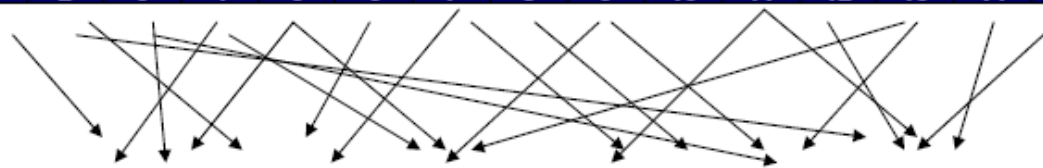
# 4. IndexIQ: First Product

## Index Construction: IQ Hedge Multi-Strategy Indexes

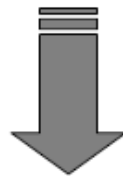
Systematic, Rules-Based Investment Process



| ETF 1 | ETF 2 | ETF 3 | ETF 4 | ETF 5 | ETF 6 | ETF 7 | ETF 8 | ETF 9 | ETF 10 | ETF 11 | ETF 12 | ETF 13 | ETF 14 | ETF 15 |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|--------|--------|--------|--------|--------|
|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|--------|--------|--------|--------|--------|



| Emerging Markets | Long/Short Equity | Global Macro | Market Neutral | Event Driven | Fixed Income Arbitrage |
|------------------|-------------------|--------------|----------------|--------------|------------------------|
|------------------|-------------------|--------------|----------------|--------------|------------------------|



**IQHIX/IQHOX: IQ Alpha Hedge Strategy Fund**  
**QAI: IQ Hedge Multi-Strategy ETF**

**STEP 1:**  
*Annual Index Constitution*  
Identify ETFs that represent asset classes that drive hedge fund returns

**STEP 2:**  
*Monthly Index Reweighting*  
Replicate the risk/return profiles of 6 distinct hedge fund strategies using ETFs from STEP 1

**STEP 3:**  
*Monthly Strategy Allocation*  
Hedge fund strategies from STEP 2 are combined into one portfolio



# 4. IndexIQ: First Product



## Why Hedge Fund Replication?

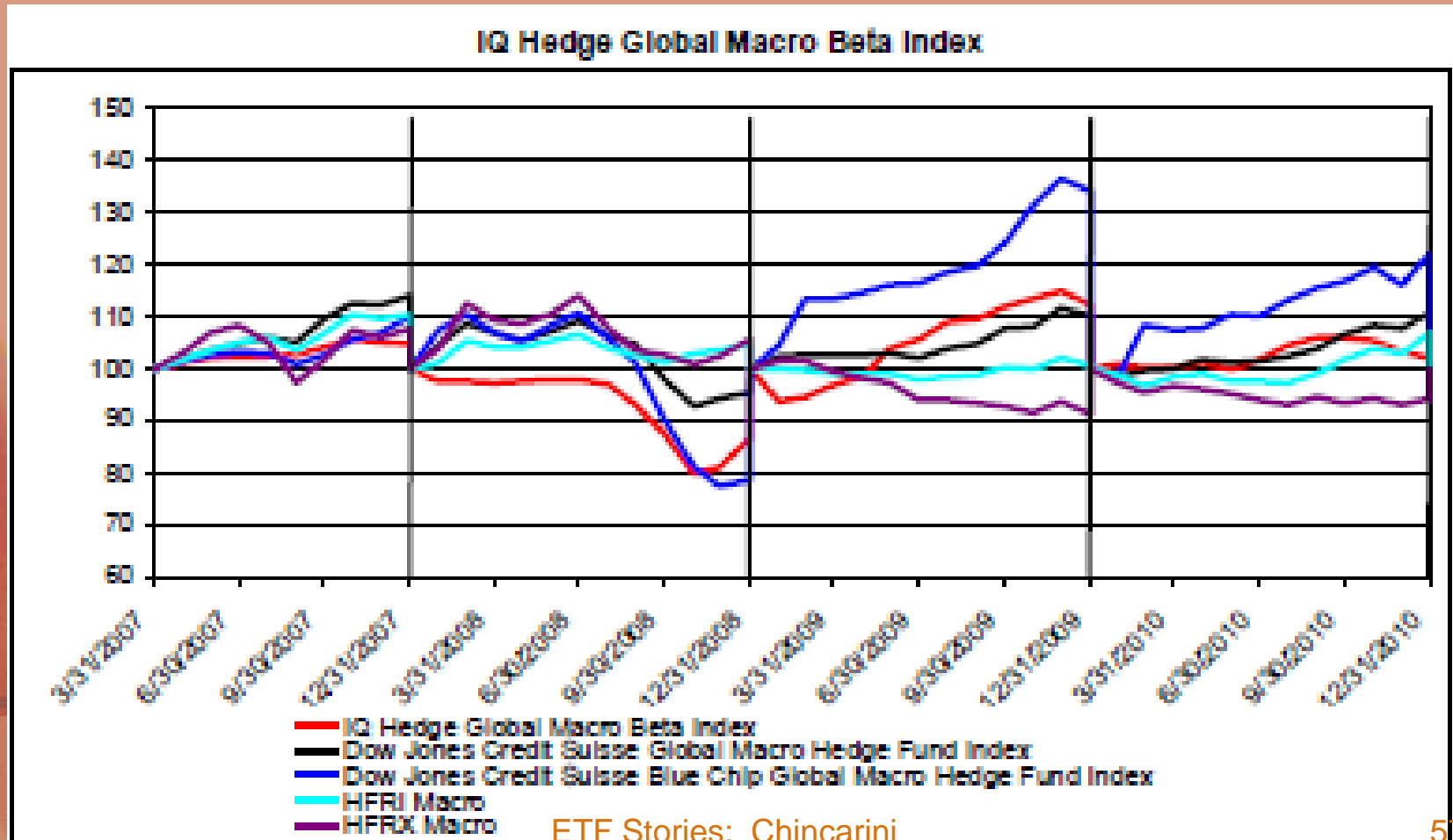
Hedge Fund Replication strategies are designed to capture the positive attributes of hedge fund investing, while helping to eliminate many of the structural impediments.

|                                | IQ Hedge Strategies                                   | Traditional Hedge Fund                            |
|--------------------------------|---|---|
| Alternative Investment Returns | Yes   | Yes   |
| Availability                   | Open to All Investors                                 | Limited by Accredited & Qualified Purchaser Rules |
| Access                         | Easy  | Difficult   |
| Fees                           | Understandable Asset based management fee             | 2% Management Fee & 20% of Profits (typical)      |
| Transparency                   | Transparent Index/Rules-Based - holdings posted daily | Idiosyncratic, Manager Specific                   |
| Portfolio Diversification      | Diversified ETF Based                                 | Varied, Manager Specific                          |
| Liquidity                      | Daily or Intraday (ETF)                               | Limited Typically 6 – 12 Months                   |
| Pricing                        | Real Time / Daily                                     | Limited   |
| Tax Reporting                  | 1099  | K-1   |
| Investment Wrapper             | ETF, Mutual Fund, SMA                                 | Typically Limited Partnership                     |



## 4. IndexIQ: First Product

- How well does it track?



# 4. IndexIQ: First Product

## IQ Hedge Multi-Strategy Tracker ETF (QAI)

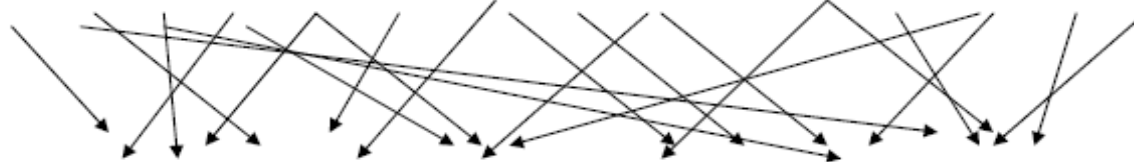
- Step 1:** Pick the right factors (ETFs). Backtest on factors annually to get the important factors (ETFs) that represent the 6 categories of DJ Credit Suisse. Single and multi-factor.
- Step 2:** Once you have, each month run a regression of factors on hedge fund returns. 48 months rolling windows.
- Step 3:** Allocate across 6 strategies using a mean-variance optimizer. Looks at 12-months and optimize over those 6 created strategies from the created IndexIQ returns. Allow short sales on strategies.
- Step 4:** Cleanup - things you can do an ETF. Limit the amount of mutual fund exposure to 2x.

# 4. IndexIQ: Macro Product

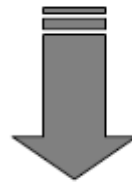
## Index Construction: IQ Hedge Multi-Strategy Indexes Systematic, Rules-Based Investment Process



| ETF 1 | ETF 2 | ETF 3 | ETF 4 | ETF 5 | ETF 6 | ETF 7 | ETF 8 | ETF 9 | ETF 10 | ETF 11 | ETF 12 | ETF 13 | ETF 14 | ETF 15 |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|--------|--------|--------|--------|--------|
|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|--------|--------|--------|--------|--------|



|                  |                   |              |                |              |                        |
|------------------|-------------------|--------------|----------------|--------------|------------------------|
| Emerging Markets | Long/Short Equity | Global Macro | Market Neutral | Event Driven | Fixed Income Arbitrage |
|------------------|-------------------|--------------|----------------|--------------|------------------------|



**MCRO: IQ Hedge Macro ETF**

**STEP 1:**  
*Annual Index Constitution*  
Identify ETFs that represent asset classes that drive hedge fund returns

**STEP 2:**  
*Monthly Index Reweighting*  
Replicate the risk/return profiles of 6 distinct hedge fund strategies using ETFs from STEP 1

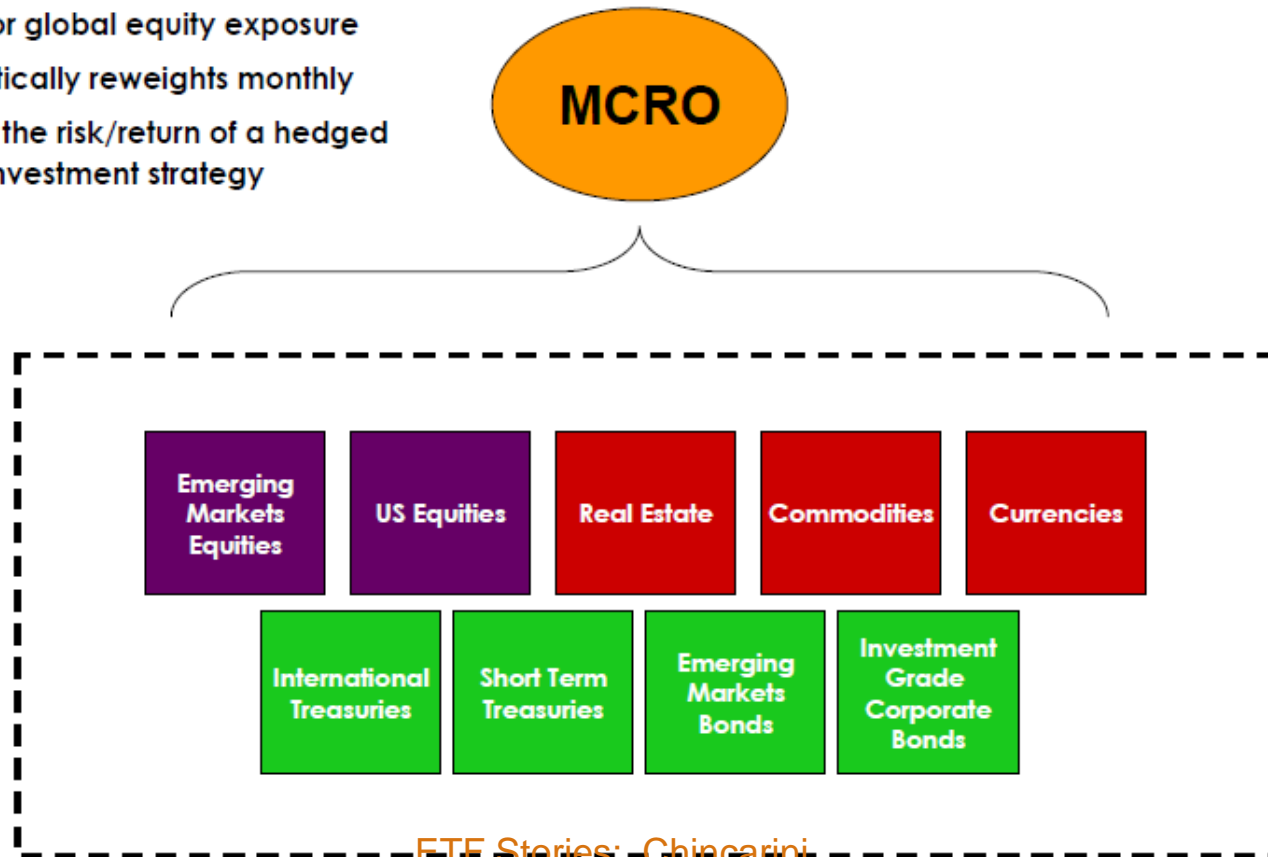
**STEP 3:**  
*Monthly Strategy Allocation*  
Hedge fund strategies from STEP 2 are combined into one portfolio

# 4. IndexIQ: Macro Product

## Index Construction: IQ Hedge Macro Index Systematic, Rules-Based Investment Process



- Multi-asset class global tactical portfolio
- Hedge for global equity exposure
- Systematically reweights monthly
- Provides the risk/return of a hedged Macro investment strategy



## 4. IndexIQ: Merger-Arb

- Risk-Arbitrage hedge fund.
- I suggested to do this product very early on.
- Things got moving in September 2007 when Adam got convinced.
- Sal, Robert, and I began fine tuning the portfolio process based upon internal documents, academic research, and feasibility.

# 4. IndexIQ: Merger-Arb

## IQ ARB Merger Arbitrage ETF

- Step 1:** Look at all announced deals of 360 days of global developed.
- Step 2:** Criteria acquirer must be seeking at least 50% of target.
- Step 3:** Look at M&A, LBO, Private Equity, but excluded Divestitures and Spinoffs. Only look at stock and cash deals. [Merger Stat database]
- Step 4:** Throw out certain deals according to tree. Basically any deal that has a higher stock price than offer price unless the offer price was higher than previous trading price.
- Step 5:** Construct the index - liquidity weight (Median dollar traded over past 7 days). Most people market-cap weight. Most use average volume, we use median volume. This may spike, but not representative of true liquidity. Targets weighted.
- Step 6:** Short market according to the sum of the value of the stock deals (e.g. 100 cash, 100 stock, then short 100 of the index). Typically 20%, short (10% SP, 10% EAFE). Reset every month, also might adjust intramonth.

# 4. IndexIQ: Merger-Arb

## **IQ ARB Merger Arbitrage ETF**

- Sell Discipline: (a) Remove if closes in month - cash (b) Deal breaks - next month pulled - stay in for month. (c) Time limits - 180 days passes, the deal is removed. Except scenario where still below offer price.

# 4. IndexIQ: Merger-Arb

## Index Construction: IQ Merger Arbitrage Index Systematic, Rules-Based Investment Process



IndexIQ analyzed almost 13,000 Merger & Acquisition transactions over 10 years.

This analysis yielded the “ideal” characteristics of M&A transactions in regard to profits to shareholders.

These characteristics were distilled into the Rules-Based process that drives our IQ Merger Arbitrage Index.

### Universe Definition

- All Announced Deals
- Global Developed Markets

### Deal Criteria

- Percent of Target Sought > 50%
- Mergers, Acquisition, LBOs, Private Equity
- Stock & Cash Deals

### Portfolio Construction

- Index Components Updated Monthly
- Liquidity Based Weighting
- Short Exposure Provides Market Hedge

### Buy Discipline

- Add Announced Deals that Meet Criteria
- Targets from Developed Markets Globally
- Deal Proceeds Held in Cash Equivalents Until Monthly Rebalance

### Sell Discipline

- Remove Closed Deals from Index Intra-month
- Remove Broken Deals from Index Monthly
- Remove Deal When Holding Time Limit Expires

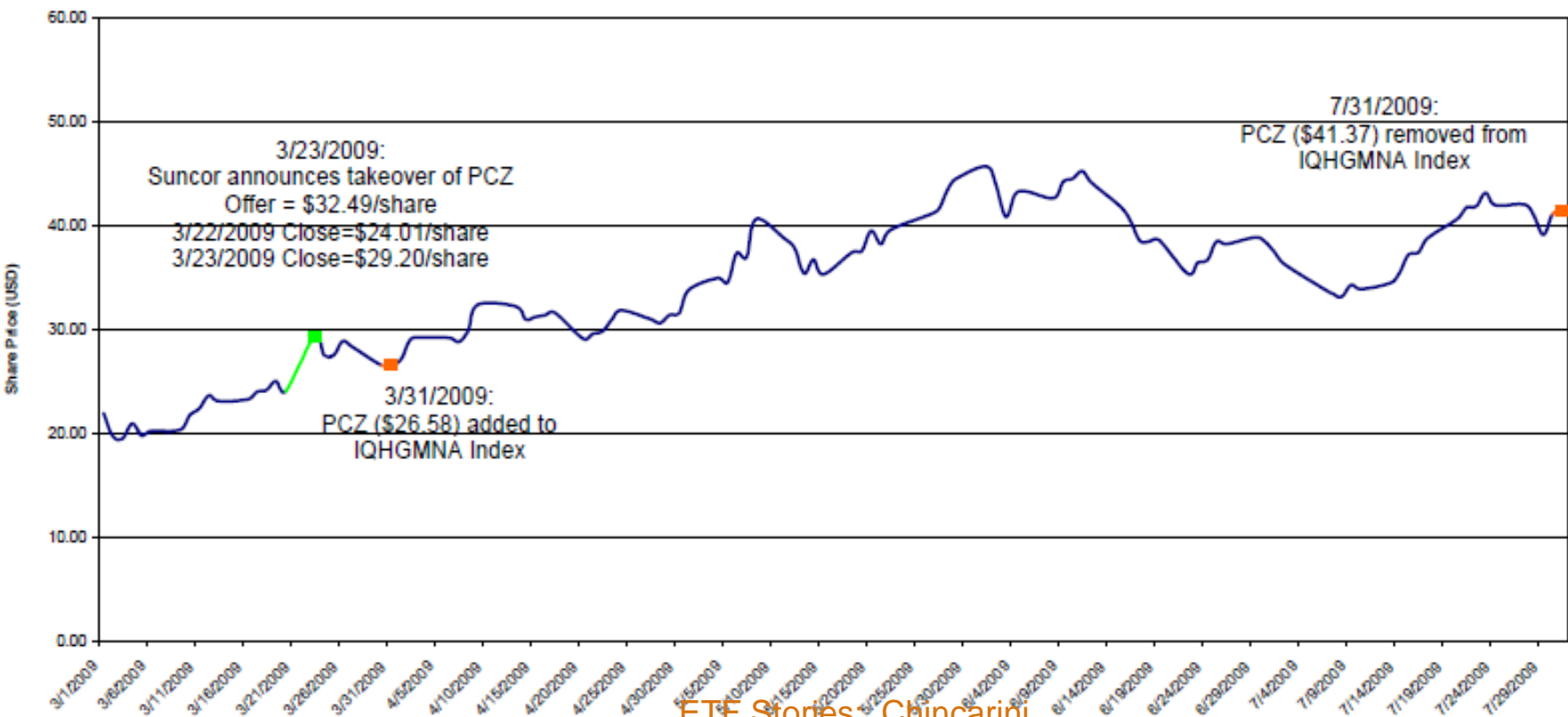


## 4. IndexIQ: Merger-Arb



### Example: Anatomy Of An Acquisition

Share Price of Petro-Canada (PCZ)



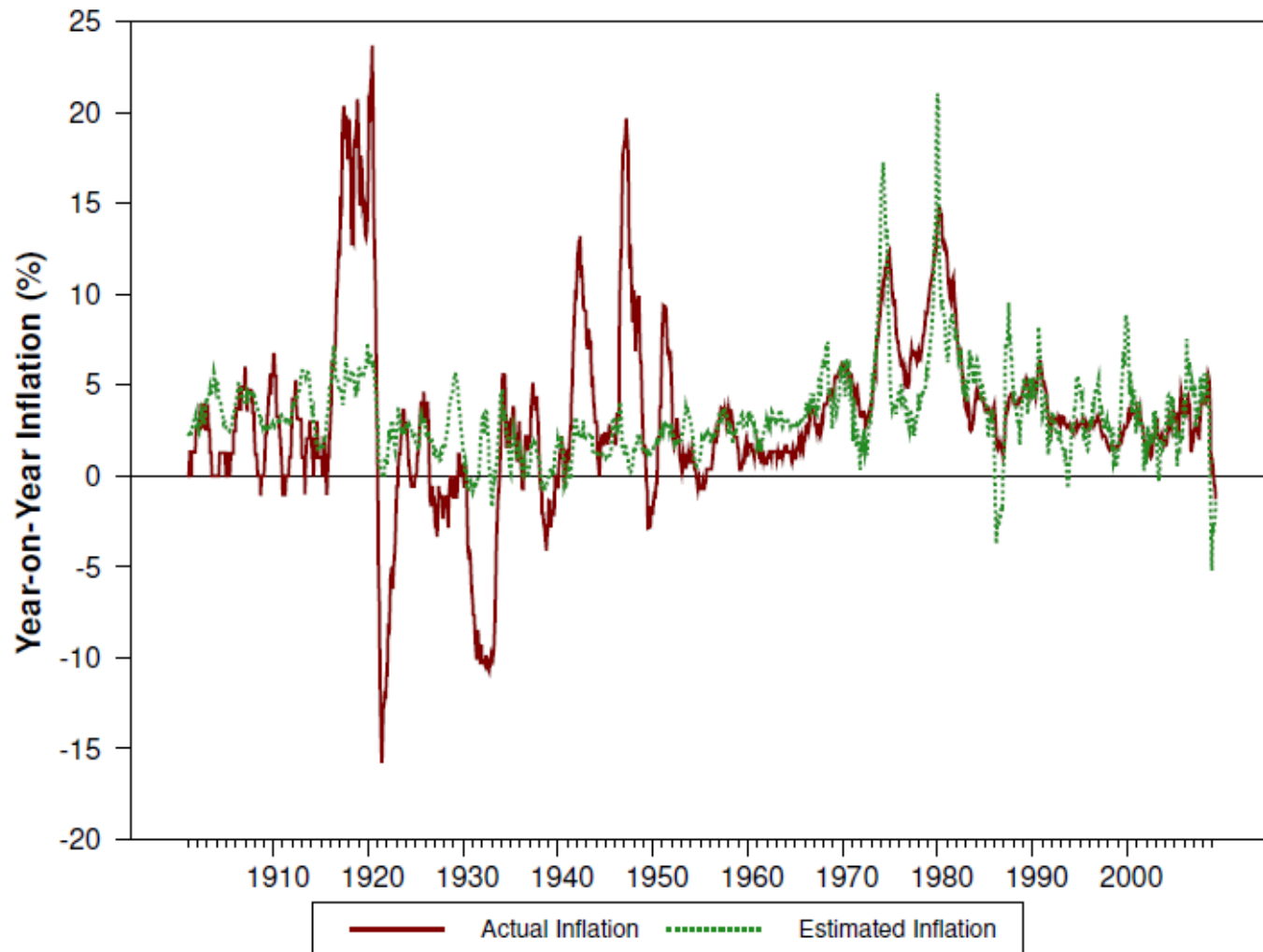
## 4. IndexIQ: Inflation-Hedged(CPI)

- With the financial crisis and the exploding money supply, we became worried about inflation.
- Sal and I sat down to begin thinking about how to create a product to track CPI or provide a “real return” above inflation.
- This turned out to be one of the most challenging and yet fruitful collaborations of theory and practice.

## 4. IndexIQ: Inflation-Hedged

- Brainstorm, then begin doing historical work (see articles).

## 4. IndexIQ: Inflation-Hedged



# 4. IndexIQ: Inflation-Hedged



## IQ Real Return ETF (CPI)

### Objective

CPI seeks investment results that correspond, before fees and expenses, to the price and yield performance of the IQ CPI Inflation Hedged Index, which seeks to provide a hedge against the U.S. inflation rate by providing a “real return” or a return above the rate of inflation, as represented by the Consumer Price Index.

CPI is a “real return” vehicle that serves as a valuable hedge to the changing rate of inflation. Using our proprietary rules-based process, CPI responds to changes in the year-over-year rate of inflation, by allocating to asset classes impacted by inflation (i.e., Fixed Income, Equities, Commodities, Currency and Real Estate).

### Benefits

- Multi-asset class solution seeks 2-3% return above rate of inflation
- Replacement for, or complement to, short term bonds and TIPS
- Seeks volatility similar to the Consumer Price Index
- Systematic, rules-based index process dynamically adjusts to changing market environment
- Dampens portfolio volatility, uncorrelated with market, and helps reduce duration risk
- Tax Efficient: No K-1

## 4. IndexIQ: Inflation-Hedged



## 4. IndexIQ: Inflation-Hedged

### IndexIQ CPI Inflation Hedged ETF

- Step 1:** Identify asset classes that might be important.
- Step 2:** Look at last 18 months of y-on-y inflation.
- Step 3:** Run regression of that on all the returns of assets against inflation plus 2.5%. Everything not short-term treasury capped at 10%.
- Step 4:** Regression sum to 100% and no shorts.

# 4. IndexIQ: Inflation-Hedged

| Country | Period               | Ex-Ante | Mean  | S.D.  | Max   |         | Min    |         | Number<br>$\leq \pi$ | MAE  | RMSE  | Nobs |
|---------|----------------------|---------|-------|-------|-------|---------|--------|---------|----------------------|------|-------|------|
|         |                      | Target  |       |       | Value | Date    | Value  | Date    |                      |      |       |      |
| Spain   | 1930                 | -0.50   | -0.50 | 8.96  | 19.02 | 1932:12 | -67.94 | 1940:03 | 43.34                | 5.24 | 8.97  | 953  |
| Spain   | 1970                 | 4.50    | 4.50  | 9.33  | 37.79 | 1993:08 | -21.46 | 1975:02 | 34.04                | 8.05 | 10.35 | 473  |
| Spain   | 1930                 | 2.20    | -0.84 | 6.28  | 5.42  | 1930:05 | -47.67 | 1939:07 | 42.78                | 0.66 | 1.81  | 893  |
| Spain   | 1970                 | 4.50    | 5.04  | 9.40  | 19.72 | 1977:07 | -8.07  | 1987:09 | 44.55                | 2.02 | 2.74  | 413  |
| Spain   | 100% Bill            | .       | 1.18  | 4.93  | 9.61  | 1993:03 | -15.74 | 1977:08 | 33.62                | 4.03 | 5.06  | 473  |
| Spain   | IS Equity/Bill/Bond† | 2.29    | 2.29  | 11.42 | 40.85 | 1985:01 | -24.14 | 1980:01 | 39.96                | 8.80 | 11.63 | 473  |
| Spain   | OS Equity/Bill/Bond† | 2.40    | 2.37  | 3.92  | 3.14  | 1996:09 | -8.13  | 1987:04 | 34.62                | 0.83 | 1.15  | 413  |



## 4. IndexIQ: Inflation-Hedged

| Real return target | Spain  |       |
|--------------------|--------|-------|
|                    | 1930-  | 1970- |
| Asset class        |        |       |
| Equity index       | —0.50  | 4.50  |
| Small-cap          |        |       |
| Value              | .      | .     |
| Growth             | .      | .     |
| S. CD              | .      | .     |
| S. CS              | .      | .     |
| S. energy          | .      | .     |
| S. finance         | .      | .     |
| S. Health          | .      | .     |
| S. Indust.         | .      | .     |
| S. IT              | .      | .     |
| S. material        | .      | .     |
| S. telcomm         | .      | .     |
| S. utility         | .      | .     |
| Bill govt.         | .      | .     |
| 10-yr govt.        | 100.00 | 14.62 |
| 30-yr govt.        | .      | .     |
| Corp. bond         | .      | 47.22 |
| HY bond            | .      | .     |
| IP bond            | .      | .     |
| Commodity          | .      | .     |
| Oil                | .      | 0.00  |
| Gold               | .      | 10.53 |
| Silver             | .      | 8.27  |
| Wheat              | .      | 0.00  |
| FX1                | .      | 0.00  |
| FX2                | .      | 0.00  |
| FX3                | .      | 0.00  |
| LIBOR              | .      | 0.00  |
| R. estate          | .      | .     |
| World eq.          | .      | 0.00  |
| World bond         | .      | 0.00  |
| Emerge eq.         | .      | 19.35 |
| Emerge bond        | .      | .     |
| Tracking error     | 9.0    | 9.3   |
| Return/risk        | —0.06  | 0.48  |

## 4. IndexIQ: Inflation-Hedged

- Treasury Inflation Protected Securities
  - Approximate duration 4
- No difference in results for in-sample (Feb98-May09)
- Out of sample results similar
- Little benefit from including TIPS



# The Role of TIPS

| Portfolio  | Average yearly real return | Volatility | Worst YoY real return | % of periods with returns less than inflation |
|------------|----------------------------|------------|-----------------------|---|
| OS TIPS    | 2.46                       | 4.93       | -5.60                 | 36.84   |
| OS No TIPS | 2.60                       | 4.78       | -4.85                 | 38.16   |

*Note:* Period covered 2003:02 – 2009:05

## 4. IndexIQ: Commodity Related.

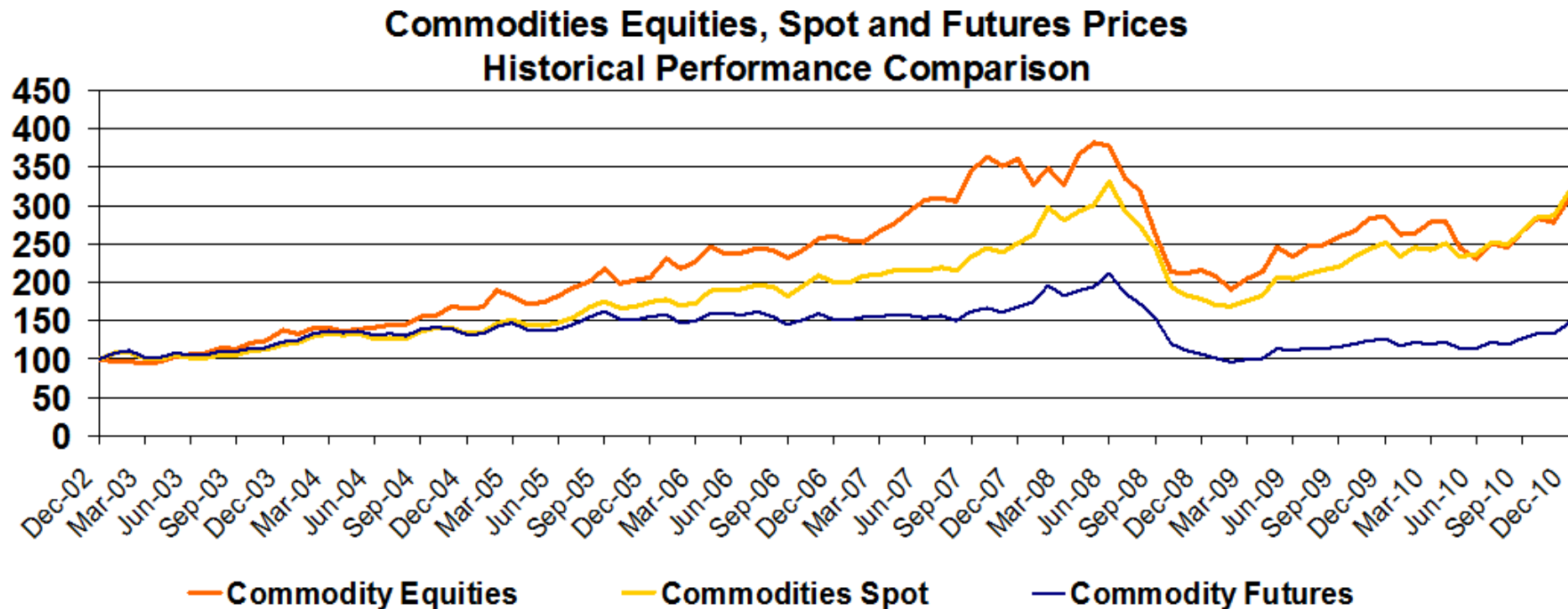
- It's 2009, there are already commodity ETFs. What can we do?
- Problems with existing ETFs.
  1. Futures-based ETFs:  
Position limits and costs of roll-over an issue.
  2. Equity-based ETFs:  
Market-cap weighted and heavily exposed to energy and oil.

## 4. IndexIQ: Commodity Related.

### Benefits

- Broad Exposure: global commodity exposure across eight equity sectors including Timber, Water and Coal
  - Valuation weighting of the sectors makes it responsive to market changes and avoids default overweight in energy
  - Equity hedge dampens portfolio volatility, reduces correlation to equity markets
  - Each sector comprises 90-95% of overall market capitalization
  - Minimum/Maximum sector allocations drive diversification
  - Systematic, rules-based index process dynamically adjusts to changing market environment
  - Tax Efficient: No K-1
- ETF Stories: Chincarini

## 4. IndexIQ: Commodity Related.



Source: Bloomberg

Commodity Equities represents S&P Global Natural Resources Index

Commodities Spot represents DJUBS Spot Index

Commodity Futures represents DJUBS Excess Return Index

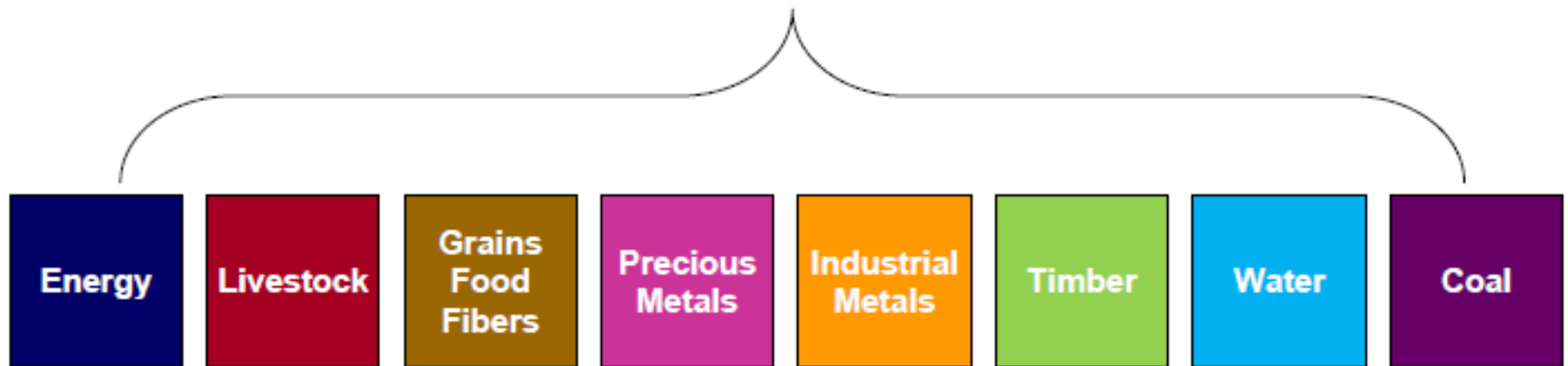


## 4. IndexIQ: Commodity Related.

Index Construction: IQ Global Resources Index  
Systematic, Rules-Based Investment Process



Provides access to eight global resource sectors -valuation weighted monthly



# 4. IndexIQ: Commodity Related.

| Energy                       | Livestock                          | Grains Food Fiber            | Industrial Metals                    |
|------------------------------|------------------------------------|------------------------------|--------------------------------------|
| Exxon Mobil Corp.            | Hormel Foods Corp.                 | Kraft Foods Inc.             | BHP Billiton Ltd.                    |
| Chevron Corp.                | Tyson Foods Inc. (CI A)            | Wilmar International Ltd.    | Rio Tinto PLC                        |
| BP PLC                       | Smithfield Foods Inc.              | General Mills Inc.           | Xstrata PLC                          |
| Total S.A.                   | Nippon Meat Packers Inc.           | Kellogg Co.                  | Anglo American PLC                   |
| Schlumberger Ltd.            | Nutreco N.V.                       | Archer Daniels Midland Co.   | Freeport-McMoRan Copper & Gold Inc.  |
| Royal Dutch Shell PLC (CL A) | Seaboard Corp.                     | Associated British Foods PLC | Teck Resources Ltd.                  |
| ConocoPhillips               | Itoham Foods Inc.                  | Sara Lee Corp.               | Antofagasta PLC                      |
| CNOOC Ltd.                   | Cranswick PLC                      | Bunge Ltd.                   | Eurasian Natural Resources Corp. PLC |
| GDF Suez S.A.                | Maruha Nichiro Holdings Inc.       | ConAgra Foods Inc.           | Kazakhmys PLC                        |
| ENI S.p.A.                   | HKScan Oyj                         | J.M. Smucker Co.             | Vedanta Resources PLC                |
| Precious Metals              | Timber                             | Water                        | Coal                                 |
| Newmont Mining Corp.         | UPM-Kymmene Oyj                    | Veolia Environnement S.A.    | Sandvik AB                           |
| Barrick Gold Corp.           | Sino-Forest Corp.                  | Suez Environnement S.A.      | Peabody Energy Corp.                 |
| Pan American Silver Corp.    | MeadWestvaco Corp.                 | ITT Corp.                    | New World Resources N.V.             |
| Goldcorp Inc.                | Lee & Man Paper Manufacturing Ltd. | Flowserve Corp.              | Consol Energy Inc.                   |
| Newcrest Mining Ltd.         | Nippon Paper Group Inc.            | Weir Group PLC               | Coal & Allied Industries Ltd         |
| New Gold Inc.                | Domtar Corp.                       | United Utilities Group PLC   | Arch Coal Inc.                       |
| IAMGOLD Corp.                | West Fraser Timber Co.             | Sulzer AG                    | Macarthur Coal Ltd.                  |
| Royal Gold Inc.              | Holmen AB                          | Severn Trent PLC             | Massey Energy Co.                    |
| Kinross Gold Corp.           | Canfor Corp.                       | American Water Works Co.     | Joy Global Inc.                      |
| Silver Wheaton Corp.         | M-Real Oyj                         | Pentair Inc.                 | Alpha Natural Resources Inc.         |



# 4. IndexIQ: Commodity Related.

| 2001                      | 2002                      | 2003                       | 2004                       | 2005                       | 2006                       | 2007                       | 2008                        | 2009                        | 2010                       |
|---------------------------|---------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|-----------------------------|-----------------------------|----------------------------|
| Precious Metals<br>17.99  | Precious Metals<br>15.16  | Coal<br>64.28              | Water<br>46.48             | Coal<br>56.49              | Water<br>50.21             | Coal<br>54.49              | Precious Metals<br>-19.34   | Industrial Metals<br>124.11 | Coal<br>49.56              |
| Livestock<br>5.22         | Grains<br>4.33            | Industrial Metals<br>59.87 | Coal<br>43.05              | Industrial Metals<br>43.32 | Industrial Metals<br>38.78 | Industrial Metals<br>53.51 | Grains<br>-25.72            | Coal<br>121.31              | Livestock<br>43.91         |
| Water<br>4.37             | Industrial Metals<br>1.80 | Precious Metals<br>53.93   | Livestock<br>34.58         | Energy<br>24.05            | Energy<br>22.93            | Precious Metals<br>31.35   | Livestock<br>-27.50         | Precious Metals<br>32.34    | Industrial Metals<br>36.55 |
| Industrial Metals<br>1.96 | Water<br>-3.04            | Timber<br>34.41            | Energy<br>26.79            | Precious Metals<br>23.78   | Grains<br>22.62            | Energy<br>30.23            | Energy<br>-33.51            | Grains<br>29.21             | Precious Metals<br>36.15   |
| Grains<br>-.53            | Timber<br>-5.92           | Energy<br>28.70            | Industrial Metals<br>18.39 | Water<br>13.56             | Timber<br>13.59            | Water<br>19.03             | Timber<br>-42.20            | Timber<br>24.74             | Grains<br>34.74            |
| Timber<br>-3.19           | Coal<br>-7.11             | Water<br>28.06             | Grains<br>18.22            | Timber<br>-2.00            | Coal<br>13.57              | Grains<br>11.88            | Water<br>-51.59             | Water<br>20.65              | Water<br>34.03             |
| Coal<br>-3.20             | Livestock<br>-8.68        | Livestock<br>16.95         | Timber<br>13.86            | Livestock<br>-2.90         | Precious Metals<br>11.95   | Livestock<br>-.60          | Coal<br>-62.49              | Livestock<br>13.03          | Timber<br>25.44            |
| Energy<br>-8.95           | Energy<br>-9.94           | Grains<br>5.79             | Precious Metals<br>1.65    | Grains<br>-4.37            | Livestock<br>10.07         | Timber<br>-2.94            | Industrial Metals<br>-62.79 | Energy<br>7.89              | Energy<br>1.78             |

# 4. IndexIQ: Commodity Related

## **IQ ARB Global Resources ETF**

**Step 1:** Each sector look at 90-95% companies by market-cap in sector. Market-cap weight within sector. This selection done once per year.

**Step 2:** Start with 1/8 in each sector. We go up or down 10% by weighted average P/B, normalize by own history ( $z = \text{value} - \text{average}/\text{sd}$ ), P/S, and calculate 12-month price momentum. Run algorithm that overweights sectors that have improving fundamentals, and underweight declining fundamental. Want P/B to get smaller, but not because of price.

**Step 3:** Rank all sectors on three variables, break into top half and bottom half (4 and 4). We look were they were last month and this month. Those in the top half improving, overweight those, those going from to bottom half declining underweight those. Those that remain in same place, keep same weights.

Equally-weight the rankings for the three factors. Run optimization to minimize the amount of movement. Sectors outside the band must move to its constraint (2.5 and 22.5).

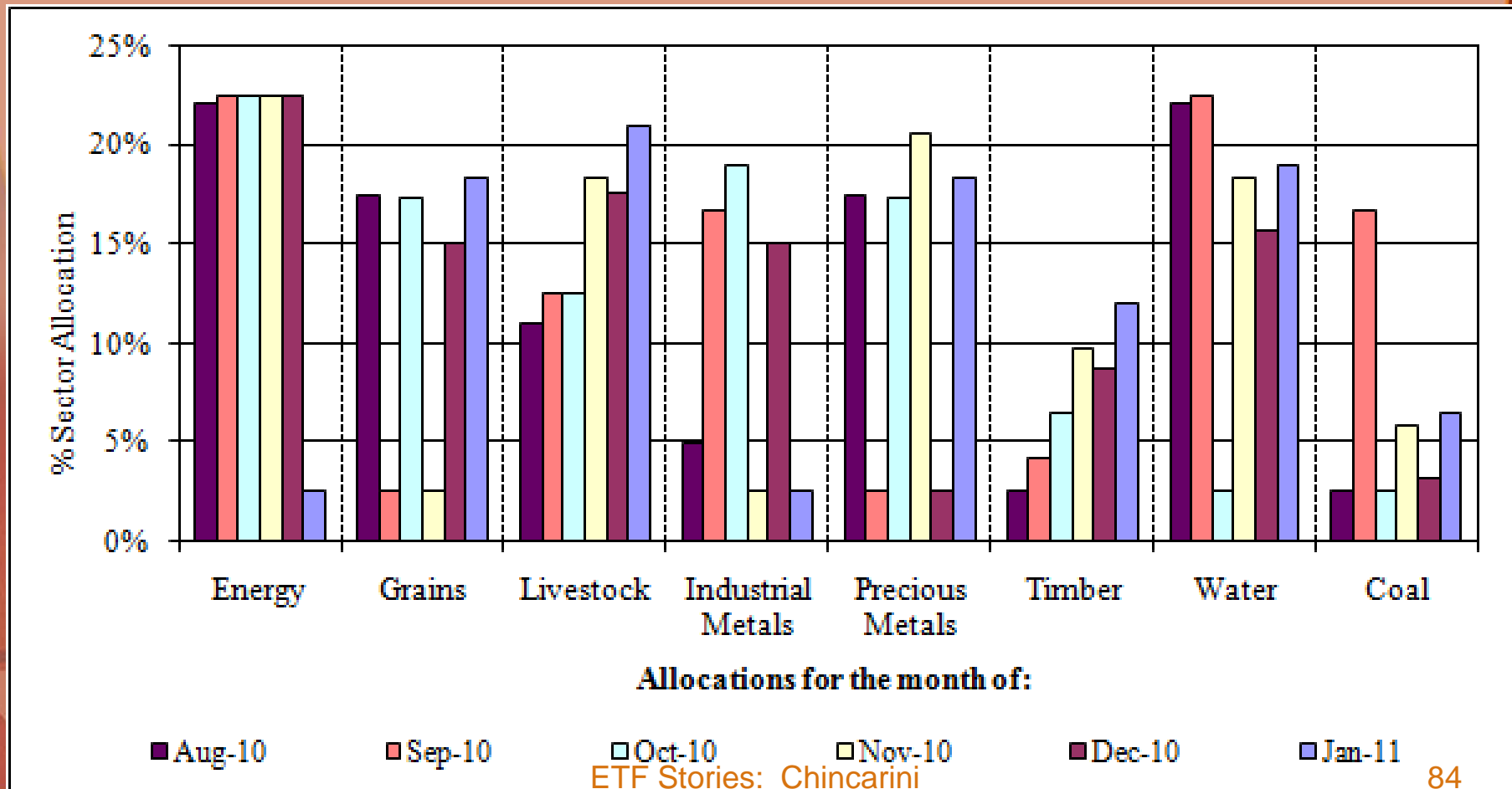
## 4. IndexIQ: Commodity Related

### **IQ ARB Global Resources ETF**

**Step 4:** A movement up or down, gives up or down 10%. Could go up from 2.5 to 22.5. Could go down to minimum weight of 2.5. Maximum is 22.5

## 4. IndexIQ: Commodity Related.

### Illustration of Sector Rotation over time in IQ Global Resources Index



## 4. IndexIQ: Small-Cap Internat.

- Many ETFs offering large-cap exposure to various international countries.
- But small-caps offer better returns and different characteristics.
- For example, South Korea ETFs are 25% Samsung!
- Small-cap hole in market as well as another focused commodity play.

# 4. IndexIQ: Small-Cap Internat.



## Single-Country Small Cap ETFs

Access to some of the most dynamic companies in growing economies

Commodities &  
Natural Resources

**IQ Australia Small Cap ETF**  
Ticker: KROO

Second Largest Producer of Coal  
Fourth Largest Producer of Gold  
China's Fastest Growing Trading Partner

**IQ Canada Small Cap ETF**  
Ticker: CNDA

Second Largest Proven Oil Reserves Globally  
Third Largest Producer of Natural Gas  
Largest Supplier of Energy to United States

High Tech/Financial - Asian Tigers

**IQ South Korea Small Cap ETF**  
Ticker: SKOR

Most Wired Country & Ranked Most Innovative Economy<sup>1</sup>  
Largest Producer of LCD, Plasma Monitors & Ships  
China's Fourth Largest Trading Partner

**IQ Taiwan Small Cap ETF**  
Ticker: TWON

Second Most Competitive IT Industry Globally<sup>2</sup>  
Produces 75% of PCs and 25% of Semiconductors Globally  
China's Fifth Largest Trading Partner

**IQ Hong Kong Small Cap ETF**  
Ticker: HKK (LAUNCH PENDING)

Leading Financial and Logistics Hub  
Robust Real Estate and Manufacturing Sectors  
China's Third Largest Trading Partner

**IQ Singapore Small Cap ETF**  
Ticker: SAX (LAUNCH PENDING)

Leading Logistics, Banking and BioMedical Research Hub  
Chemicals and Electronics Comprise Bulk of Exports  
China's Tenth Largest Trading Partner

ETF Stories: Chincarini

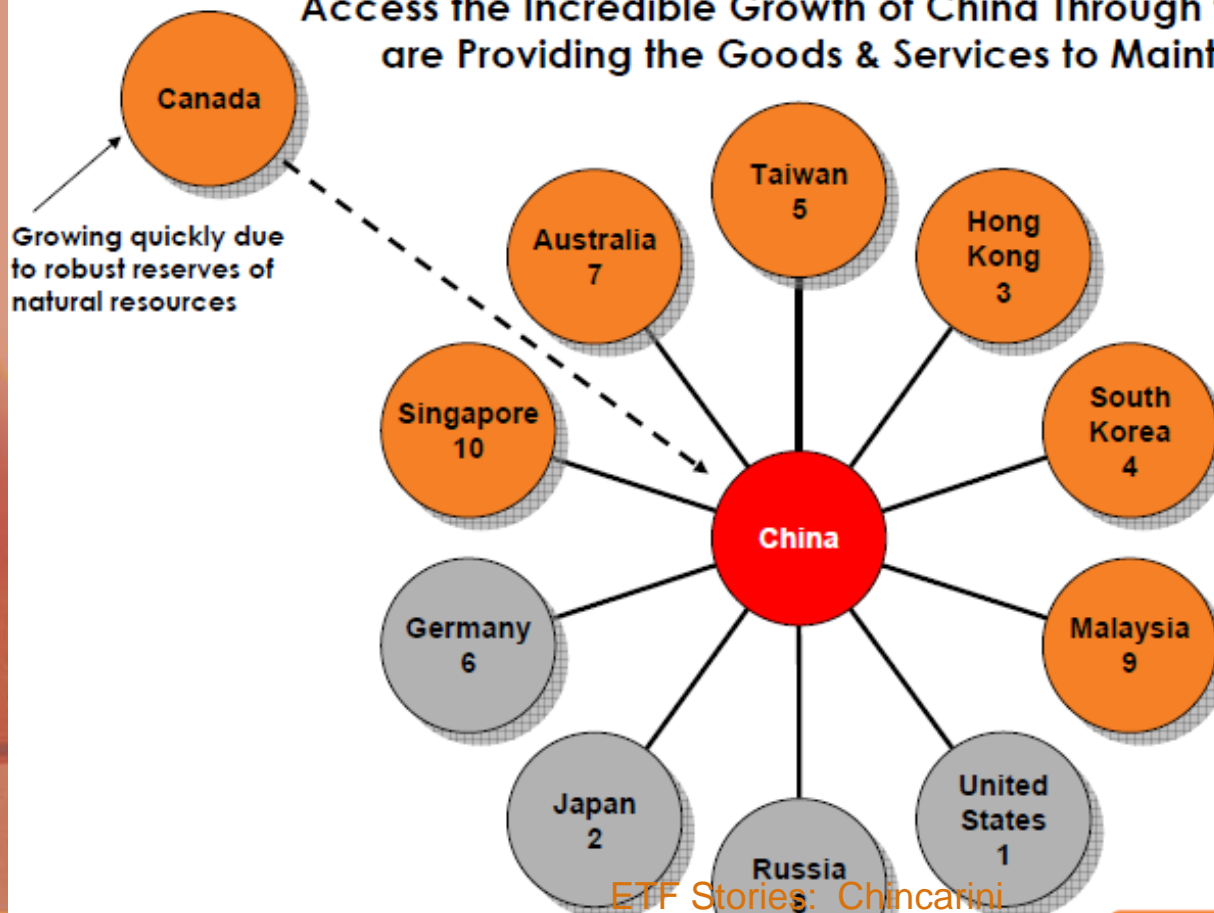
## 4. IndexIQ: Small-Cap Internat.

### China's 10 Largest Trading Partners

IndexIQ Small Cap Country ETFs Can Benefit from the Growth of China's Economy



Access the Incredible Growth of China Through the Companies that are Providing the Goods & Services to Maintain that Growth



## 4. IndexIQ: Small-Cap Internat.

### IndexIQ Small-Cap International ETFs

**Step 1:** Define the universe by domicile and exchange.

**Step 2:** Select securities in the bottom 15% of the market cap that meet certain minimum liquidity screens (share and \$ value).

**Step 3:** Weight securities by free float adjusted market cap.

**Step 4:** Reconstitute and rebalance quarterly.



# 4. IndexIQ: Alternative ETF Suite

| ETFs:                                      | Ticker           | 1 Month | 3 Month | YTD    | 1 Year | Since Fund Inception* | Since Index Inception* | 1 Year | Since Inception | Since Index Inception* | Inception Date |
|--|------------------|---------|---------|--------|--------|-----------------------|------------------------|--------|-----------------|------------------------|----------------|
| <b>IQ Hedge Multi-Strategy Tracker ETF</b> | <b>QAI</b>       |         |         |        |        |                       |                        |        |                 |                        | 3/25/2009      |
|  | Share Price      | 0.15%   | 0.11%   | -0.88% | 3.34%  | 5.67%                 | -                      | 2.56%  | 6.74%           | -                      |                |
|  | NAV              | 0.00%   | 0.31%   | -0.88% | 2.97%  | 5.60%                 | -                      | 2.42%  | 6.66%           | -                      |                |
|  | Index- IQHGMST   | 0.03%   | 0.46%   | -0.80% | 3.44%  | 7.40%                 | 2.69%                  | 2.89%  | 7.40%           | 2.64%                  | 9/15/2008      |
| <b>IQ Hedge Macro Tracker ETF</b>          | <b>MCRO</b>      |         |         |        |        |                       |                        |        |                 |                        | 6/9/2009       |
|  | Share Price      | -0.04%  | 0.13%   | -1.71% | 4.32%  | 5.61%                 |                        | 4.88%  | 7.38%           |                        |                |
|  | NAV              | -0.15%  | 0.43%   | -1.64% | 4.40%  | 5.57%                 |                        | 4.10%  | 7.29%           |                        |                |
|  | Index- IQHGMAT   | -0.10%  | 0.57%   | -1.52% | 4.77%  | 7.78%                 | 6.27%                  | 4.45%  | 7.78%           | 6.90%                  | 9/15/2008      |
| <b>IQ Real Return ETF</b>                  | <b>CPI</b>       |         |         |        |        |                       |                        |        |                 |                        | 10/27/2009     |
|  | Share Price      | 0.51%   | 0.06%   | -0.20% | 1.61%  | 1.29%                 | -                      | 1.57%  | 1.64%           | -                      |                |
|  | NAV              | 0.08%   | 0.13%   | -0.27% | 1.17%  | 1.17%                 | -                      | 1.81%  | 1.60%           | -                      |                |
|  | Index - IQHGCPIT | 0.17%   | 0.38%   | -0.14% | 1.82%  | 2.17%                 | 0.37%                  | 2.39%  | 2.17%           | 0.47%                  | 12/31/2008     |
| <b>IQ Global Resources ETF</b>             | <b>GRES</b>      |         |         |        |        |                       |                        |        |                 |                        | 10/27/2009     |
|  | Share Price      | 3.83%   | 9.63%   | 2.14%  | 29.48% | 22.64%                | -                      | 24.08% | 23.87%          | -                      |                |
|  | NAV              | 3.70%   | 9.48%   | 2.32%  | 28.45% | 21.84%                | -                      | 23.93% | 22.77%          | -                      |                |
|  | Index - IQGREST  | 3.64%   | 9.38%   | 2.16%  | 29.77% | 24.58%                | 4.90%                  | 25.26% | 24.58%          | 4.45%                  | 10/31/2007     |
| <b>IQ Merger Arbitrage ETF</b>             | <b>MNA</b>       |         |         |        |        |                       |                        |        |                 |                        | 11/17/2009     |
|  | Share Price      | -0.52%  | -0.46%  | 1.38%  | -2.26% | 1.17%                 | -                      | -1.81% | 0.11%           | -                      |                |
|  | NAV              | 0.32%   | 0.40%   | 1.17%  | -1.04% | 1.60%                 | -                      | -0.36% | 0.79%           | -                      |                |
|  | Index - IQMNAT   | 0.42%   | 0.73%   | 1.39%  | 0.33%  | 2.08%                 | -0.02%                 | 0.98%  | 2.08%           | -0.46%                 | 10/31/2007     |
| <b>IQ Canada Small Cap ETF</b>             | <b>CNDA</b>      |         |         |        |        |                       |                        |        |                 |                        | 3/23/2010      |
|  | Share Price      | 7.07%   | 15.99%  | 4.59%  | -      | 44.29%                | -                      | -      | 37.97%          | -                      |                |
|  | NAV              | 6.64%   | 15.25%  | 4.31%  | -      | 43.38%                | -                      | -      | 37.45%          | -                      |                |
|  | Index - IQSMCANT | 6.72%   | 15.45%  | 4.47%  | -      | 38.19%                | 61.64%                 | -      | 38.19%          | 57.43%                 | 2/8/2010       |
| <b>IQ Australia Small Cap ETF</b>          | <b>KROO</b>      |         |         |        |        |                       |                        |        |                 |                        | 3/23/2010      |
|  | Share Price      | 4.88%   | 13.20%  | 0.20%  | -      | 21.44%                | -                      | -      | 21.20%          | -                      |                |
|  | NAV              | 4.23%   | 12.16%  | -0.40% | -      | 20.19%                | -                      | -      | 20.68%          | -                      |                |
|  | Index - IQSMAUST | 4.30%   | 13.14%  | -0.31% | -      | 21.86%                | 37.49%                 | -      | 21.86%          | 40.76%                 | 2/8/2010       |
| <b>IQ South Korea Small Cap ETF</b>        | <b>SKOR</b>      |         |         |        |        |                       |                        |        |                 |                        | 4/14/2010      |
|  | Share Price      | -6.29%  | 8.93%   | 2.02%  | -      | 16.99%                | -                      | -      | 14.67%          | -                      |                |
|  | NAV              | -6.59%  | 6.38%   | 2.28%  | -      | 15.28%                | -                      | -      | 12.72%          | -                      |                |
|  | Index - IQSMKORT | -7.28%  | 5.45%   | 1.16%  | -      | 13.46%                | 30.63%                 | -      | 13.46%          | 27.59%                 | 2/8/2010       |
| <b>IQ Taiwan Small Cap ETF</b>             | <b>TWON</b>      |         |         |        |        |                       |                        |        |                 |                        | 5/19/2010      |
|  | Share Price      | -4.67%  | 4.33%   | -5.17% | -      | 18.02%                | -                      | -      | 24.45%          | -                      |                |
|  | NAV              | -7.18%  | 2.69%   | -5.22% | -      | 17.47%                | -                      | -      | 23.95%          | -                      |                |
|  | Index - IQSMTAIT | -7.18%  | 3.01%   | -4.92% | -      | 25.71%                | 28.06%                 | -      | 25.71%          | 35.84%                 | 2/8/2010       |

## 4. IndexIQ: Alternative ETF Suite

| ETF Name                            | Launch Date | AUM Growth (Monthly) | AUM (01/31/2010) |
|-------------------------------------|-------------|----------------------|------------------|
| IQ Hedge Multi-Strategy Tracker ETF | 3/31/2009   | 16.07%               | \$134,408,082.26 |
| IQ Hedge Macro Tracker ETF          | 6/30/2009   | 7.98%                | \$ 27,090,190.79 |
| IQ ARB Global Resources ETF         | 11/30/2009  | 18.11%               | \$ 65,236,969.27 |
| IQ ARB Merger Arbitrage ETF         | 11/30/2009  | 13.69%               | \$ 22,590,700.14 |
| IQ CPI Inflation Hedged ETF         | 10/30/2009  | 6.39%                | \$ 12,685,171.92 |
| IQ Canada Small Cap ETF             | 3/31/2010   | 27.62%               | \$ 57,991,971.50 |
| IQ Australia Small Cap ETF          | 3/31/2010   | 18.19%               | \$ 26,930,899.78 |
| IQ South Korea Small Cap ETF        | 4/30/2010   | 15.38%               | \$ 9,242,487.82  |
| IQ Taiwan Small Cap ETF             | 5/31/2010   | 3.32%                | \$ 3,108,408.77  |

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