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Tuning Into Alternatives

Lee Kranefuss

No More Secrets

Lisa Dallmer

Changes at the Exchanges

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Accessing Commodities

David Krein

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Tuning In To Alternatives

Three alternative asset classes evolve to meet investor demand

by Lee Kranefuss



Alternative asset classes have become an important part of most institutional portfolios. Even union pension plans—the designated drivers of institutional investors—have begun incorporating alternatives into their strategic asset allocation. Individual investors can reap the same benefits from these asset classes, but until recently, they have had more difficulty in gaining exposure to certain markets.

Rapid expansion of the ETF marketplace has democratized many alternative asset classes, giving individual investors efficient and reasonably priced access to these markets. This article looks at the long-term, strategic implications of an allocation to three alternatives: real estate investment trusts (REITs), commodities and emerging markets.

Constructing A REIT Portfolio

Most institutional investors have come to recognize the benefits of an investment in real estate, including:

1. Diversification of overall portfolio risk that results from the low correlation of real estate with other asset classes.
2. Returns above the risk-free rate. (Ten-year annualized returns are higher than 15 percent.)
3. Hedge against inflation through rent increases.
4. Strong cash flows in the form of rental income.

Prior to the creation of REITs in 1960, direct investment in real estate was the only option for this asset class. But the large capital requirements, specialized skills and significant time commitments made exposure to real estate beyond the reach of most investors—institutional and individual alike. Today, ETFs that hold shares of REITs offer all investors the benefits of low correlation with other assets, diversification within the asset class (geographically and by building type), and low management fees.

The Diversification Advantage

Results of a study conducted by Ibbotson Associates suggest that REITs can increase overall returns and/or reduce risk when added to a diversified portfolio. For the past ten years, REITs have outperformed U.S. large-cap equities, and

they've done so with lower risk. In addition to this favorable risk/reward characteristic, REITs exhibit low correlation to stocks, bonds and cash, making them an impressive diversification tool in a multi-asset-class portfolio (Figure 1).

While the performance of REITs presents a strong case, some individual investors still believe they have sufficient exposure to real estate through home ownership. Goodman, however, finds the correlation between owner-occupied housing and REITs is low (Figure 2). This finding holds for all levels of home ownership in a personal portfolio.

REITs also extend diversification within the asset class by providing exposure across more than a dozen industries ranging from healthcare facilities to shopping centers. For example, office and industrial properties exhibit very different cyclical behavior compared to housing prices. The low correlation between these two sectors is not surprising given the different fundamental forces driving performance.

Waggle and Johnson build upon this premise by considering mortgage loans and the implicit dividend of rent avoidance in owning a home. They found that REIT returns are virtually uncorrelated with housing prices and that there are diversification benefits to holding REITs even when explicitly allowing for home ownership and mortgage liability in the asset allocation decision.

Cashing In On Hot Commodities

Like real estate investing, commodities represent exposure to real assets and can provide a corresponding hedge against

Figure 1
PERFORMANCE AND CORRELATION OF REITs VERSUS STOCKS, BONDS AND CASH

Index	Return & Risk 7/96 - 7/06		Correlations			
	Annual Return %	Annual Risk %	S&P 500	MSCI US REIT Index	Lehman US Aggregate Index	US Treasury Bills (1-3 month)
S&P 500	8.88%	15.57%	1.000			
MSCI US REIT Index	15.47%	14.40%	0.280	1.000		
Lehman US Aggregate Index	6.33%	3.64%	(0.070)	0.028	1.000	
US Treasury Bills (1-3 month)	3.73%	0.53%	0.040	(0.070)	0.134	1.000

Source: Standard & Poor's, MSCI, Lehman Brothers, and BGI, 7/96-7/06.

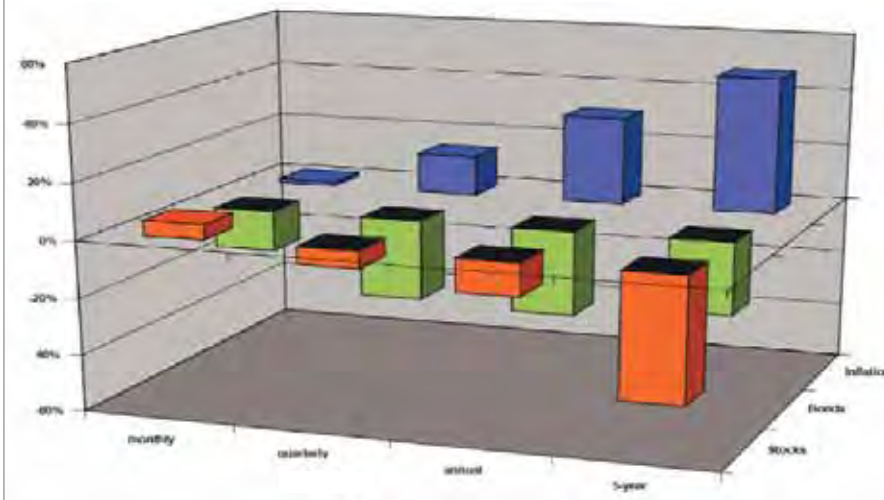
Figure 2
CORRELATION OF OWNER-OCCUPIED HOUSING WITH REITs AND MAJOR ASSET CLASSES

	Housing	REITs	Large Cap Equity	Small Cap Equity	Bonds
Housing	1.00				
REITs	-0.06	1.00			
Large Cap Equity	-0.26	0.24	1.00		
Small Cap Equity	-0.05	0.36	0.67	1.00	
Bonds	0.13	0.17	-0.10	-0.22	1.00

Source: Jack Goodman, "Homeownership and Investment in Real Estate Stocks" Journal of Real Estate Portfolio Management 9 (May-August 2003).

Figure 3

CORRELATION WITH COMMODITY FUTURES
Overlapping return data 1959/7-2004/3



Source: K. Geert Rouwenhorst and Gary B. Gorton, "Facts and Fantasies about Commodity Futures," February 28, 2005, Yale ICF Working Paper No. 04-20.

Figure 4

COMMODITIES COMPARED WITH US STOCKS, BONDS, AND INTERNATIONAL STOCKS

	GSCI-TR	S&P 500	Lehman Aggregate	MSCI EAFE
Mean Monthly Return %	1.12	-0.97	-0.70	-0.96
Inception	12/69	12/69	12/75	12/69
1-year Annualized Return % to 6/06	13.81	8.63	-0.81	26.60
3-year Annualized Return % to 6/06	20.16	11.21	2.05	23.96
5-year Annualized Return % to 6/06	14.57	2.49	6.97	10.03
10-year Annualized Return % to 6/06	8.09	8.32	6.22	6.37
12/90 to 6/06 Annualized Return %	7.01	11.32	6.97	7.43
12/75 to 6/06 Annualized Return %	-9.87	12.57	8.57	11.64
12/69 to 6/06 Annualized Return %	12.33	10.98		10.61
Annualized Return Standard Deviation % Since Index inception	18.64	15.29	5.91	15.88

Correlations
 GSCI-TR, DJ-ANG TR: 0.88 since 12/90
 S&P 500, GSCI-TR: -0.04 since 12/69
 Lehman Aggregate, GSCI-TR: -0.03 since 12/75
 EAFE, GSCI-TR: -0.01 since 12/69

Source: Goldman Sachs and BGI, as of 06/06.

Volatility for natural gas, for example, typically hovers around 65 percent, whereas the volatility for gold has historically been around 13 percent.

While it may be possible to circumvent these issues and gain commodity exposure through stocks of companies that supply natural resources, these commodity-intensive equities add little diversification, as most natural resource firms hedge their commodity exposure. Instead, investors end up with the company-specific exposure to management, governance and earnings, and increase their overall allocation to equities.

Investors now have options for gaining pure commodity exposure without the associated risks of holding physicals, futures or natural resource stocks. Commodity indexes—such as the Goldman Sachs Commodity Index and the Dow Jones AIG Commodity Index—benchmark the returns of various underlying commodity futures contracts. Institutional funds benchmarked to these indexes have considerable liquidity and transparency, which has (in part) led to their growth in popularity over the last five years.

For individual investors, various exchange-traded products offer commodity index exposure with comparable benefits. Given the efficient new ways to invest in this once-difficult-to-access asset class, it's not surprising that approximately \$90 billion dollars are allocated to various commodity index products around the world (as of September, 2006). And although retail holdings are growing, the lion's share of this investment is from institutional investors taking a long-term, strategic view of the asset class.

Regardless of the investment vehicle, commodities offer four benefits to all investors: portfolio diversification, potential for strong risk-adjusted returns, demonstrated portfolio risk reduction benefits, and non-traditional exposure to global growth.

1. Portfolio Diversification

From a diversification standpoint, commodities are a compelling alternative. They

tend to have low-to-negative correlation with more traditional asset classes like stocks and bonds, as well as positive correlation to inflation. In fact, a 2005 Yale ICF working paper compared correlation data between commodity futures and stocks (represented by the S&P 500 Index), bonds (the Ibbotson Corporate Bond Index) and inflation (the Consumer Price Index), and found that the diversification benefits actually increase with the length of the holding period, making com-

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modities an excellent strategic choice.

2. Strong Risk-Adjusted Returns Potential

Impressive returns are an important factor, but it's essential to look at the risk assumed to achieve those returns and how that risk is compounded at the portfolio level. The historical standard deviation of the Goldman Sachs

Commodity Index hovers around 18 percent, while the S&P 500 Index is only slightly lower at roughly 15 percent (Figure 4). The GSCI, however, outperformed the S&P 500 during the same time period.

3. Demonstrated Risk-Reduction Benefits

When a commodity index investment is added to a portfolio, there is a demonstrated reduction in risk for a given level of return (Figure 5). Perhaps most interesting is that this effect appears to be strongest at the more conservative end of the spectrum, where fixed income allocations are at or close to 100 percent. Considering the inflation-fighting aspects of commodities, this result makes intuitive sense, given what we know about bond market fundamentals.

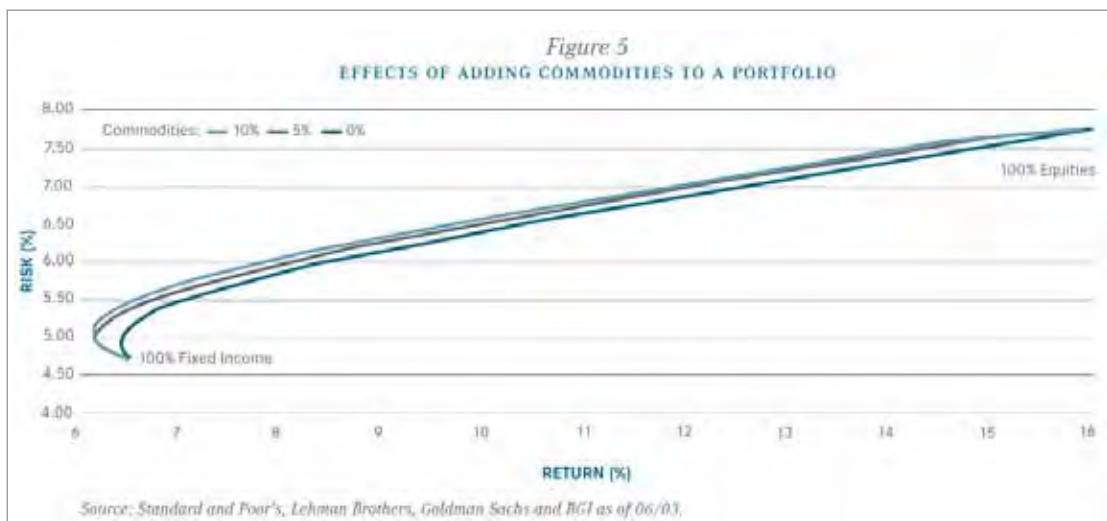
4. Non-Traditional Exposure To Global Growth

Emerging economies such as China and India continue to change the supply and demand balance for substantial goods ranging from grains to gasoline. This has led many analysts to forecast a secular bull market in commodities until supply begins to address changes in demographics and global growth.

What Drives The Lack Of Correlation?

The drivers of commodity returns are noticeably different than the forces that affect stock and bond performance. Equity pricing is usually driven by expectations of forward earnings—a standard discounted cash-flow analysis. Given how closely earnings guidance is managed by most publicly traded firms, surprises (also known as out-of-sample events) generally tend to the downside rather than the upside. Commodities, however, are more reflective of current supply and demand trends; future prices are less a predictor of future value than they are representative of the potential costs of storage and financing added to current spot prices.

Given that, in most cases, commodity prices are driven by supply-side shocks (a frost in Brazil or a bottleneck in energy refining, for example), extreme events are more likely to drive prices up, so investors with commodity index exposure tend to benefit. Because these supply-side events are generally either disconnected—or in some cases even negatively correlated—to the drivers of stock prices (e.g., a labor strike may harm a min-



ing company but create a positive environment for the price of the base metal), commodities can provide additional portfolio protection and be a potent source of returns.

The same forces hold true when examining why commodity returns tend to exhibit low-to-negative correlation with bonds. Much like stocks, bonds also represent forward-looking expectations along the yield curve. As prices inflate—demonstrated by both the Consumer Price Index and the Producer Price Index—rates tend to move upward, forcing bond prices lower (often assisted by interest rate increases from the Fed). However, price inflation is usually first seen in the raw materials forming the building blocks of consumer economies. Many of these raw materials, such as food, energy and industrial metals, are represented in the two most popular commodity indexes, which are provided by Goldman Sachs and Dow Jones-AIG. So as commodity prices rise in direct correlation with inflationary pressures, changes in bond prices are often softer due to current circumstances as well as forward-looking expectations along the yield curve.

The Emerging Markets (Alternative)

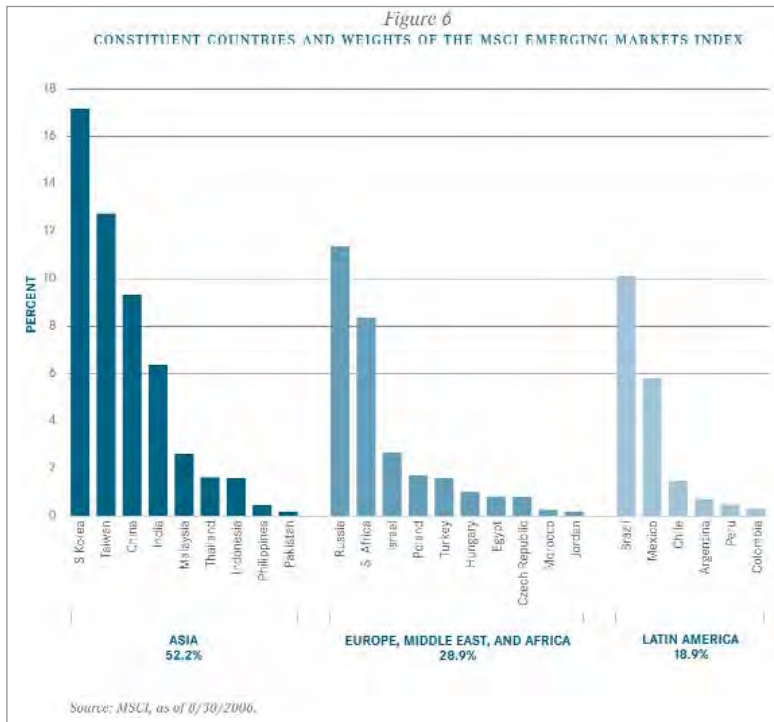
Commodities and REITs are markedly different from equities, as they represent an investment in real assets and are considered true alternative asset classes. Emerging markets, on the other hand, refer to the stock markets of developing countries, and are a closer relative to the more traditional asset classes.

Institutional investors have mostly embraced the international stock markets. Today, 95 percent of public pension plans have exposure to developed markets, predominantly benchmarked against the MSCI EAFE Index (Europe, Australasia, Far East), up from 35 percent in 1987. Investment in emerging markets is also achieving broader acceptance, as close to 40 percent of public funds have an allocation to emerging markets, mostly benchmarked against the MSCI Emerging Markets Index.

As with many other alternative asset classes, emerging markets exposure was historically possible only through expensive mutual funds. Direct investment, because of the high transaction costs, was not a viable solution. Today, the ETF marketplace gives individual investors cost-efficient

access to the emerging markets of Latin America, Asia, Europe, Africa, and the Middle East (Figure 6).

Beyond Diversification



Correlation is a critical factor in the investment decision of any asset class. In the case of emerging markets, however, this should not be the sole factor for inclusion in a portfolio. While correlations between emerging markets and U.S. stocks are not high, diversification benefits are considerably lower than for REITs or commodities (Figure 7). Moreover, correlations of equity asset classes tend to increase during market crises—such as a global economic slowdown—further reducing the diversification effect.

Engine For Global Growth

Emerging markets have clearly become an important contributor of global economic growth during the last several decades. Historically, large companies and industry leaders were predominantly located in the U.S. and other developed countries, and exposure to these countries' stock markets was sufficient to participate in future economic growth. The world has certainly changed:

- Seven out of ten people live in emerging countries, representing an enormous future market.
- Combined output of emerging countries accounts for 20 percent of the world's annual GDP; when measured at purchasing power parity, their share of total world output increases to more than 50 percent.
- Average annual GDP growth of emerging markets is expected to be nearly 7 percent over the next five years, compared with 2.7 percent annual growth of developed countries.
- By 2040, the seven largest emerging markets countries (combined) will have a larger share of the world economy than the combined G7 countries.

Of the 12 largest companies in the world (measured by market capitalization), three are located in emerging countries: Gazprom (Russia), the Bank of China, and Samsung Electronics (Korea). In the semiconductor industry alone, Korean and Taiwanese companies make up 23 percent of the MSCI All Country World Index industry weight.

The economic growth and increased importance of emerging markets to the global economy has been reflected in recent years' strong performance, and is expected to continue in the future, albeit with potentially higher volatility (Figure 8). With growth forecasts at 6.8 percent annually, it's not difficult to see why institutional investors remain committed to this valuable asset class.



Figure 8
EMERGING MARKETS COMPARED WITH THE S&P 500 INDEX AND LEHMAN AGGREGATE

	MSCI Daily TR Net EM USD	MSCI Daily TR Net EAFE USD	S&P US 500 TR	Lehman US Agg Total Return Val
Annualized Return	15.68%	5.89%	2.67%	5.52%
Annualized Volatility	19.70%	15.42%	17.19%	3.83%

Sources: Bloomberg, Lehman Brothers, and BGI, 12/31/98-9/30/06. Based on weekly net returns.

Opportunities Expand With Alternatives

As the global capital markets have evolved, opportunities for U.S. investors to find low-corr-

[\(continued on page 58\)](#)

No More Secrets

What Reg NMS is and how it affects you

by Lisa Dallmer



The sound bytes are everywhere ... faster executions, automatic trading, Reg NMS. Not sure what the details of Reg NMS really are? Well, let's not gloss over it; let's itemize the market structure changes in more detail.

The regulatory management of market structure is done through Securities and Exchange Commission (SEC) rulemaking, and there are certain unique rules applicable to either broker dealers or exchanges depending on the role each plays when routing and filling customer orders. Reg NMS is a significant rewrite of certain rules. If you can get past both the legalese and the broad generalizations, you can start to see how the equity markets will look in the future. And that is pretty exciting indeed.

What Is Market Structure

The "NMS" in Reg NMS stands for National Market System. The National Market System is the rules of engagement for order equity flow interaction, execution and trade reporting in the U.S.; in other words, it is how equity trades get done on Wall Street.

The finer points of market structure have become increasingly visible over the past ten years, as technology and competition for handling orders and trades has kicked into high gear. Seeking to improve their competitive positions in this era of technological change, brokers, exchanges and buy-side firms all marched down to Washington, D.C., in recent years, lobbying for an overhaul of several critical rules of engagement. Each had a different opinion about how to modify the rules, and after much deliberation, public hearings, floggings, and over 700 comment letters (some verbose-paint-drying manuscripts, others are engaging editorials complete with sport analogies and humor), the SEC took action. By a three-to-two vote taken on April 6, 2005, the SEC Commissioners approved the adoption of new substantive rules designed to modernize the structure of the U.S. equity markets.¹ Aside from the Order Display Rules adopted in 1996, this is the first significant revisions to the National Market System (NMS) since it was established in 1975.

In large part, Reg NMS can be thought of as new plumbing to an old house. Most of the heavy lifting is being handled by the exchanges and broker dealers, as they are the portal to the equity markets for fund managers and individual investors.

Four Major Rule Revisions²

If you work in the securities industry, you get used to lengthy documents: prospectuses, quarterly filings, annual reports, etc. But even by our skewed standards, Reg NMS is a show-stopper: 523 pages detailing the conditions, exceptions, modifications, requirements and penalties of various rules.³

For most users, those 523 pages can be boiled down into four important rules revisions, each with varying implementation dates, as show in Figure 1.

Fractions Of A Penny

The revisions to the Sub-Penny trading rules, the shortest section of the 523-page filing, are rather simple, and were made effective on January 31, 2006. The Sub-Penny Rule does not allow market centers to accept orders or publish quotes that are priced in increments less than \$0.01, unless the stock trades for less than \$1.00, in which case the minimum price increment is \$0.001. Few NMS stocks trade for less than a \$1.00, as exchange listing standards typically do not permit such low share prices to persist.

Although orders cannot be entered at sub-penny prices, executions may occur for less than a penny under certain conditions. For example, the rule permits the continued use of the NYSE Arca Midpoint Cross order type, where a user enters a cross order, unpriced, and the exchange immediately executes the order at the National Best Bid and Offer (NBBO) midpoint, even if the midpoint is less than a penny.

Protecting Orders

The issue of order protection was arguably the most hotly debated point in the Reg NMS debate. In fact, the Commission was so concerned about this issue that it altered the semantics of its ruling, changing the name of Rule 611 from the "Trade-Through Rule" to the "Order Protection Rule."

Figure 1

The Four Major Rule Revisions		
Rule Name (number)	Described Purpose	Implementation Date
Sub-Penny Rule (612)	Limiting sub-penny order entry and execution to stocks priced less than \$1.00.	January 31, 2006
Order Protection Rule (611)	Defines "fast" and "slow" markets. Provides for electronically enforced trade through protection to all top-of-book quotes displayed by "fast" trading centers; applies to all exchange-listed securities, including Nasdaq; certain exceptions and provisions apply, namely manual quotes are not protected.	February 5, 2007: All trading centers intending to qualify as "fast" markets must have implemented fully Reg NMS-compliant trading systems to be afforded order protection benefits in the pilot stock phase (May 21, 2007), and ultimately, the all-stocks phase (July 9, 2007).
Market Access Rule (610)	Provides for private linkages as an alternative to NMS linkages such as ITS. ⁴ Also allows SROs to charge for access to top-of-book quotes up to \$0.003/share.	October 1, 2006: New ITS Linkage Plan that removes certain access impediments and provides for a stop-gap until all SROs can build private linkage mechanisms. June 2007: NMS Linkage Plan replaces the ITS Linkage Plan.
Market Data Rule (601 & 603)	The market data revenue sharing formula is revised to reward SROs for not only trades (as the formula currently does), but also automated top-of-book quotes at the NBBO.	April 1, 2007

In the end, Reg NMS now protects the best bid and offer (known as top-of-book) displayed by each market center from being traded through by another market center, providing certain conditions are met. The SEC generally recognized there is an opportunity cost to the accessibility of quotes and the speed of execution, and these opportunity costs can be balanced with best price protection.

A “trade through” is an execution that occurs at a price that is inferior to a displayed limit order on another market center. Previously, the rules regarding trade-throughs largely evolved from the exchange practices inherent in the ITS Plan, which advised against permitting such trades, and created a post-trade complaint and satisfaction process. The new Order Protection Rule creates an obligation to protect top-of-book “fast” or auto-executable quotes. Importantly, manual quotes marked “slow” for any reason are not protected, meaning a slow quote may not trade through a fast quote, but a fast quote may trade through a slow quote. Trading centers must use the quote identifiers at all times to indicate the status of their quotes, and a quote must be continuously marked “slow” if the trading center has reason to believe that it is not capable of displaying automated quotations.

Here’s an example of the top-of-book order protection: if a trader has 50,000 shares to buy and is willing to pay more than the national best offer to get it all done in one shot, that trader can no longer just reach up to the desired displayed offer (a few cents up) without first interacting with the better offer at each market center. Once all the top-of-book superior quotes are cleared, the order can then trade up into the book, since there is no depth-of-book protection for away market orders.

The SEC largely left it up to each Self Regulatory Organization (SRO) on how to handle the trading once the top-of-book is satisfied and the depth-of-book is exposed. Here, competition amongst exchanges to craft new order types, and to manage the matching of orders in a manner consistent with the rules and suitable to the interests of its broker member firms, should play out to the benefit of investors.

Certain exceptions to the Order Protection rule do exist, such as Intermarket Sweep Orders (ISO) (described below), single priced opening and closing auction executions, and benchmark orders such as VWAP orders, where the execution price is not based on where securities are trading at the time of execution.

An ISO is a limit order for automatic execution sent to a specific exchange, even when another market center is publishing a superior quote. When sending an ISO, the sender fulfills the Reg NMS order-protection obligations by concurrently sending additional limit orders to “clear out” the superior top-of-book quotes at all market centers. Using the ISO, the broker assumes the responsibility for Order Protection from the exchange by handling the routing, thus the exchange’s execution behavior is expressly permitted.

A serious new twist is the inclusion of Nasdaq stocks in the Order Protection Rule. Previously, the trade-through rules only applied to securities listed on exchanges, like the New York Stock Exchange (NYSE) and the American Stock Exchange (Amex). Now, Nasdaq stocks are included as well.

Trading centers such as NYSE Arca and Nasdaq already operate “fast” markets by providing automatic execution and multiple order types for users to manage the routing and sweeping obligations with respect to away markets. ETFs are a great example of the traction that these electronic exchanges have gathered recently. The nature of ETFs, being derivatively priced with totally transparent holdings, lends itself to electronic trading. During the first nine months of 2006, 87 percent of ETF shares traded (market-wide) were handled by fully electronic market centers.⁴

The NYSE’s technology modernization has resulted in a new system called NYSE Hybrid®. As a Reg NMS compliant system, Hybrid® integrates the specialist liquidity provision process in the display book through automated quoting capabilities allowing the specialist to enter multiple bids or offers at different price points. Not to be lost here is the specialists’ continued role as the buyer or seller of last resort, which, along with quoting functionality, is a critical feature to managing volatility. Hybrid® has set Liquidity Replenishment Points (LRPs) to trap erroneous trades and to permit “auction only” trades to curb wide price movements.

Early reports from the NYSE on the stocks trading using the new Hybrid® technology indicate positive results. As of November 2, 2006, the NYSE released performance statistics⁵ on the 109 stocks taking part in the initial Hybrid® rollout:

- Quoted spread declined to 14.16 basis points from 16.23 basis points
- 91 percent of trades were auto-executed, up from 29 percent pre-Hybrid®
- Fill rates at the NYSE, measuring certainty of order execution, rose to 80.5 percent from 73.5 percent pre-Hybrid®.

There Are No Velvet Ropes In Market Access

The Market Access Rule (Rule 610) develops new standards governing access to quotations in NMS stocks. The standards are based on three new rules.

First, exchanges may now utilize private linkages to access quotations at away markets, as opposed to using the Intermarket Trading System (ITS), a centralized utility. Private linkages provide for a higher degree of flexibility and a less expensive cost structure, and align the economics of design and bandwidth with the consuming exchange. For example, if an exchange does very little routing of orders to the NYSE, then the exchange might choose not to invest in an expensive connectivity model to reach the NYSE. Rather, with the flexibility of Reg NMS, the exchange is likely to invest in faster and greater connectivity to those destinations they do expect to be routing to frequently. Of course, the tolerance of these choices is born out by the members, and any miscalculations will be apparent—since we know that the market votes with its order flow.

The second aspect of the Market Access rule limits the linkage fee a market center can charge for accessing its quotes to \$0.003 per share. The SEC believes that the \$0.003 limit will support the Order Protection Rule. Without a linkage fee cap, trading centers could charge excessive fees to competing trading centers that are merely obeying the Order

Protection rules.

Lastly, revisions to Market Access rules now require SROs to develop rules that prohibit member-trading firms from engaging in a pattern of displaying quotations that lock or cross the automatic protected quotations from other trading centers. Keeping with the spirit of Reg NMS, the new Market Access rule does not protect manually entered quotations from being locked or crossed by another market center.

Quotes, Trades And The Market Data Model

Market Data Revenue is the revenue received by the industry as a result of the sale and distribution of consolidated quote and trade data. The exchanges share in the revenue pool based on the contributions they have made to public price discovery. Any national securities exchange may trade the securities listed on another exchange under the Unlisted Trading Privileges (UTP) rules. These rules are what permit NYSE Arca to trade securities listed on Amex, Nasdaq, etc. and thus determine its participation level in the market data revenue pool.

There are three market data or “tape” plans for equities that govern the consolidation and dissemination of quote and trade data: Tape A for data on NYSE-listed securities; Tape B for data on securities listed on the Amex, NYSE Arca and regional exchanges; and Tape C for Nasdaq-listed securities.

Prior to Reg NMS rule revisions, the Tape C plan allocated market data revenues to the exchange participants slightly differently than the Tape A and B plans. The SEC revisions standardized those allocations, putting in place three rules to make the system more equitable: (1) It placed a new emphasis on allocating revenues based on the quotes contributed by each exchange; (2) It ended the policy of basing revenue sharing on trade counts, which previously had rewarded a 200-share trade equal revenue value as a 10,000-share trade; (3) It set the maximum any particular trade may recapture in market data revenue in an attempt equalize high volume stocks with low volume stocks. Under the new order, all three plans are subject to the same revenue distribution formulae and rules.

The expected effect of these changes will be an allocation of revenues equally split between trading activity and quoting activity at an exchange’s best bid and offer, but capped for high volume stocks. Some industry participants argued this might create an economic incentive for market participants to quote in a stock they otherwise would not be interested in trading. To counter this concern, a qualified trade value

threshold of \$5,000 was incorporated in the model to minimize quoting manipulation in thinly traded securities. The new model excludes manual quotes—another reason you see the exchanges working furiously to implement technology to qualify their quotes as “fast”.

Overall, the SEC is hopeful the economic incentives are level enough to drive trading behavior in a manner they feel promotes wider and more efficient distribution of market data. Regardless, there are countless mathematicians, industry consultants and economists all modeled-up to predict the outcome and identify any unintended consequences of the tail wagging the dog in market data revenue.

Conclusion

For most investors, the Reg NMS changes may not be noticed on a day-to-day basis, in large part because mutual funds act as the giant portal to the equity markets. Institutions and fund managers, as fiduciaries for investors, will benefit from the new regulations, as brokers and exchanges replace most of the major plumbing by building intelligent decision tools and managing more information and connectivity.

For some exchanges, such as NYSE Arca and Nasdaq, becoming Reg NMS compliant is not a significant departure from their current business model. The all-electronic exchanges already managed private connectivity to multiple pools of liquidity, and provided order types that were bound by the NBBO, thus offering top-of-book protection to those that chose to utilize the order. Of course, the electronic exchanges now have done work to identify their quotes as “fast” or “slow” depending on system status and availability; read the quote identifiers from other SROs; and process the inter-market sweep orders.

Users of a fully electronic exchange can largely expect a better experience under Reg NMS when electronic exchanges are routing to/from the formerly manual exchanges. This will come as a direct result of the implementation of more technology and auto execution tools in systems like the NYSE Hybrid® and the Amex AEMI (SM).

It is largely expected that the greatest gains from Reg NMS will be as a result of the massive technology investment and increased competition for order flow, which ultimately leads to greater certainty of executions for all investors.

Welcome to the “arms race” where the modernization of a market place involves people and their intelligent implementation of technology.

Endnotes

¹ SEC release 34-51808, see www.sec.gov.

² Descriptions and implementation dates are as of the date this article was written: November 30, 2006.

³ This article is meant to merely summarize the highlights of Reg NMS; the complete filing contains more information and detail.

⁴ Represents market shares of shares executed by NYSE Arca Exchange and Nasdaq and ECNs. This does not separate Nasdaq SuperMontage (trades in the public price-time priority book) from internalized trades reported on ACT or other reporting facilities provided by Nasdaq and NASD. Source: ArcaVision all ETFs traded January 1, 2006, through September 30, 2006.

⁵ See NYSE Group, Inc. press release dated November 2, 2006, at www.nyse.com

Changes At The Exchanges

Intellectual property rights and the modern exchange industry

By Neal Wolkoff



Note: This article is adapted from a speech Wolkoff gave to the Ocean Tomo Fall 2006 Intellectual Property Auction Gala, October 25, 2006.

The exchange industry is undergoing dramatic changes. New innovations and new technologies are entering the market today that will change the shape of the industry for years to come.

Amidst this backdrop, intellectual property (IP) rights are playing, and will continue to play, an important role in determining who will most benefit from the dramatic changes that are coming. In the past few years, we have seen an impressive library of innovations coupled with IP protections, and we have seen some ideas that are dressed up as innovations trying to seek the cover of the same IP protections. The evolving exchange landscape can serve as a model for what is happening in countless other industries, as technological advances drive increased competition at an ever-accelerating pace.

For most of its history, the American Stock Exchange, or Amex, operated in a relatively safe business environment. One of only three national securities exchanges, we were the home for smaller and mid-size companies, and nearly all trading in our listed companies occurred on our trading floor. In the early 1970s, we added listed options to our business, and in 1993, we launched trading in the Standard and Poor's Depository Receipts 1, or SPDRs (AMEX: SPY), the world's first exchange-traded fund (ETF).

Like most industries, the exchange world has changed dramatically over the years. The rise of the Nasdaq Stock Market as a listing venue not just for risky start-ups, but also for established mid- and large-sized companies, has intensified competition for primary stock listings. The development of alternative trading systems (ATS) and electronic communication networks (ECNs) has fomented intense competition for market share in the trading of listed securities across all markets. Unlisted Trading Privileges allow listing venues, ATS and ECNs to trade almost all of each others' listings.

Like everywhere else in the world, the pace of change is accelerating; exchanges and ECNs are demutualizing, turning into public corporations accountable to shareholders, and merging or forming alliances at a dizzying pace, both domestically and internationally. The Chicago Mercantile Exchange recently bought the Chicago Board of Trade for \$8 billion. That truly is an astounding number. The combined entity will be the largest derivatives market in the world, worth some \$25 billion.

These combinations are being driven by the relentless commoditization of the exchanges' core transactions business. Because of the competition across marketplaces for trading in the same listings, the amount an exchange is able to charge for a transaction today is a tiny fraction of what it was a few years ago. In response, exchanges are looking to build scale through mergers, which not only increase the number of transactions an exchange can handle in its existing business, but also add new types of instruments to trade; recently, a number of mergers have been driven by the desire for exchanges to expand into derivatives contracts like options and futures.

In today's hypercompetitive environment, exchanges have to create new strategies to survive by differentiating themselves, and find new ways to protect and extract value from their innovations. As we look to the future, we think there will be significantly greater emphasis on protection of IP rights around innovation. These efforts will fall into three broad categories: technology, information and product offerings. Each of these areas has had, and will continue to have, its own issues with respect to IP rights.

Technology

Today, all the major exchanges are competing to develop the fastest, cheapest technology to execute transactions. Often, technology is designed to support a particular market structure. At the Amex, we have spent the past two years developing a new electronic trading platform, which we have named AEMISM—for Auction Electronic Market Integration. As its name implies, this new technology and our accompanying new market structure are designed to provide a marketplace where the great bulk of transactions occur electronically and instantaneously, but, in the infrequent event that there is a material break away from current equilibrium between supply and demand, a more traditional specialist-led auction market occurs until a new equilibrium point is established. The New York Stock Exchange also has adopted a hybrid platform, while other exchanges, such as the Nasdaq, use an electronic-only approach.

We believe that our technology will help us differentiate our trading platform from our competitors; they likely believe the same thing about their systems. That, of course, is where the issue of IP protection comes in.

In our case, rather than try to build the technology from scratch in-house, we developed AEMISM by partnering with an outside vendor to customize their electronic exchange platform to meet our needs. To protect our competitive position, we own our unique contributions to the end product. This approach gives us the flexibility to build on what we believe to be a best-in-breed core offering as the market evolves, while protecting our rights in those elements of the environment that we have contributed.

Information

Exchanges traditionally have made a significant portion of their revenue from selling market data: information on trades and quotes. Now, exchanges are becoming more sophisticated in their approach to market data, and are selling new data-related tools and services around their core transaction businesses, such as information on depth-of-book, order flow and market quality. Ultimately, these efforts are focused on finding new ways to create value and extract revenue from the exchanges' core, traditional execution business—a way to add margins back to a commodity business. This only will drive more pressure towards commoditization of the core business, as exchanges compete to capture more order flow not just for the revenue that can be earned on transactions charges, but for the revenue that can be earned on data sales. In the end, the exchange with the most trading activity will have the most valuable data.

The second IP-related aspect of the information business deals with a topic that has been very much in the news recently: proprietary indexes. We all are familiar with the “blue chip” Dow Jones Industrial Average, which recently broke through the 12,000 level for the first time. We also know the S&P 500 Index of large capitalization companies, as well as the Russell 2000 small cap index. Not only do these indexes serve as barometers for investors to follow various segments of the markets, they also serve as reference indexes for derivative contracts such as futures, swaps and options, and for passive investment vehicles like mutual funds and ETFs.

To utilize an index as a reference benchmark for cash-settled derivatives, exchanges pay the index owner a fee, generally on a per contract basis. Mutual funds and ETFs generally pay a percentage of assets. Further, exchanges historically have paid transaction-based licensing fees to the index providers for trades in ETFs and ETF options. This has changed recently as a result of the recently upheld ruling in *Dow Jones vs. ISE*, which found that index owners are not owed payment for ETF options transactions. Essentially, the courts determined that an index provider’s IP rights in an index did not extend to the trading of options on an ETF. This is not a blow to the validity of the index provider’s claim that an index takes substantial investment of financial and creative resources, or to the strength of any associated trademarks, but rather a strong stance as to the reach of that IP after the index provider has authorized the creation of an ETF that tracks the index. Since ETF options are among the most actively traded derivative contracts in the U.S., it is estimated that this result cost index licensors tens of millions of dollars in annual revenue. Index owners will need to adapt to this new environment.

While several exchanges have long owned indexes that track the performance of their listings, and have licensed those indexes to serve as the bases for financial instruments, some are starting to take the proactive step of creating indexes specifically to serve as the bases for financial products, and licensing those indexes for ETFs, options and other derivatives. At the Amex, we started this practice back in the 1980s to support index options trading, and continue it today with our popular Intellidexes, which are strategy-based indexes that use a proprietary, quantitative stock selection process in an attempt to outperform traditional benchmarks. We have licensed these indexes to create a series of ETFs with over \$3 billion in assets under management. As exchanges look for new ways to grow revenues, we will likely see the development and use of proprietary indexes expand in the marketplace.

To protect our IP rights in our indexes, we trademark and service mark the brands. Recently, we have seen patent applications covering different indexing approaches. We’ll have to wait and see if they get approval.

New Product Structures

When the Amex helped launch the first ETF in 1993, it was the culmination of several years’ effort. Much time was spent developing the product structure, the systems to support the

structure and the rules to govern trading in the products. At the time, we thought hard about whether to patent what we had developed. However, there really was not much acceptance of business method patents then, so we decided against it. Today, ETFs are a global phenomenon, with 600 ETFs listed on 36 exchanges around the world, holding half a trillion dollars in assets as of July 1, 2006.

How the market might have developed had we applied for and been granted patent protection is an interesting question. I think it is clear that, among other things, the already significant impact ETFs have had on the Amex would have been even greater.

Since the SPDR was introduced, business method patents have become much more accepted. The 1998 landmark decision in the appeal of *State Street Bank v. Signature Financial Group* essentially cleared the way for wide acceptance of business method patents. If you look at the number of patent applications filed and patents issued under class 705, the U.S. Patent and Trademark Office’s classification for most business method patents, you’ll see the following upward trend: 584 applications were filed in 1996, 1,340 applications in 1998, and 7,800 applications in 2000. Filings continue to remain strong with over 6,000 applications filed in the last five full years. On the issuance side, the picture is similar.

Today, there are a number of product structures that have been the basis of patent applications and issuances. Typically, applicants are financial firms like banks or broker dealers, who issue shares in new structures to investors and seek to protect their innovation from being copied by rivals. For example, Goldman Sachs and Deutsche Bank each have filed patent applications covering methods for packaging for exchange-trading indexes of commodity futures in an ETF-like structure. The Bank of New York has been issued a patent on a trust structure for similarly packaging for trading individual commodities and currencies. There is no doubt that these products have opened new markets, making the arcane and inaccessible world of commodities and currencies investments more open and available to institutions and individuals alike.

As competition continues, and as companies turn more towards patent protection, there are bound to be conflicts and challenges between parties with rival solutions. As patents are issued on competing structures, it will be interesting to see how conflicts are resolved, and what impact they will have on the products’ success.

While there is no way to know for sure, there are a couple of relevant precedents. First, consider the patents that were issued to a small group called Mopex in 1998 and 2000. The owners of these patents claimed they covered a broad range of ETFs that came after the original SPDR. As the original developer of the ETF marketplace, Amex challenged the validity of the patents, and ultimately prevailed. Mopex didn’t collect a cent on their patents. At the other end of the spectrum, Cantor Fitzgerald, the large global financial services company, acquired a patent covering electronic futures trading and clearing that was issued to Susan Wagner in 1990, some ten years after she left the employ of the Commodities Futures Trading Commission, where she came

across countless examples of prior art. Ultimately, the Wagner patent also proved to be invalid, but not until after Cantor had collected \$40 million in licensing fees from futures exchanges. Cantor only paid \$3 million for the patent. I guess even an invalid patent can be lucrative if defended aggressively enough.

Most recently, the IP debate in the exchange world was extended when the International Securities Exchange filed a new lawsuit in New York against Dow Jones and McGraw-Hill (parent company of S&P), seeking to trade cash-settled index options on the Dow Jones Industrial Average and the S&P 500 without a license. Shortly afterward, S&P and Dow Jones filed a lawsuit in Illinois to stop the ISE from trading those options, and to block the Options Clearing Corporation from issuing and clearing them. Unlike the ETF and ETF options decisions, which essentially limited the reach of an index provider seeking to require licenses to trade already licensed products, the new ISE lawsuit goes much further in seeking a decision which obviates the need for a license to create an index-based financial product in the first place. Clearly, these cases raise broader issues that are more fundamental to an index provider's IP rights than the previous decisions, and a decision against the index providers will dramatically undermine their existing business model.

Advances Continue

One of the most anticipated new product structures currently under development in the financial services industry is a truly "active" ETF—not a quantitatively driven strategy ETF, such as the Intellidex ETFs mentioned earlier, but an ETF managed by an investment adviser who uses his/her judgment to select stocks in an attempt to outperform the market.

There are real issues surrounding an actively managed ETF.

Investment advisors don't want to reveal their holdings, or more importantly, changes in their holdings, for fear that others might take advantage of this information to trade against them ("front running") or imitate their investment strategy independently without compensating the manager ("free riding"). However, ETFs, which trade in the secondary market like shares of stock, have been successful exactly because their holdings are known, which allows for very efficient pricing and trading in the secondary market. The problem for actively managed ETFs, then, is how to bridge this gap between the investor's need for transparent pricing and the advisor's need to maintain portfolio secrecy. The Amex has spent six years developing a solution; essentially, we have developed a strategy for getting sufficient information into the marketplace to allow participants to effectively price and hedge the actively managed ETF shares without disclosing so much information that someone outside the fund could decipher the fund's trading or investment strategy.

It has been a lot of work, and to protect our interests, we have filed for six patents on various aspects of our proposed solution. Two patents have been issued to date, covering most of the key elements, and we are optimistic about the others. We have had very positive discussions with numerous fund companies about our approach, and recently signed our first licensing agreement. We are looking forward to working with this first issuer to get Securities and Exchange Commission approval for an actively managed ETF.

In conclusion, it is clear that intellectual property rights are a contentious issue, and there must be a careful balance between providing open access to important developments and encouraging those developments in the first place. How that balance is struck will have broad implications for our industry in the years to come.

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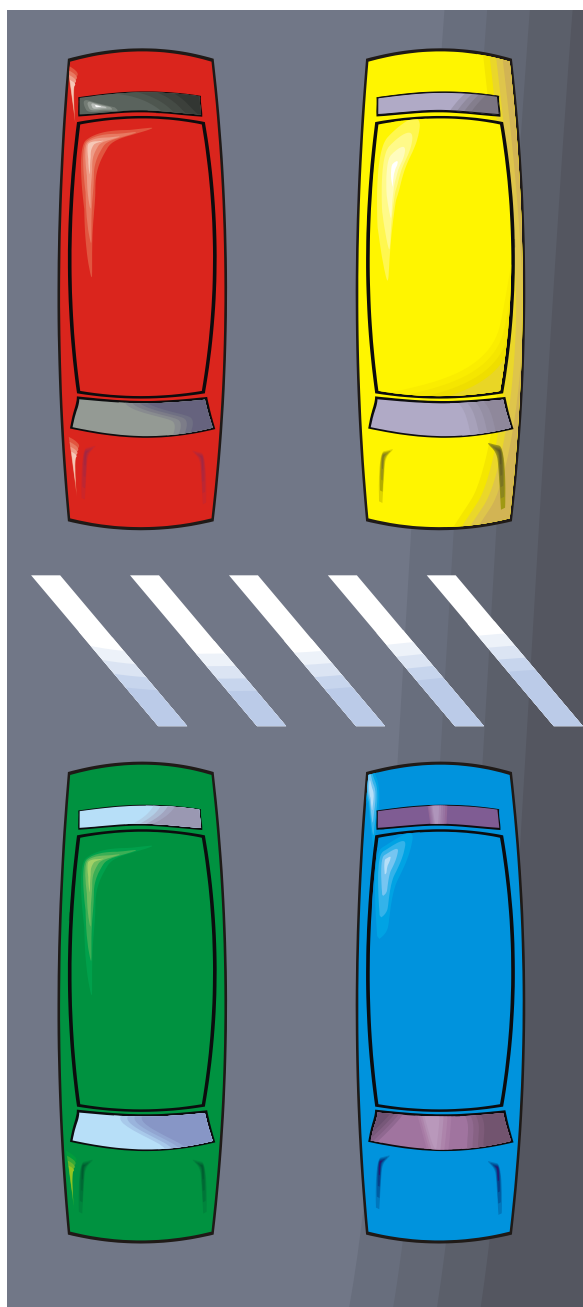
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Accessing Commodities

A review of commodity-linked vehicles

By David Krein



Research and analyses about commodity investments have resonated among investors hungry for alternative sources of return. Financial journalists, as well as sales desks across Wall Street, have worked hard to interpret the findings and catch the eyes and ears of investors. The result has been an explosion in demand for commodity-linked vehicles among individual investors and large institutional funds alike.

Product providers, never far behind such a groundswell, have scrambled to design and deliver instruments offering attractive opportunities in exchange for the tide of commissions and fees. Commodities, it seems, are delivering results: they have demonstrated spectacular performance in recent years; they have a low historical correlation with other asset classes; they may offer a hedge against inflation; and they may even hedge against certain business and political risks.

In many cases, such findings serve as the motivating force encouraging participants to make the leap into commodities, despite potential stumbling blocks like the recent pullback in commodity prices and the spectacular collapse of market participants such as Amaranth. Whether or not any of these findings are appropriate and sustainable when applied to a real-world portfolio has become a multi-billion dollar debate.

Once the commodity investment decision has been made, however, investors are then faced with the prospect of directing their capital into the growing universe of commodity-linked vehicles. This is not an easy task. Although many of the products appear similar, they can be quite varied in their risks and rewards.

Investors would be well-served in understanding the detailed workings of the various products *before* such an investment decision is made, as such an understanding will help guide them to an investment decision that is both appropriate and executable.

Unfortunately, many investors in this burgeoning space leap before they look. The effort to analyze commodity-linked vehicles and make the necessary distinctions between and among them has trailed far behind the product development cycle and accompanying marketing push. As in many other markets, the effort has been overshadowed by the need for immediate market participation.

Product distinctions are important and complex, and therefore worthy of deeper exploration. This

article seeks to close the information gap by identifying a framework for classifying different categories of commodity-linked vehicles, and then analyzing the construction and implication of each instrument. This type of product-level information is critical for investors to make informed decisions about how to best develop and implement their commodity market decisions.

Why Do Commodity-Linked Vehicles Exist?

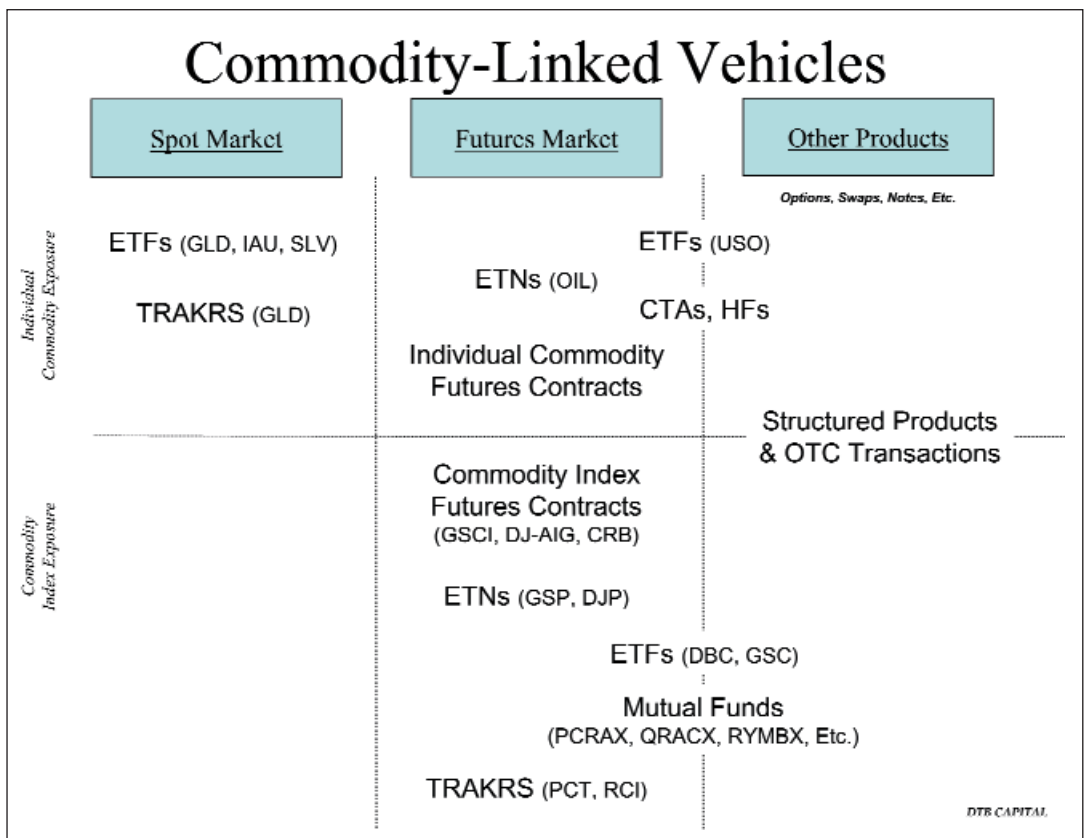
Generally, commodity-linked vehicles are *access* products. They offer a window to the commodity markets that has not otherwise been readily available to equity, fixed-income and other investors (including many professional investors) in more traditional markets.

There are several reasons for this. First, physical delivery, storage, insurance and transportation of spot commodities are impossible for all but the largest institutional consumers, processors and specialized participants. Second, trading futures contracts requires establishing relationships with, and connections to, separate sets of exchanges, traders, and brokers. In addition, trading accounts, risk management, back-office staff and regulatory functions cannot be managed efficiently within traditional brokerage infrastructures—especially for small allocations to commodity markets. Third, the uncertainty of how to define and slice the asset class, and the high volatility of individual commodity prices, means that before the development of commodity-linked vehicles, investors simply did not add these markets to their portfolio.

A Two-Dimensional Framework

The universe of commodity-linked vehicles is not a single

Figure 1



marketplace. Rather, it should be thought of in terms of several *categories*, each of which can be framed according to the type of commodity access it provides—which will largely determine its sources of risk and reward.

Investors can frame the categories, and identify the commodity-linked vehicles that fall within each category, by understanding two dimensions of risk and reward:

(1) A category has access to either an individual commodity or a commodity index;

(2) A category has access to either a spot market or a futures market.

The combinations are illustrated in Figure 1, along with how each commodity-linked vehicle should be categorized. Clearly, the distribution of commodity-linked vehicles is not uniform across the various categories, and there are also products that do not fall neatly into a single category. Further, there are other commodity-linked products including options, swaps, notes and certain derivatives, which can be created to access any category of exposure, or linked directly to other commodity-linked vehicles. (Typically, such products are available only to well-qualified investors.) Regardless, the overall framework allows investors a rational basis for comparing like products and serves as a critical tool in the investment decision process.

Single Commodities And Commodity Indexes

There are dozens of commodities, which are typically assigned to one of four sectors: Energy, Precious Metals, Base/Industrial Metals, and Agriculture. Each sector may have its own sub-sectors; for example, Agriculture may be further divided into Livestock, Grains, etc.

Each commodity, by definition, must come with a set of terms and conditions. It is the set of terms and conditions that make it a commodity—its predictable characteristics and the fungability of units. The terms and conditions define what is being bought and sold, and the details of how it is to be exchanged, so that it can serve a consistent role in the production chain. Just as important, the set of terms and conditions allow each commodity to be priced and traded in a transparent manner.

The most liquid commodities—in particular, many energy commodities and some metal commodities—have multiple sets of terms and conditions, which might vary along lines of product quality, delivery location, settlement date and time, and currency. Commodities with different terms and conditions are not fungible.

All investors have the opportunity to participate in one or more commodity markets and to customize their portfolio according to their investment objective. However, indexing has been a fundamental tenet of investing for the last half-century, and its application to the commodities market is not surprising. Although there is ongoing debate about what constitutes a suitable commodity index, there is little disagreement about its potential to play a significant role in the marketplace for investors who seek a broad objective such as diversification, risk reduction, simplified trading, cost efficiency, and so on.

(As an aside, the low correlation between broad commodity indexes and equity market indexes (and other asset market indexes as well) has been used to support the thesis that com-

modities can play an important role in diversification. Modern portfolio theory suggests that rational investors will use diversification—uncorrelated assets—to optimize the mean variance performance of their portfolio. An uncorrelated asset may reduce portfolio risk even if it has higher risk than the portfolio itself. Although correlation is a useful concept, there are assumptions and limitations that should be understood and appreciated in order to be effectively employed. This article assumes that investors have already been suitably advised and informed on this matter.)

Commodity indexes offer standardized aggregations of prices of individual commodities. Generally, each commodity index adheres to extensive guidelines detailing the passive and active rules that go into its construction: a commodity selection strategy is established, prices are weighted according to a known formula, and the index value is then calculated and published at regular intervals. Some index providers create a sub-index for each sector as well.

Researchers, journalists and the commodity index providers themselves offer a substantial and insightful body of work on the construction methodologies, historical performance and comparative advantages of the various commodity indexes.

Spot Commodities And Commodity Futures

Researchers and market participants generally agree that there are significant differences in historical returns for long positions in spot commodities and long positions in fully collateralized commodity futures.

A long position in a “spot commodity”—via spot markets, physical bullion or tradable instruments—offers exposure to a single commodity for the duration of the holding period. Given that some commodities are perishable and others are perpetual, it should be noted that theoretical holding periods may vary dramatically. Spot price movements are experienced *directly* and are the primary source of risk and reward to investors.

A long position in “commodity futures”—via exchange-traded and standardized contracts—offers exposure to a single commodity for the duration of the contract holding period, which cannot be longer than its stated maturity. Spot price movements are experienced *indirectly* via changes in the futures price, although the difference between spot and futures prices converges to zero at maturity for any given contract.

How might changes in the futures price differ from changes in the underlying spot price? It is generally believed that there are several sources of risk and reward for a fully collateralized long position in commodity futures. These sources have been the subject of much academic and financial markets research. They include: (1) unexpected changes in the expected future spot price; (2) “normal backwardation,” or Keynes’s notion that the futures price will be at a discount to the expected future spot price; and (3) interest income earned on cash or cash equivalents in a fully collateralized unlevered futures account.

This first part—unexpected changes in the expected future spot price—is an unobservable, and highly volatile, component of risk and reward for a long position in commodity futures. Although there is significant debate here, some research has found that this component’s net contribution to returns for long positions in commodity futures is not statistically different from

zero over the long term; it is systemically unsustainable.

The second part—“normal backwardation”—is also an unobservable component of risk and reward for any given long position in commodity futures. However, it is the critical element of the futures market. This is the premium demanded by a long futures position for participating in the market—for assuming commodity price risk in markets where hedging is otherwise difficult or impossible. It manifests itself as a futures price that trades at a discount to the expected future spot price.

This risk premium varies over time, of course, just as an equity market risk premium might vary over time. Persistent high returns to long futures positions, meaning that long futures positions systematically under-bid (excessively discount) expected future spot prices, would attract new participants, leading bids to rise and returns to fall. Persistent low returns to long futures positions, meaning that long futures positions systematically over-bid (insufficiently discount) expected future spot prices, would weaken or even bankrupt existing participants, leading bids to soften and returns to rise.

The concept of “normal backwardation” is *not* the same as “roll yield.” Although the two concepts are often used interchangeably, they are materially different. “Roll yield” refers to the relationship between the futures price and the (observable) current spot price; a futures price that is greater than the current spot price is a market in “contango,” and a futures price that is below the current spot price is a market in “backwardation.”

The term “roll yield” is convenient because it can be measured and offers a quick (if perhaps incomplete or even inaccurate) proxy for the potential return to a long futures position. The “roll yield” seems to ignore the difference between the current spot price and the (unobservable) expected future spot price, or at least assumes that the (unobservable) expected future spot price has a persistent relationship with the current spot price, when no such persistent relationship exists. “Normal backwardation” is the “roll yield” plus this difference, and more completely represents the potential returns expected by investors.

By itself, the existence of a negative “roll yield” does not lend insight into the difference between the futures price and the expected future spot price. It is possible, or even likely, that a futures market in contango—one with a negative “roll yield”—still trades at a discount to the expected future spot price. For example, a negative “roll yield” could be driven by very high-expected future spot prices. In this case, the risk premium for a long futures position may be unchanged relative to the same market in backwardation with a lower expected future spot price. Alternatively, a negative “roll yield” could be driven by the willingness of the holders of long futures positions to accept a lower risk premium. Of course, a combination of these two elements could be in effect.

Despite all this, some research has found that there may be a statistical relationship between the long-term returns earned by a long commodity futures position and the fraction of time that the futures are in backwardation. Since backwardated futures might be more likely to have larger average risk premiums, such futures could earn excess returns over their contango-ed counterparts. Although a negative “roll yield” points to a

contango-ed market, it cannot be concluded that such a market will underperform over the short-term.

What does all this mean? Spot commodities and commodity futures are different investments, not different forms of the same investment. Vehicles offering spot commodities exposure will have risks and returns that may be materially different from those offering commodity futures exposure, even if they are tied to the same underlying commodity.

Commodity-Linked Vehicles

With the understanding that there are different categories of risk and reward with the overall commodity marketplace, investors can begin to tackle commodity-linked vehicles by their structure: exchange-traded funds (ETFs), exchange-traded notes (ETNs), TRAKRS, etc. Each structure carries a set of identifying characteristics that allows investors to quickly determine the general financial behavior of all the vehicles that fall under it: how the vehicle is acquired, how it links to its benchmark, how fees are applied, etc. Although these features will not be uniform for all vehicles in a given structure, they form a basis from which to understand and discuss the distinctions.

In some cases, existing structures have been carried over from other markets and simply adapted to the commodity markets. In other cases, new structures have been developed to address the specific needs and requirements of the commodity markets. Furthermore, there is nothing to limit a particular structure to a single category of commodities exposure. In fact, several structures have vehicles that offer access to either the spot market or the futures market, and others that access either an individual commodity or a commodity index.

Figure 2 contains many of the more popular and accessible commodity-linked vehicles, highlighting the relative characteristics and fundamental information offered by these products. This should further equip investors with the tools necessary to make an informed decision that is consistent with their objectives.

Exchange-Traded Funds

The popularity of exchange-traded funds, or “ETFs,” has clearly spilled over into commodity markets. Investors can now purchase ETFs on certain energy futures and spot metal commodities, as well as two commodity indexes. Needless to say, there are additional commodity ETFs in the pipeline, including ETFs linked to particular commodity sub-indexes. Some of these products are already trading in Europe.

These commodity ETFs have many of the same attractive features that brought traditional ETFs such acclaim: intra-day trading liquidity, simplified hedging and shorting via possible exemption from the uptick rule, and low fees relative to professional active management. (Fees are high relative to the universe of U.S. equity and fixed-income ETFs.) However, it is difficult to further generalize across these instruments as they have widely varying structural details, tracking error, tax treatment and fees.

ETFs Linked To Individual Spot Commodities

Structure and Mechanics

There are two ETFs linked to spot gold: the streetTRACKS

Gold Shares (AMEX: GLD) and iShares Comex Gold Trust (NYSE: IAU). There is also one ETF on spot silver: the iShares Silver Trust (NYSE: SLV). All three hold bullion, although they do not lend it out for additional income. The important consideration is that these funds do *not* offer exposure to the futures markets, which means that returns from these ETFs may not match their component returns within a given commodity index, since the underlying commodity indexes rely on futures-based exposure.

These ETFs are grantor trusts, which give shareholders a claim to a pro-rata share of the assets held by the trusts. In the case of the gold ETFs, each share could claim one-tenth of an ounce at the time of issuance. In the case of the silver ETF, each share could claim 10 ounces at the time of issuance.

It is important to note all three ETFs should correspond generally to the day-to-day movement of the price of their underlying bullion. However, the stated objective of each trust is simply to reflect the value of its net holdings at any given time, less outstanding expenses and liabilities. It is not designed to reflect the value of a specific quantity of physical bullion, which is how such bullion is most often quoted in the marketplace.

The reason for this distinction—which is a common misperception—is that all trust fees and expenses are paid by liquidating a portion of the assets. Over time, each share's claim—the ETF's net asset value (NAV)—will fall relative to its original claim, all else being equal. This will eventually create a notable discount between the NAV of the ETF and the bullion price for the original amount of the metal.

For example, if spot gold could be traded for \$600 per ounce at the time the first gold ETF was issued, the ETF's NAV would be one-tenth of \$600, or \$60 per share. Let's assume that the price of gold then remains unchanged for ten years; the ETF's NAV would fall by 75 bps each year as the trust's assets (the gold bullion) are liquidated to pay the fund's expenses. This totals approximately 7.2 percent of the NAV after ten years, leaving the ETF's NAV at \$55.68, even though the underlying gold did not change in price.

Taxes

The taxation of these gold and silver ETFs may not be as favored as other ETFs. Gold and silver bullion are considered "collectables" for tax purposes, which limits the most favorable tax rate to 28 percent after one year; capital assets have a maximum long-term tax rate of 15 percent after one year, and commodity futures typically get 60 percent long-term / 40 percent short-term treatment regardless of holding period.

There is extensive tax information available on each of the provider's Web sites, but investors should contact their tax advisors as to the tax consequences of their particular situation.

Comparative Analysis

Many investors have "commodity market" views and investment objectives that are derived from the volatile, headline-grabbing spot price changes of gold and silver. In such cases, the three spot gold and silver ETFs are focused, accessible, highly liquid, hassle-free and low-cost vehicles for retail and buy-and-hold investors to establish and maintain a position in these commodities. Professional investors will

more likely tap the gold and silver futures market for greater liquidity, significant leverage, lower fees and more complicated trading strategies.

ETFs Linked To Individual Commodity Futures

Structure and Mechanics

The US Oil Fund (AMEX: USO) is the first U.S. ETF keyed to an individual commodity futures market. (Oil ETFs have been traded in Europe and Mexico for more than a year, and a variety of single-commodity futures-based ETFs are available in Europe as well.)

Like the ETFs on bullions, USO is a trust that issues shares representing fractional undivided beneficial interest in its net assets. Unlike the ETFs on bullion, which own physical assets, substantially all of the assets of USO consist of its holdings of the limited liability company interests of a commodity pool, which are the only securities in which the trust may invest.

The commodity pool will hold long positions in futures contracts on WTI, or West Texas Intermediate crude oil, which trade on the New York Mercantile Exchange (NYMEX). The commodity pool is also permitted to trade options, swaps, forwards and other contracts linked to this and other energy markets. It will post margin in the form of cash or short-term securities to collateralize its positions.

It is the objective of the Trust that the performance of the fund will correspond generally to the performance of the near WTI futures contract, before payment of the necessary expenses and liabilities. However, this ETF operates on a best-efforts basis; it attempts to replicate the fully collateralized performance of the benchmark, but does not guarantee such performance.

Taxes

USO is treated as a partnership for federal income tax purposes. Shareholders will be required to take into account their share of the income, gain, loss, deduction, expense and credit in computing their liability.

Futures contracts are marked-to-market at year-end; this means that both realized and unrealized gains and losses must be recognized and cannot be deferred. However, futures contracts are tax-favored: 60 percent of the gain or loss is taxed at the long-term rate and 40 percent is taxed at the short-term rate, regardless of the holding period. Other instruments utilized by the ETF, such as the securities that serve to collateralize the futures and certain derivatives, may or may not be as favored.

Comparative Analysis

As with gold and silver, many investors have "commodity market" views and investment objectives that are derived from the volatile, headline-grabbing price changes of oil. In such cases, this ETF is a focused, accessible, highly liquid, hassle-free and low-cost vehicle for retail and buy-and-hold investors to establish and maintain futures exposure to this commodity. Professional investors will more likely tap the oil and other energy futures markets directly for greater liquidity, significant leverage, lower fees and more complicated trading strategies.

ETFs Linked To A Commodity Index

Structure and Mechanics

At present, there are two ETFs linked to commodity indexes in the U.S.

The first ETF issued in this category was the DB Commodity Index Tracking Fund (AMEX: DBC). It came to market on February 3, 2006, and has since been re-branded on the PowerShares platform.

(On June 29, 2006, PowerShares—in partnership with Deutsche Bank—filed with the SEC to launch seven more ETFs, each linked to a commodity sub-index: energy, oil, precious metals, gold, silver, base metals and agriculture. As of press time, these ETFs have not yet been launched.)

Deutsche Bank sought to create a liquid and simplified commodity index called the Deutsche Bank Liquid Commodity Index specifically to support the creation of tradable instruments. Its first-mover advantage in issuing the DBC ETF has given it a sizable audience, but it otherwise remains far less popular than the GSCI or DJ-AIG commodity indexes.

Like USO, DBC is a trust that issues shares representing fractional undivided beneficial interests in its net assets. Substantially all of the assets of the trust consist of its holdings of the limited liability company interests of a commodity pool, which are the only securities in which the trust may invest.

The commodity pool expects to hold long positions in the same individual commodity futures contracts used to construct the DB Commodity Index. It will post margin in the form of cash or short-term securities to collateralize its positions.

It is the objective of the trust that the performance of the shares will correspond generally to the performance of the DB Commodity Index before payment of the necessary expenses and liabilities. However, like the oil fund, DBC operates on a best-efforts basis; it attempts to replicate its benchmark, but does not guarantee such performance.

DBC introduced a feature that attempts to add value through an active roll strategy. Specifically, it has adopted the roll strategy of the related Deutsche Bank Liquid Commodity Index—Excess Return Optimum Yield, which follows a special set of rules when it rolls from one futures contract to another for each underlying commodity in the index. The rules allow the fund to roll into the futures contract that generates the highest “roll yield,” rather than automatically selecting the next futures contract based on a fixed calendar. Theoretically, this should improve roll yield returns in both backwardated and contango-ed markets; however, in doing so, the managers assume excess duration risk compared to the underlying index. It is not yet known how this strategy will impact the fund’s performance.

The second broad-based commodity ETF was introduced on July 21, 2006, by Barclays Global Investors (BGI). The iShares GSCI Commodity Index Trust (NYSE GSG) has an innovative—if somewhat complicated—design.

As with DBC, GSG is a trust that issues shares representing fractional undivided beneficial interests in its net assets. Substantially all of the assets of the trust consist of its holdings of the limited liability company interests of a commodity pool, which are the only securities in which the trust may invest.

The commodity pool expects to hold a long position in certain commodity index futures called “CERFs,” which will help it track the GSCI Total Return Index, its benchmark commodity index. The fund will post margin in the form of cash or short-term securities to collateralize its positions.

As with DBC and USO, GSG operates on a best-efforts basis; it attempts to replicate its benchmark, but does not guarantee such performance.

The use of “CERFs” is what makes this ETF innovative. CERFs are cash-settled futures contracts on the GSCI Excess Return Index, which represents the performance of the uncollateralized version of the GSCI. CERF contracts mature five years from their original listing date, and the first contract has an expiration of March 2011. Additional contracts with five-year terms will be listed one year prior to the expiration of the previous contract. CERFs trade on the Chicago Mercantile Exchange (CME) and were seemingly created specifically to support the introduction of this ETF; although technically, they may be traded by any market participant.

By acquiring long-term CERFs, rather than trading and rolling traditional futures contracts, this ETF has given itself a few advantages over its peers. CERFs eliminate the need to trade the underlying individual commodity contracts from one contract to another contract each month. As a result, there is no slippage with respect to achieving the performance of the GSCI Excess Return Index, and no associated commissions or fees. Furthermore, the reduced number of moving parts minimizes staff requirements and managerial overhead, although this is not currently reflected in a lower expense ratio than competing funds.

On the flip side, the liquidity of the CERFs market has not been fully established, and buying and selling such contracts in response to changing ETF investor demand many prove to be costly.

Unfortunately, there is insufficient history to determine how well the DBC and GSG managers hold to their “best efforts” performance, and it is not yet known how each of their strategic “value-added” features holds up under real-world conditions.

Fees

Both funds have a core management fee of 75 basis points.

Taxes

Both ETFs are partnerships for tax purposes. Shareholders will be required to take into account their share of the income, gain, loss, deduction, expense and credit in computing their liability.

Futures contracts are marked-to-market at year-end; this means that both realized and unrealized gains and losses must be recognized and cannot be deferred. As mentioned however, futures contracts are tax-favored: 60 percent of the gain or loss is taxed at the long-term rate and 40 percent is taxed at the short-term rate, regardless of the holding period. Other instruments utilized by each ETF, such as the securities that serve to collateralize the futures, may or may not be as favored.

Although CERFs are futures contracts, certain institutional buyers that fully-collateralize their purchases (as GSG expects to do) should get distinct tax treatment. For those buyers, CERFs

will not be marked-to-market at year-end; in addition, 100 percent of the gain or loss should be taxed at the long-term rate after a six-month holding period. Since GSG may reasonably expect to hold the bulk of its CERFs for long periods, this should allow for tax deferral at favorable rates relative to the comparable instruments used by DBC. Although the IRS does not appear to have commented publicly about CERFs, sources suggest it has given comfort to GSCI and Barclays on this matter in a Private Letter Ruling.

Comparative Analysis

The ETF structure of DBC and GSG allow the funds to piggyback on the popularity and success of other ETFs. However, they are more complicated, more expensive and less precise in their slippage than other ETFs, as well as other commodity-linked vehicles. These ETFs may be suitable for retail or buy-and-hold investors that are looking for a quick, comfortable solution, but professional and more discerning investors will likely turn to other instruments for comparable exposure.

Exchange-Traded Notes

Structure and Mechanics

Exchange-traded notes, or “ETNs,” are a new instrument designed specifically for the commodity markets, but clearly applicable elsewhere. ETNs strike some as complicated, but they are actually fairly straightforward: *ETNs are structured like debt, traded like equity, and deliver the performance of a commodity index.*

ETNs are instruments linked to the performance of a commodity index. At present, Barclays has issued three ETNs: the iPath GSCI Total Return Index ETN (NYSE: GSP); the iPath Dow Jones-AIG Commodity Index Total Return ETN (NYSE: DJP); and the iPath Goldman Sachs Crude Oil Total Return Index ETN (NYSE: OIL).

The first two ETNs track two of the most popular and well-established commodity indexes. Each of these indexes has the benefit of substantial underlying liquidity, publicly available information and a long track record.

The appropriately tickered OIL ETN tracks an unlevered investment West Texas Intermediate (WTI) crude oil futures. The ETN tracks a subindex of the Goldman Sachs Commodity Index, even though it consists of just a single benchmark futures contract.

Technically, ETNs are NYSE-traded senior unsecured 30-year debt notes issued by Barclays Bank PLC. The notes obligate Barclays to pay noteholders at maturity (or designated interim settlement dates) the face amount of each note, plus the exact change in the commodity index, less fees of 75 bps per year. The notes do not pay a coupon.

Noteholders should understand that they are purchasing a claim against Barclays, and face the risk that Barclays may not satisfy their obligation. The claim is *not* against a fund’s net assets; in fact, there is no fund, nor any net assets.

ETNs are similar to ETFs in several important ways. First, they are exchange-traded and can be held in a standard brokerage account. Second, they can be leveraged, borrowed and shorted just like ETFs. Third, the face amount of \$50 per note seems to have been designed to reach retail buy-

and-hold customers, active traders and institutional investors alike.

Of course, Barclays has also worked hard to distinguish ETNs from ETFs. First, the ETN’s performance before fees is *exactly* equal to the return on its underlying index; Barclays, not the noteholder, assumes the slippage risks, trading frictions and other uncertainties in managing the underlying commodity index exposure. Second, ETNs are transparent vehicles in a familiar note form; ETFs are complicated by a trust structure that holds interests in commodity pools, which may then variously utilize commodity index futures with no trading history or employ untested roll strategy modifications while passing through the resulting performance to the shareholder.

On the downside, ETNs are brand vehicles. There can be no assurance of long-term trading interest, attractive bid/ask spreads and sufficient liquidity; these are all open issues, especially if Barclays fails to fully support its initial listings with additional offerings, marketing and so on. Furthermore, the lack of active management sets aside all potential sources of added returns. In a rapidly developing market for commodity-linked vehicle technology, it may be unwise to prematurely eliminate all possibility of incorporating new developments in financial products, including collateral management and roll strategies.

Fees

Barclays charges ETN holders a fee of 75 bps per annum; however, there are no additional (and unstated) brokerage costs to consider. These costs are estimated at 8 basis points per year for the DBC ETF; no estimates are available for GSG.

The ETN’s expense ratio is not collected from the noteholders at the time it is charged. Rather, the fee reduces Barclays’ obligation at maturity. This will cause the ETNs to seemingly trade at a discount to the performance of their benchmarks at the rate of 75 bps per year, in a manner similar to the bullion ETFs mentioned earlier.

Taxes

The prospectus claims that the ETNs should be taxed as pre-paid contracts, and that capital gain or loss should be recognized upon the sale, redemption or maturity of the security. However, Barclays recognizes that the IRS has not ruled on this security, and acknowledges that it may assert an alternate treatment: “Absent an administrative or judicial ruling to the contrary, you should treat the Securities for all tax purposes as a pre-paid contract with respect to the Index,” says the prospectus. “[However, the] United states federal income tax consequences ... are uncertain.”

In other words, consult your tax advisor.

Comparative Analysis

On balance, the ETN appear to be possibly the most cost-effective, accessible and transparent method for non-professional investors to gain access to a broad-based commodities index. As long as they remain liquid and Barclays remains solvent—and the tax rulings break Barclays’ way—ETNs could

prove to be the vehicle of choice over the long run.

Although professional investors have access to a broader menu of commodity index investment vehicles, they might consider ETNs a straightforward way to establish a core position in a fully collateralized commodity futures index. However, the long-dated credit risk and uncertainty surrounding ongoing market liquidity might make large positions unlikely. In addition, the lack of opportunities to incorporate active collateral management, creative roll strategies and other valued-added commodity trades might ultimately limit the participation of professional investors.

Mutual Funds

Structure and Mechanics

Mutual funds have been a success story among the providers of commodity-linked vehicles. Using a vehicle format that most investors already understand, the mutual funds have gathered substantial assets over the last three years as commodity prices began to soar and attract attention from individual investors and institutions alike.

There are several popular funds, including the PIMCO Commodity Real Return Strategy (PCRAX), which is linked to the Dow Jones-AIG Commodity Total Return Index, and the Oppenheimer Real Asset Fund (QRACX) and Rydex Commodities (RYMBX), which are both linked to the GSCI Total Return Index.

All three mutual funds previously used swaps or notes (derivatives) to target their benchmark commodity index exposure. This eliminated the possibility of slippage with respect to the commodity component of the benchmark return. The mutual funds then, to varying degrees, actively managed their collateral to outperform a portfolio of cash and Treasury securities.

A relatively recent tax ruling, however, forced all mutual funds to rethink the type of derivative they use to gain commodity index exposure. Specifically, the IRS determined that some derivative forms would result in significant tax liabilities for mutual fund investors.

Fees

Generally, commodity mutual funds have higher fees than other vehicles that offer similar exposure. Not only do they have expense ratios that start at 1.25 percent and rise above 2.00 percent, they may also have "loads" that make short holding periods a very expensive proposition.

Taxes

The tax implications for commodity mutual funds became quite complicated in December 2005, thanks to the aforementioned ruling. Specifically, the IRS ruled that the income from total return swaps on a commodity index does not qualify as "good" income for a mutual fund, which could invalidate the mutual fund's status as a 1940 Act vehicle. Translation: stop using swaps, or you'll lose your status and investors will end up being double-taxed.

Since this ruling, all mutual funds have traded out of their swaps and into structured notes linked to the performance of the same commodity index. Although it is generally believed that the notes may qualify as "good" income where

the swaps had failed to do so, the IRS has not definitively ruled one way or the other. This leaves some degree of risk in the tax status.

Furthermore, the use of structured notes in place of swaps has other implications. Notes are generally less liquid than swaps, so at least one fund has altered its redemption schedule from daily to weekly. Notes also introduce greater counterparty risk than swaps since they require cash payments for notional amounts, not simply an exchange of net cashflows. The mutual funds must take a closer look at the counterparty's credit, and have eliminated those institutions that cannot serve as suitable counterparties. This has concentrated the counterparty risk in a small circle, raising the overall risk to mutual funds. Other changes may be forthcoming as the funds themselves gather experience in this new product.

Comparative Analysis

Commodity mutual funds have served their purpose in building interest in this market among non-professional investors. However, the relatively high fees, unresolved tax complications and wide variety of liquid and transparent alternatives with similar exposure mean that it is time to shift away from this vehicle.

Professional investors do not generally consider mutual funds to be a suitable investment vehicle.

TRAKRS

TRAKRS, an acronym for Total Return Asset Contracts, are issued by Merrill Lynch and the CME. TRAKRS contracts were launched in July 2002, and were designed to be the first broad-based index products traded on a U.S. futures exchange that can be sold by securities brokers.

TRAKRS attempt to reduce some of the (perceived) complexities associated with traditional futures contracts for non-institutional customers ("NICs"). For example, long TRAKRS positions themselves are not leveraged for NICs; they post 100 percent of the TRAKRS market value at the time of purchase, and will not be subject to margin calls or any requirement to make any additional payments throughout the life of their TRAKRS positions. (Of course, TRAKRS can also be shorted.) Furthermore, NICs will be permitted to trade and hold TRAKRS in either a futures account or a regular brokerage accounts, subject to certain regulatory and operational requirements. Unlike more traditional futures contracts, which have a term structure of expiration dates, there is just one outstanding contract (expiration date) for each TRAKRS.

There are currently three commodity TRAKRS products: Gold TRAKRS (maturing December 1, 2006), Rogers International Commodity TRAKRS (maturing October 26, 2010) and PIMCO Commodity RealReturn DJ-AIGCI TRAKRS (maturing Jun 29, 2011). The last two are linked to the Rogers Commodity Index and the DJ-AIG Commodity Index, respectively.

Although TRAKRS might be the first publicly-traded commodity-linked vehicle, they have not evolved to provide the level of transparency, liquidity, and cost-effectiveness now offered by the current slate of products.

TRAKRS do not have tracking error against their stated benchmarks, although by any standard, the fees extract an extraordinarily high price for it—200bps or more per annum, plus a 300bps sales charge that is amortized over the first 30 days of trading.

Generally, the TRAKRS market is illiquid and bid-ask spreads remain wide. This makes active trading an expensive proposition, and large blocks are available by appointment only.

In practice, the claim that TRAKRS can be settled in traditional brokerage accounts (as opposed to futures accounts) has been proven difficult to implement. Most brokerage firms have never done it, and are not readily willing to invest the necessary resources for what is essentially a proprietary product with little supporting interest.

TRAKRS have one marginally attractive feature over other commodity-linked vehicles. Although they are technically futures contracts, NICs can get 100 percent long-term capital gains treatment after just six months.

Other Products, Markets And Vehicles

Not all commodity objectives fit neatly into the standardized categories listed earlier in this article. In such cases, investors can turn to other products, markets and vehicles that allow for a customized solution. These do not come without certain tradeoffs, of course, and they certainly do not come free.

Structured Products

Structured products (“SPs”) represent the catch-all bucket for any product that may reach outside or across the categories and structures covered earlier. SPs offer exposure to some combination of characteristics, access and customization, often using derivatives and other solutions, that are not necessarily available elsewhere in the marketplace.

Technically, some of the standardized categories of commodity-linked vehicles are themselves structured products: ETFs, ETNs and so on. However, they have been made suitable for “normal” trading by standardizing all of the moving parts (except price), publicly detailing the risk factors, and posting on an exchange.

SPs are almost solely offered by large Wall Street institutions in the over-the-counter (“OTC”) marketplace. This means that they are privately negotiated contracts between the investor and an institution, and often require millions of investment dollars to be worthy of consideration. However, for such qualified investors, the terms and conditions can be tailored in an infinite number of ways, allowing for highly specific solutions to best match commodity investment objectives. Investors may use these instruments to provide the primary source of commodity exposure, or to compliment or overlay an existing commodities portfolio.

For example, underlying exposure can be tied to the performance of just one commodity, a basket of commodities, or a commodity index. They can even be tied to the performance of other commodity-linked vehicles, such as ETFs, ETNs and so on.

Different types of exposures can be created to match those found in more traditional markets. Vanilla options, total return swaps and forward contracts are common, and can be combined to optimally manage a commodities posi-

tion. Investors often employ such tools to introduce partial or full principal-protection, limit their participation to a targeted range or spread, and add leverage. Some have even secured synthetic leveraged short positions.

On the downside, investors should be comfortable with the counterparty credit risks of the SP. (This could be an issue for long-dated instruments or long expected holding periods.) Additionally, the customized features mean that SPs are less liquid than exchange-trade instruments, and it could be costly to exit the position before maturity. Finally, it will almost certainly be expensive to negotiate the terms and conditions; such costs and other fees will be embedded into the SP’s price, reducing its effective performance.

Many Wall Street firms have created a sub-category within the SP market called “Structured Notes” (“SNs”). SNs seek to standardize many of the terms, conditions, and risks found in SPs without the full expense (marketing and otherwise) necessary for a public offering. This simplifies the creation and distribution process, yet still allows these firms to reach a large and appropriate audience. Most dealers make a secondary market in hundred of such SNs, and post prices online to allow for broker access to inventory and historical data. Although SNs often have the advantage of trading in small denominations—\$1,000 is not uncommon—they are intended for a retail audience and priced accordingly.

Other Markets

Of course, the very definition of what constitutes a commodity market can be expected to be re-interpreted or expanded to include areas outside the current portfolio of contracts held by most indexes. It is reasonable to expect futures markets to capitalize on available technologies, meet the changing demands of commercial producers and consumers, and incorporate growing liquidity and innovations as they emerge around the world.

There are numerous commodities with little or no index participation, or even exchange representation. For example, coal is likely to experience substantial consumption growth if global competition for energy continues its current trend; traditional coal-fired power plants and cleaner forms of coal-to-liquid technologies might require increased trading or further specialization so that producers and consumers can meet in the marketplace. Along those same lines, tar sands, oil sands and other forms of low-grade, heavy products might play an increasing role in meeting global energy needs. We may see the creation of new futures contracts to facilitate those markets as well. Finally, the financial centers beyond New York and London may develop their own versions of crude oil and gas contracts to challenge WTI and Brent dominance; this might better reflect the increasing concentration of global production capacity and the increasing competition for the resources.

The marketplace for fresh water, the most consumed substance on earth, has gathered significant attention as megacities around the world continue rapid growth, agricultural regions are expanded into marginal areas, and nations and localities battle over the routing (and re-routing) of flows. And yet, this commodity, which is often controlled by a mix of public and private

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The Right Packaging: Commodities And ETFs



By Rich White

All indexes aren't rocket science. In fact, just about anything can be an index—even a box of sugar or a leather shoe.

Maybe that's stretching it. But an important index that became accessible to investors in 2006 wasn't too different. It was a common barrel of crude oil.

Actually, a barrel of oil has been the most visible index of global energy economics for some time. In April of 2006, the barrel became investable via a tracking exchange-traded fund. Why was this important?

Oil is the king of all commodities, capable of sparking wars, moving markets, and causing Fed members to squirm in their chairs. And the growth of commodities ETFs holds opportunities for financial advisors to expand and enhance investment strategies.

Should advisors consider introducing commodities ETFs to clients now? For investors with moderate to aggressive risk profiles, the answer is affirmative for three reasons.

The Case For Commodities ETFs

First, commodities are the best pure inflation hedge available to most investors—even better than real estate, because they reflect global (not local) economics.

Second, selected commodities now have ten-year performance records comparable to equities, with low correlation to equities. Traditionally, the ups and down in commodities prices have “reverted to the mean” of price inflation. In other words, you could count on commodities to deliver long-term returns roughly equal to the rate of infla-

tion. But that thinking has changed in specific commodities due to the sustained demand growth of developing economies such as India and China, matched against the finite nature of natural resources. The combination of high historic returns and low correlation with equities makes commodities attractive for diversified investment strategies based on “efficient frontiers.”

The third reason to own commodities, and perhaps the least intuitive to some investors, is the complexity and militancy of today's world, combined with investors' need for portfolio insurance. During times of economic pessimism, investors realize the limits of paper assets such as currencies, bonds and stocks. You can't eat them, wear them, or use them for fuel. Conversely, commodities become more valuable during tough times because they have tangible value that rises when confidence in paper sinks.

Why Selectivity Is Important

Financial advisors should introduce commodities ETFs to clients' portfolios selectively, due to the unfamiliarity and volatility of these instruments. This column profiles four ETFs that could produce rewarding results in 2007, with a rationale for considering each.

All four choices can participate in the infrastructure development and rising consumer markets of emerging economies, while other types of commodities may not benefit as much from this macro-trend. For example, gold is not included in this list because it is heavily owned by central banks, often trades more like a financial instrument than an

industrial commodity, and is too expensive for most industrial applications.

All four choices invest in physical commodities (or the futures market equivalent), not stocks of commodities companies. Although commodities exposure can be gained through funds that participate in energy or materials sector stocks, these investments are influenced by company management, earnings, balance sheets and the general market trend. One benefit of "pure commodities" is their simplicity compared to analyzing equities. When current demand outpaces available supply, commodities prices rise.

The four suggested ETFs are of two types. For advisors who emphasize buy-and-hold investment strategies and asset allocation programs, two broadly diversified commodities ETFs are suggested. For opportunistic or cyclical investing, two ETFs that track physical commodities (oil and silver) are profiled.

Four Commodities ETF Choices For 2007

iShares GSCI Commodity-Indexed Trust (NYSE: GSG)

This ETF, introduced in July of 2006, offers an easy way to participate in a broadly diversified basket of commodities. It is designed to track the return of the GSCI Excess Return Index, which in turn tracks a hypothetical portfolio of rolling exchange-traded futures contracts diversified across 24 commodities groups and weighted by world production. According to Goldman Sachs, the index (as of 11/17/06) had 69.4 percent of its weight in energy-complex contracts, 17.5 percent in agriculture and livestock, 10.8 percent in industrial metals and 2.4 percent in precious metals.

Among all major commodities sectors, oil has the lowest correlation with the S&P 500 Index. The Commodity Research Bureau has calculated this correlation at negative 23 percent for the ten-year period ending December 31, 2006. Thus, the energy-tilted GSG can be a good choice for diversifying stock-heavy asset allocation strategies.

One caveat: Rather than investing directly in futures, GSG participates in a new type of long-term option called a CERF, designed to track the GSCI Excess Return Index. Any lack of liquidity or trading disruptions in CERFs could reverberate to the ETF.

PowerShares DB Commodity Index Tracking Fund (AMEX: DBC)

Launched in January of 2006, DBC was the first U.S.-based ETF granted regulatory approval to trade in futures. Initially, it was sponsored by Deutsche Bank, and tracked the Deutsche Bank Liquid Commodity Index (Optimum Yield). Through a co-branding agreement, it is now being marketed under the PowerShares umbrella, while keeping the original index and manager. As an ETF that offers exposure to a basket of commodities, DBC is similar to GSG. However, it allocates relatively less weight to the energy group (48.9 percent, recently) and more to agriculture (25.1 percent).

Compared to the 24 commodities represented in GSG, this ETF holds just six: light crude, heating oil, corn, wheat,

gold and aluminum. But because DBC invests directly in rolling futures contracts (rather than CERFs), it has more trading instrument diversification and liquidity. DBC could be a good choice for investors seeking broad commodities exposure without the energy-heavy tilt of GSG.

With management fees of 75 basis points, neither GSG nor DBC are cheap compared to other ETFs. However, they offer individual investors more efficient exposure to a basket of commodities than most types of managed funds or commodity pools, and they are far simpler for individual investors to trade than futures.

United States Oil Fund, L.P. (AMEX: USO)

Oil prices are becoming almost as widely followed as the U.S. stock market. Yet, until this ETF launched in April of 2006, you needed a fleet of tanker trucks and a few miles of pipeline to invest directly in oil. Now, it is possible to buy and sell oil by the barrel in a brokerage account. USO invests directly in crude oil futures contracts (and U.S. Treasury securities) to pursue its objective, which is to track the price of one barrel of West Texas Intermediate light crude.

Oil trading is not for the faint of heart. Over the past two years, prices of West Texas crude have gone from the low-\$40s to a peak of \$76 and then back to \$56 per barrel. However, the negative correlation between crude oil and U.S. stocks was dramatized in the stock market decline of May-June 2006 (when oil soared), followed by the stock market rally of July-November (when oil tumbled). Moral: When gas is painful to pump, stocks get dumped and go down, but oil owners don't frown.

One potential drawback: USO is structured as a commodities pool and managed by a pool operator relatively unknown in ETF circles, Victoria Bay Asset Management.

iShares Silver Trust (NYSE: SLV)

In value, silver falls between the precious and industrial metals. As the best electrical and thermal conductor of all metals, it is widely used in electrical contacts, switches and fuses, all of which are in demand as global electric grids and electronics markets expand. New industrial applications for silver are emerging in solar energy, mirrors and coatings, electroplating, and the medical field. China, which has long been a silver exporter, is expected to begin importing more silver than it produces in 2010. The two largest silver producing countries, Peru and Mexico, are vulnerable to political disruption, especially in the rugged rural areas where silver is mined.

SLV was introduced in April 2006 as the sequel to one of the greatest ETF success stories of all time, the 2004 launch of streetTRACKS Gold Shares (AMEX: GLD). GLD has grown to \$8.4 billion in assets, and some sources claim that the demand produced by this ETF absorbed 5 percent of new global gold supplies in 2005 and 2006.

SLV was launched just days before commodity prices began a downward spiral. Yet, it has acquired \$1.4 billion worth of metal (more than 100 million ounces) in its first

seven months, and assets are growing at a rate of more than \$7 million per day. Total mine production of silver in 2007 is projected at 800 million ounces, which at today's prices represents value of about \$10 billion. If SLV maintains its current growth rate over the next year, it will absorb 25 percent of total projected silver mine output.

It is not yet clear how much demand pressure ETF-induced liquidity will place on commodity supplies. But among all commodities yet participating in ETFs, silver has the thinnest spot trading market. As global industrial demand for silver increases, ETFs could one day literally hold the keys to the vault.

SLV could be a suitable choice for financial advisers who wish to follow supply/demand data and target suitable entry and exit points.

More to Come...

There is yet another interesting twist in the commodities world that could add interest and demand. That is the recent introduction of exchange-traded notes (ETNs) by Barclays Bank.

iPath GSCI Total Return Index ETN (NYSE:GSP) is directly competitive with GSG and DBC, and iPath Goldman Sachs Crude Oil Total Return Index ETN (NYSE:OIL) is directly competitive with USO. Barclays has also introduced the iPath Dow Jones-AIG Commodity Index Total Return ETN (NYSE: DJP). Although a discussion of mechanical differences between ETFs and ETNs is best left to another column, this is yet another sign that exchange-traded commodities are here to stay.

More commodities ETFs are already in filing or introductory phases, including long and short oil, individual commodities, and commodities sectors. This clearly is an important new asset class in which indexes and tracking ETFs are setting the standard.

In some areas of the markets, investors are getting ahead of themselves. Ask traders who have been working in the pandemonium of the platinum futures pits.

Four Commodity ETFs That Advisors May Want To Consider				
ETF	Inception	Assets* (\$millions)	Designed To Track ...	Mgt. Fee
iShares GSCI Commodity-Indexed Trust (GSG)	7/10/06	\$107	GSCI Excess Return Index	0.75%
PowerShares DB Commodity Index Tracking Fund (DBC)	1/18/06	\$603	Deutsche Bank Liquid Commodities Index	0.75%
U.S. Oil Trust (USO)	4/3/06	\$703	1 barrel of Texas intermediate crude oil	0.65%
iShares Silver Trust (SLV)	4/21/06	\$1,372	10 ounces of silver	0.50%

The world's most valuable metal recently hit an all-time high of \$1,400 per ounce, up 40 percent from a year earlier, based in part on speculation that Barclays Global Investors may introduce the first platinum ETF in 2007. When a Barclays spokesman said on November 21: "We have not filed for a platinum product and have no immediate plans to do so," the price skidded by \$15 per ounce.

However, bullish platinum investors focused on one word of that statement—"immediate"—and kept buying.

Although the market is clamoring for a platinum ETF, regulators and traders are worried that "above-ground" stocks of platinum are too thin to support the buying demand an ETF would create. Gold and silver ETFs have purchased and stored the physical metal owned by their funds—an estimated 15 million ounces of gold and 100 million ounces of silver so far.

Fort Knox may soon start to look puny in comparison to ETFs.

COMMODITIES, continued from page 35

entities, has yet to find trading opportunities on public exchanges. Elsewhere, the electricity futures marketplace seems to have been left out of most indexing strategies, and the possibility of bandwidth or data contracts may develop as the "net neutrality" debate plays itself out. Of course, there is even an argument that the markets should be extended to "producers" of certain byproducts or emissions, such as carbon emissions, to meet Kyoto protocols and other environmental regulations in an efficient and cost-effective manner.

Other Vehicles

Lastly, the vehicles themselves will continue their evolution in order to take advantage of strategies outside the passive "long only" universe. Actively-managed funds that

can hold contracts long or short, or move further out the futures term structure, are perhaps the most obvious next objectives. Arbitrage and relative value strategies can be expected to develop over time as well, as investors seek to expand their set of risk and reward opportunities.

Conclusion

By the time this article goes to press, there are likely to be additional commodity-linked vehicles in the marketplace—some may simply extend the reach of an existing platform, while others may introduce something entirely new. Regardless, this article should give you the tools necessary to understand each product's role in the marketplace and to best determine whether it fits within a given set of investment objectives.

What Is An Index?



By Gary L. Gastineau
and Tina J. Lazarian

Warning: This column discusses issues of etymology and lexicography. Consequently, it is not suitable reading for young children.

The title and topic of this column was inspired by a Clifford Asness (2006) article that appeared in the October issue of *Institutional Investor*. The same question was echoed in the headline of an even more recent article by Ian Salisbury (2006) in *The Wall Street Journal*. Both articles examine the recent development of “fundamental indexes” and other non-market-cap-weighted approaches to indexing.

Asness raises some interesting questions on the “value” of fundamental indexing, as advocated by Research Affiliates and WisdomTree, along with their respective gurus, Rob Arnott and Jeremy Siegel. Asness’s paper deserves the attention of any serious student of indexes and indexing.

We take issue, however, with Asness’s case for restricting the definition of “Index.” The notion that “Index” should be narrowly defined encouraged us to retrieve and update some research we did a few years ago for another purpose. As the following tree diagram shows, we examined the origins and the breadth of English definitions for “Index” dating to its emergence in antiquity (probably between 1350 and 1400) from Latin antecedents. The tree provides a rough timeline of citations from Samuel Johnson’s *Dictionary of the English Language*, *The Oxford English Dictionary* and a variety of other English and American dictionaries of more recent vintage. (Lest there be any confusion, we do not offer this diagram as a wisdom tree.)

Anyone who proposes to restrict the definition of “Index”

must deal with the fact that the word has been part of our language for more than six centuries, and has been used for many purposes over that period. Some of the boxes in the tree have a heavy border indicating that the definition inside is an antecedent of how the financial community uses the word “Indexes” today. Common equity market indexes probably originated with the S&P 500 in approximately 1957. The S&P 500 was described as an “Index” in an attempt to distinguish it from the Dow Jones Industrial “Average.”

We cite below a number of financial “Index” definitions from dictionaries and glossaries of recent vintage. Unlike the original print editions of Johnson’s *Dictionary* and *The Oxford English Dictionary*, many online dictionaries are updated without the document trail that etymologists and lexicographers have used to track changes in usage over time. In some cases, the definition of “Index” in these dictionaries has changed since our original research.

Surprisingly, the controversial Wikipedia Web site does not provide provocative “Index” definitions. We hope no one takes that statement as indicating a fault in Wikipedia’s efforts. We have quite enough “Index” definitions. We are not asking for more.

Selected Definitions Of “Index”

“Index”: A number calculated by weighting a number of prices or rates according to a set of predetermined rules. A financial market index is a statistical construct that measures relative or absolute price changes and/or returns in stock, fixed-income, currencies, or futures markets. The pur-

INDEX
The Word Emerges
1350-1400

The Forefinger
1398

Catalogue of books censured by the Roman Catholic Church: 1559 (obsolete)

That which points out, shows, indicates; that which guides, informs, directs: 1577 - 1887

Numerical scale used to compare variables with one another or a reference number: 1594

Table for facilitating reference to topics as in a book: 1578 - 1632

Power or root, exponent (positive or negative): 1674

Character used in printing to call attention to a paragraph or section: 1727

A number derived from a formula used to characterize a set of data: 1829

Ratio or formula expressing the ratio of one dimension of a thing to another: 1829

Index of refraction: 1829-1830

A quantity whose variation over a period of time measures the change in some phenomenon: 1870 -1875

Vertical index of the cranium: 1866

To move a machine or a piece of work held in a machine tool so that a specific operation such as cutting gear teeth will be repeated at definite intervals: 1879

A number representing the relative value or magnitude of something in terms of a base or standard, as a price index: 1886

Library card catalogue

Adjust through indexation – Index wages against changes in prices: 1942

FINANCIAL MARKET INDEXES
1957 - 1960

A number calculated by weighting a number of prices or rates according to a set of predetermined rules

Index Fund – A fund designed to track the performance of a market index

Indexation – A passive or nearly passive investment strategy that attempts to replicate the return of a benchmark index in a fund

pose of the index calculation is usually to provide a single number whose behavior is representative of the movements of a variety of prices or rates and indicative of behavior in a market. "Indexes" serve as underlyings for a number of products, particularly in equity and fixed-income markets.

– *Dictionary of Financial Risk Management (1999)*¹

"Index": Often applies to derivative products. Statistical composite that measures changes in the economy or in financial markets, often expressed in percentage changes from a base year or from the previous month. Most relevantly, indexes measure the ups and downs of stock, bond, and some commodities markets, reflecting market prices and weighting of the companies in the index.

– *Forbes Online Financial Glossary*

"Index": A specialized average. Stock indexes may be calculated by establishing a base against which the current value of the stocks, commodities, bonds, etc., will change; for example, the S&P 500 index uses the 1941–1943 market value of the 500 stocks as a base of 10.

– *Guide to Futures and Options Terminology*

"Index": A statistical yardstick expressed in terms of percentages of a base year or years. For instance, the Federal Reserve Board's index of industrial production is based on 1947–49 as 100. In January 1957, the index stood at 146, which meant that industrial production that month was 46 percent higher than in the base period. An index is not an average.

– *The Language of Investing, A Glossary (1957)*

"Index": A statistical composite that measures changes in the economy or in financial markets, often expressed in percentage changes from a base period or from the previous month. For instance, the CONSUMER PRICE INDEX uses 1982–84 as the base period. That index, made up of the prices for key consumer goods and services, moves up and down as the rate of inflation changes. By the late-1990s, the index climbed from 100 in 1982–84 to 160 and higher, meaning that the basket of goods the index was based on rose in price by more than 60 percent. "Indexes" also measure the ups and downs of stock, bond, and commodities markets, reflecting market prices and the number of shares outstanding for the companies in the index.

– *Barron's Dictionary of Finance and Investment Terms (1998)*

Definition: Stock Indices² And Averages

Indicators used to measure and report value changes in

representative stock groupings. Strictly speaking, an AVERAGE is simply the ARITHMETIC MEAN of a group of prices, whereas an INDEX is an average expressed in relation to an earlier established BASE MARKET VALUE. (In practice, the distinction between indexes and averages is not always clear; the AMEX Major Market "index" is an average, for example.) "Indexes" and averages may be broad-based—comprised of many stocks representative of the overall market—or narrowly based, meaning they are composed of a smaller number of stocks reflecting a particular industry or market SECTOR. Selected indexes and averages are also used as the underlying value of stock index futures, index options, or options on index futures; these derivative instruments enable investors to hedge a position against general market movement at relatively low cost. An extensive number and variety of indices and averages exist.

– *Barron's Dictionary of Finance and Investment Terms (1998)*

Back to Asness

Returning to Asness's article, his answer to the question of "What Is An 'Index'?" is, "the loosest definition is any rule-based method of constructing a portfolio. The method can be completely mechanical—this is how we usually think of it—but it can also be the result of a committee decision such as that undertaken to construct the Standard & Poor's 500 "index." What is important is that it is defined "ex ante," so we know the components before we see the results."

This quotation clearly indicates that Asness is thinking about the use of an index for construction of a portfolio, not necessarily an index to be used as a portfolio benchmark. He also explicitly indicates that the use of the index is to prescribe the contents of a portfolio. Asness continues with the popular refrain, "a definition of an Index that is stricter and, for some purposes, more useful ... describes a combination of assets we can all invest in without distorting prices." In short, he is talking about a capitalization or, perhaps, a float-weighted "Index". As any diligent reader of this journal is aware, and as any viewer of the etymological "index" tree will readily agree, today's definition of "Index" is far broader. Any word that has antecedents that were centuries old when it was first used as a financial market indicator is hard to control.

Whatever the merits or demerits of fundamental indexing, Intellidexes, active indexes and other recent additions to the workload of future generations of lexicographers, there is no scope for narrowing the definition of a financial market index. The cat is out of the bag, the horse has been stolen from the barn and, of course, Elvis has left the building.

Endnotes

¹ We especially recommend the *Dictionary of Financial Risk Management*, Gastineau and Kritzman, 1992, 1996, 1999 and an annually updated version at www.amex.com (scroll to the bottom of the home page and click on Dictionary).

² The Latin root of "index" suggests that the preferred plural should be "indices" rather than "indexes". To prove that index purity is a dead issue, any writer on index topics will find that copy editors will change the plural from indices to indexes without a second thought. Thus, this etymological observation is not a call for a change in the title of the *Journal of Indexes*.

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Indexes, Real Estate And The Development Of Finance



By David M. Blitzer

The last 50 or more years have seen repeated interactions among developments in finance, the creation of new financial instruments and the development of new financial markets. The largest of these link back to the Black-Scholes model and the development of a liquid and listed options market.¹ A close second to Black-Scholes is the transition of indexes from market measures in newspapers to investment vehicles through index mutual funds and exchange-traded funds.

The market changes caused by index investment are far from over. In the last quarter-century, index investing has moved from a curious idea to the mainstay of institutional equity portfolios, where indexing directs about 30 percent of equity assets. With the development of ETFs and index mutual funds, index investing is now a major force in individual investing as well. So far this story has focused on equities and fixed income, the two principal building blocks of most investor's wealth ... but that is changing very quickly.

On page 10 of this issue, Lee Kranefuss discusses the use of ETFs and indexes to expand the range of asset classes to include commodities, REITs and emerging markets investments. Through recent efforts at S&P and its partners, as well as ongoing development work at the National Association of Realtors and other organizations, the list of asset classes is now being significantly expanded to include both residential and commercial real estate.

The Standard & Poor's/Case-Shiller® Metro Area Home Price Indices² are the first residential real estate indexes to

be tied to a tradable financial product—in this case, futures contracts from the Chicago Mercantile Exchange (CME). The series includes 10 indexes tied to major metropolitan areas, as well as a national index tracking a composite of those areas. A companion series of commercial real estate indexes are currently under development, and are expected to launch in 2007. The CME futures contracts are the beginning, not the end, of the possible uses for these indexes in designing and developing new financial products and expanding financial markets into new areas and new products.

One product made possible by the S&P/Case-Shiller® Indices, which the news media claims everyone needs now, is insurance to protect the value of your home in a real estate crash. The dominant view among the media and many investment analysts finds us is in the late stages of a home price bubble that rivals the dot-com mania or the market run-up before the 1987 crash. Whether we're in a bubble is a debate I will side-step for this column—a review of the S&P/Case-Shiller® Indices shows that the upward momentum in home prices began to wane in 2005 and that some further declines seem likely. If there is a recent historical precedent, it may be 1990-91, a period when home prices slowed and then declined.

It is the insurance possibilities, not the forecasting opportunities, which make these indexes interesting. Insurance companies can afford to offer fire insurance because they spread the risk across a large number of homes and bet that only a few burn down at any time. The

same insurance companies don't insure homes against a fall in the housing market because that would affect all homes at the same time and the insurance company couldn't diversify away the risk—until now. With the S&P/Case-Shiller® Indices, they can lay off the risk in the futures market.

One question we get about home price insurance is who would take the long side of the futures market if everyone is convinced prices will fall. All markets, including futures markets, provide price discovery if they are well functioning and efficient; there is always a price at which the market will clear. Developments in finance have been creating or improving insurance markets for a long time. Ten or twenty years ago it was common for municipal bond issuers to buy insurance against default so that their bonds could be sold with lower coupons. In fact, the market was rather inefficient, since bond issuers paid for the insurance, got the lower coupons and profited on the transaction. Somehow, the practice never caught on among corporate bond issuers—until recently. The development of credit default swaps has brought bond insurance to corporate bonds, although the insurance is sold to investors, not issuers. Pricing in this market appears more efficient than in the municipal bond market.

Home price insurance is not the only market that the S&P/Case-Shiller® Indices, and other potential housing indexes and futures currently under development, are creating. Real estate is an increasingly popular asset class for institutional investors seeking a combination of positive returns and inflation protection. In addition, it is not per-

fectly correlated with the equity or debt markets. However, real estate exposure is not always easy to achieve. REITs are one possibility, but REIT performance and real estate performance are not always the same. REIT performance reflects the skills of the REIT managers in developing and managing a real estate business, not just the underlying real estate values. Further, REITs, in part due to their popularity, are not completely uncorrelated to the equity markets.

For institutions, direct purchase of real estate is an option in most real estate sectors. But direct purchase of residential real estate is not possible; the closest large investors can come is buying rental apartments, which are not the same as single-family homes. With the development of the S&P/Case-Shiller® Indices, participation in residential real estate is now available to institutional investors. Recent data show that the correlations with the equity markets are low, the returns are similar to high-grade bonds, and that there is less risk than bonds. All this suggests that residential real estate could be an interesting alternative investment for some institutions seeking a combination of an inflation hedge and further diversification.

By applying an index methodology to the real estate market, the new indexes open up the \$21.6 trillion housing market to both institutions and individual investors alike. Other product developers will no doubt expand the market in multiple directions, and once again, indexing will help investors reach their financial goals.

Endnotes

¹ An interesting account of the history is provided by Donald Mackenzie in *An Engine, Not a Camera: How Financial Models Shape Markets*, MIT Press, 2006.

² For details on these indexes, see www.homeprice.standardandpoors.com. The indexes are based on a repeat sales methodology that differs from most other financial indexes.



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A Tale Of Two Markets



By John C. Bogle

From a keynote speech delivered to the 17th Annual Conference on Financial Reporting in San Francisco, CA, on October 27, 2006.

In this latest decade of my now 55-year career in investing, I have studied the subject of financial reporting with attention and concern; delivered lectures on the topic that were a combination of sermon and jeremiad; and even written a fiery book—*The Battle for the Soul of Capitalism*—that demands that we address the remarkable erosion in the conduct and values of our business leaders, our accountants, our investment bankers and our money managers that has taken place over the past two decades.

This change in the conduct of capitalism is hardly a parochial issue. As I wrote in my book:

"If our nation is to overcome the infinite, often seemingly intractable, challenges of our risk-fraught modern world, we require a powerful and equitable system of capital formation. Our economic might, our political freedom, our military strength, our social welfare, and even our free religious values depend upon it."

In other words, there is a lot at stake in your work as financial professionals.

One major contributor to the erosion of that conduct and those values has been the change in the nature of our financial markets; a change that reflects radically different views of what investing is all about, as well as the role of our nation's accounting system in defining them. One view focuses on the *real* market of intrinsic business value. The other focuses on the *expectations* market of momentary stock prices.

The Tale Of Two Market: Real Vs. Expectations

In the "Real Market" of business, real companies spend real money and hire real people and invest in real capital equipment, to make real products and provide real services. If they compete with real skill, they earn real profits, out of which they pay real dividends. But to do so demands real strategy, real determination and real capital expenditures, to say nothing of requiring real innovation and real foresight.

Loosely linked to this Real Market is the "Expectations Market." Here, market prices are set, not by the realities of business, but by the expectations of investors. Crucially, these expectations are set by numbers; numbers that are to an important extent the product of what our managements want them to be, too easily manipulated and defined in multiple ways. We have *pro-forma* earnings (reflecting the magical earnings growth that can be created by merging two firms, as well as a certain dissembling). We have *operating* earnings (absent all those write-offs of previous bad investment decisions, bad debts and bad operations that were discontinued). And we have *reported* earnings, conforming to Generally Accepted Accounting Principles (GAAP); a form of accounting which itself is riddled with substantial gaps in logic, and the implementation of which permit all sorts of financial shenanigans by those who are so inclined.

I first encountered the compelling formulation of the distinction between the Real Market and the Expectations Market only last spring, in the writings of Roger Martin,

dean of the Rotman School of Business at the University of Toronto. I was particularly impressed by the distinction he drew, for I've been focused on the very same dichotomy, with different words, for a long time. I most recently raised the distinction in a speech I gave at Princeton University's Center for Economic Policy Studies in 2002, the core ideas of which in turn found their way to a prominent role in *The Battle for the Soul of Capitalism*, published last year by Yale University Press.

The thesis of that speech—"Don't Count On It. The Perils of Numeracy"—was that:

"[I]n our society, in economics, and in finance, we place too much trust in numbers. But numbers are not reality. At best, they're a pale reflection of reality. At worst, they're a gross distortion of the truths we seek to measure . . . (As a result), we worship hard numbers and accept the momentary precision of stock prices as the talisman of investment reality rather than the eternal vagueness of intrinsic corporate value."

Enterprise Vs. Speculation

These ideas, in turn, were in fact the product of yet another thesis—a real one, written a half-century earlier—my senior thesis at Princeton University, completed in 1951. There, I cited the words of the great British economist John Maynard Keynes, in his wonderful Chapter 13 of *The General Theory*, where he drew the classic distinction between *enterprise* ("forecasting the prospective yield of assets over their whole life") and *speculation* ("forecasting the psychology of the markets").

Keynes was deeply concerned about the societal implications of the growing role of short-term speculation on stock prices. "A conventional valuation [of stocks] which is established [by] the mass psychology of a large number of ignorant individuals," he wrote, "is liable to change violently as the result of a sudden fluctuation of opinion due to factors which do not really matter much to the prospective yield, since there will be no strong roots of conviction to hold it steady . . . resulting in unreasoning waves of optimistic and pessimistic sentiment."

Then, prophetically, Lord Keynes predicted that this trend would intensify as even "expert professionals, possessing judgment and knowledge beyond that of the average private investor, who, one might have supposed, would correct these vagaries . . . would be concerned, not with making superior long-term forecasts of the probable yield on an investment over its entire life, but with forecasting changes in the conventional valuation a short time ahead of the general public."

As a result, Keynes warned, the stock market would become "a battle of wits to anticipate the basis of conventional valuation a few months hence rather than the prospective yield of an investment over a long term of years."

In my thesis, I cited those very words, and then had the

temerity to disagree. Portfolio managers, in what I predicted—accurately, as it turned out—would become a far larger mutual fund industry, would "supply the market with a demand for securities that is *steady, sophisticated, enlightened and analytic* [italics added], a demand that is based essentially on the [intrinsic] performance of a corporation [Keynes' enterprise] rather than the public appraisal of the value of a share, that is, its price."

Alas, the steady, sophisticated, enlightened, and analytic demand I had predicted from our expert professional investors simply didn't happen. Quite the contrary! Portfolio turnover of equity mutual funds, then running steadily at about 15 percent per year (a six-year average holding period for the average stock in a portfolio) actually soared skyward. In recent years, fund turnover has averaged above 100 percent—an average holding period of less than one year. So, a half-century after I wrote those words in my thesis, I must reluctantly acknowledge the obvious: the worldly-wise Keynes was right, and the callously idealistic Bogle was wrong. Call the score, Keynes 1, Bogle 0.

"The Job Of Capitalism Is Likely To Be Ill-Done"

During the recent era, we have paid a high price for the shift that Keynes so accurately predicted. As professional institutional investors moved their focus from the wisdom of long-term investment to the folly of short-term speculation, "the capital development of the country [became] a by-product of the activities of a casino." Just as he warned, "when enterprise becomes a mere bubble on a whirlpool of speculation, the job of capitalism is likely to be ill-done."

In the recent era, its job has indeed been ill done. The triumph of emotions over economics reflected in the casino mentality of so many institutional investors has had harsh consequences. The expectations market of prices has trumped the real market of business at every turn. Yet when perception—the precise but momentary price of the stock—vastly departs from reality—the hard-to-measure but enduring intrinsic value of the corporation—the gap can be reconciled only in favor of reality.

The fact is that it's relatively easy for a firm to raise the short-term price of its stock and meet the demands of the expectations market. But the job of building intrinsic value in the real business market over the long term is a tough, demanding task, accomplished only by the exceptional corporation.

What Went Wrong In Corporate America And Investment America?

Simply put—and this is the main thesis of my book—what went wrong in Corporate America, aided and abetted by Investment America, was a pathological mutation in capitalism from traditional *owners'* capitalism, where the rewards of investing went primarily to those who put up the capital and took the risks, to a new and virulent *managers'* capitalism, where an excessive share of the rewards of capital investment went to corporate managers and financial

intermediaries.

How could this have happened? There were two principal reasons. First, the “ownership society”—in which the shares of our corporations were held almost entirely by direct stockholders—was gradually transformed into a new “agency society,” with financial intermediaries controlling the overwhelming majority of shares. Since 1950, institutional ownership has risen from 8 percent of U.S. stocks to 68 percent; individual ownership has dropped from 92 to 32 percent. But those agents didn’t behave as owners. They failed to honor the interest of their principals, largely those 100 million families who are the owners of our mutual funds and the beneficiaries of our pension plans.

The second reason is that the predominant focus of institutional investment strategy turned from long-term investment in the business market to short-term speculation in the expectations market. During the past few decades, we entered the age of expectations investing, where growth in corporate earnings—especially earnings guidance and its achievement—became the watchword of investors. Corporate managers and corporate stockholders—now no longer true owners, but renters—came to accept that whatever earnings were reported were, well, “true.” In effect, as a corporate Humpty-Dumpty might have told an institutional investor Alice in Wonderland: “When I report my earnings it means just what I choose it to mean, neither more nor less . . . the question is who is to be the master—that’s all.” And Alice said, “aye, aye, Sir.”

Management became the master of the numbers, and our public accountants, too often, went along. In what I’ve called “the happy conspiracy” between corporate managers, directors, accountants, investment bankers, and institutional owners and renters of stocks, all kinds of bizarre financial engineering took place. The reported numbers met the demands of the expectations market, but often had little to do with the realities of the business market. Loose accounting standards made it possible to create, out of thin air, what passes for earnings, even under GAAP standards. For example:

- Cavalierly classifying large charges against revenues as “immaterial.”
- Hying the assumed future returns of pension plans, even as rational expectations for future returns deteriorated.
- Counting as revenues sales made by lending corporate monies to the purchasers.
- Merger adjustments involving huge write-offs of accounts receivable, only to collect them later on; and write-offs of perfectly good plant and equipment, eliminating future depreciation charges.
- Excluding the cost of stock option compensation from corporate expenses. (This practice has now, happily, been prohibited.)
- And, lest I forget, timing differences between GAAP and tax accounting.

And I haven’t even touched on the concealment of debt

in special-purpose entities, abused most notably by Enron.

Under GAAP, these practices are all . . . well . . . legal. Surely it can be said that the problem in such creative financial engineering isn’t what’s *illegal*. It’s what’s *legal*. (Indeed, even the backdating of options—the most recent example of the malfeasance of corporate managers—when accounted for properly, is legal.) And so the management consultant’s bromide—“If you can measure it, you can manage it”—became the mantra of the chief executive.

Reality Falls Short

But hyping the expectations market by managing earnings can only continue to the extent that the real business market delivers the goods, and of course, it couldn’t. During 1980-2004, public corporations had projected their growth at an annualized rate averaging 11.5 percent. But they actually delivered earning growth of 6 percent—only about half of their goal, and even slightly less than our GDP growth of 6.2 percent per year. (It will hardly surprise this audience to learn that over the long term, corporate earnings growth is closely linked to the growth of the economy.) During the great bubble, the expectations market—illusion—soared above the business market—reality. And then, inevitably, the stock market bubble finally burst.

But now think about this: if each stockholder held the same stocks throughout the boom and the bust, that difference—finally irreconcilable—simply wouldn’t have mattered. Prices would have soared past intrinsic value and then, observing the laws of gravity, returned. But it *did* matter. Why? Because an enormous transfer of wealth took place from a variety of stock sellers—largely corporate insiders exercising their stock options and entrepreneurs taking their enterprises public—to a variety of largely different stock buyers—the unsuspecting (and often, greedy) public and, ironically, the corporations themselves, buying back stock in order to avoid earnings dilutions from those options.

But this was no zero-sum game. For the financial intermediaries—investment bankers and brokers who sold all those high flying stocks to their clients, and mutual fund managers who sold all those “new economy” funds to the public—turned it into a loser’s game. I calculate these croupier costs at more than \$1 trillion (!) during 1998-2002 alone.

When we have two vastly different markets, it is almost inevitable that major conflicts arise. Toronto’s Roger Martin sets up his critique using pro football as an analogy. There, the expectations market is reflected in the betting on the point spread between the scores of rival teams. When the game ends, the reality, of course, is the actual spread. In pro football, he notes, “No participant in the real market is permitted to participate in the expectations market.” That is, the star quarterbacks, as well as all the other actors in those football dramas, are not allowed to bet on *any* games, even those in which they do not play. Surely few would argue that such a prohibition is not a sensible policy.

And then he drops the bomb:

But there is an even bigger game in which players in the real market are not only allowed, but strongly encouraged to play in the related expectations market: It is of course the stock market for a company's shares. While the task of the CEO is to build the real business, he spends a lot of his time playing in the expectations market, setting expectations, controlling the numbers that will reflect whether or not they are met, and getting paid staggering amounts of stock-based compensation on the theory that such compensation aligns the interest of executives with the interest of shareholders.

Baloney! Stock-based compensation does nothing of the sort. It encourages executives—and their chief financial officers, too often with the tacit approval of their public accountants and their directors—to manipulate the expectations market to their own benefit. Even as it is banned in pro football, it shouldn't be allowed in executive compensation. Sometimes this manipulation is reflected in a future slowing of overstated past earnings. (General Electric, widely regarded as one of the champions of managed earnings during the recent bubble era, reported growth in earnings per share in 1996-2000 of 15 percent per year. Since then, the growth rate has dwindled to 4 percent.) At other times, we get earnings restatements ... and, in the recent era, lots of them: In 2005, there were 1,195 restatements by U.S. public companies, a ten-fold increase over the 116 restatements in 1995.

When Prices Depart From Values

In the long run, the numbers that are reported as earnings don't change the realities of investing. Berkshire Hathaway's legendary investor Warren Buffett, whose firm is publicly held, regularly hammers home to his shareholders the message that he prefers Berkshire stock to trade at or around its intrinsic value—neither materially higher nor lower. He explains that:

[I]ntrinsic value is the discounted value of the cash that can be taken out of the business during its remaining life . . . When the stock temporarily over-performs or under-performs the business, a limited number of shareholders—either sellers or buyers—receive out-sized benefits at the expense of those they trade with. [But] over time, the aggregate gains made by Berkshire shareholders must of necessity match the business gains of the company.

If all investors were long-term investors, financial probity and all that earnings management would be of less concern to us. But substantial short-term departures of stock prices

from intrinsic values generate out-size benefits to a limited number of shareholders—either buyers or sellers—at the expense of those with whom they trade, just as Mr. Buffett says. When those benefits are disproportionately bestowed on corporate insiders with the tacit consent of investment bankers, and fund managers whose business interests are served by these aberrations, we have a societal problem that requires—indeed demands—our attention.

In his perceptive recent article in the *Journal of Business Ethics*, Berkeley Professor Emeritus George Staubus argues—persuasively, in my view—that our auditors owe their allegiance to the owners and other users of the financial statements rather than the managements of the enterprises that they audit, and that they have failed in carrying out that mandate. He also faults academic accountants and members of accounting standards-setting bodies for the same flawed allegiance. Yet the U.S. Supreme Court has ruled (in *U.S. vs. Arthur Young*, 1984) that the auditor's "ultimate allegiance is to a corporation's stockholders, as well as the investing public."

We must work toward a system in which auditors represent, not corporate managers, but corporate owners. This is how the system actually worked back in the 19th century, when the British banks and insurers who sent their capital across the sea to finance American capital investment—our railroads and canals—sent their own accountants to audit the books. Presumably, their standards set the stage for American auditing. James Anyon, known as America's first auditor, followed in their footsteps. In 1912, he advised his professional colleagues, "Think and act upon facts, truths, and principles, and regard figures only as things to express them." Amen!

But, of course, directing the allegiance of the auditors to the owners of our firms is only part of the solution to today's flawed version of American capitalism. For in our agency society, where the holders of our stocks are a conflict-ridden step removed from their principals, and where there are too few long-term owners of stocks and too many short-term renters of stocks, accomplishing that goal is not a task for the faint-hearted.

For the good of our society, we need to return to a system in which the real market of owning businesses returns to play the starring role in investment strategy, and the casino-like expectations market is consigned to a supporting role, even as we strive to provide financial reporting that makes those expectations as hard and firm and realistic as we possibly can.

Note: John Bogle is founder and former chief executive of The Vanguard Group. However, the opinions expressed in this speech do not necessarily represent the views of Vanguard's present management.

Journal of Indexes
The Book of Record for the Index Industry

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Suit/Countersuit

Boy oh boy: the International Securities Exchange (ISE) isn't making any friends in the index industry.

After its surprising June 2006 victory in *Dow Jones vs. ISE*, a ruling that effectively ended index-licensing agreements for options on exchange-traded funds (ETFs), the ISE is now pushing to end exclusive licensing agreements on regular index options.

The ISE filed a complaint in the U.S. District Court for Southern New York asking for a declaratory judgment terminating the exclusive index options licensing agreements between the Chicago Board Options Exchange (CBOE), Dow Jones & Co. (Dow Jones) and McGraw-Hill (parent company of Standard and Poor's). Those agreements prevent other exchanges from trading options based on the Dow Jones Industrial Average and the S&P 500 Index. The CBOE has held these exclusive licenses for decades, and they are hugely profitable for the exchange; the S&P 500 option is the most popular index option in the world. The ISE asked the court to end those exclusive licenses in the broad-based interests of investors.

The accused parties struck back at the ISE by filing their own lawsuit, asking that the ISE be banned from launching the contracts without a license. That filing was made in the index-developer-friendly environs of Illinois, home to some of the most powerful precedents in favor of the intellectual property rights of index developers.

The CBOE criticized the ISE in an internal "information circular," arguing that it invested time and effort in building the index options market and noting: "It may be more cost effective to pursue new products through litigation than through research and

development, but we don't subscribe to the argument that these lawsuits are of benefit to investors. Product innovation benefits investors. Lawsuits add to the cost of product development and ultimately create disincentives to innovate."

Barclays Bets On Europe

Barclays Global Investors (BGI) shelled out 240 million euros for the European ETF giant Indexchange. The deal brings to BGI more than \$17 billion in European ETF assets, along with a strong foothold in Continental trading, something the company has lacked in the past.

Historically, the European ETF market has been split largely between three companies—BGI, Indexchange and Lyxor—with the business divided more or less along geographical lines: generally speaking, BGI has dominated in the U.K., Indexchange in Germany and Lyxor in France. With the merger, BGI will become the undisputed 800-pound gorilla in the business.

Bob Diamond, president of Barclays, says: "It is our intention to continue to expand BGI's franchise across Europe and Asia."

The deal is expected to close by January, pending regulatory review.

\$20 Billion To Uncle Sam

The tax man cometh ... and he's hungry.

That's the message from a handful of tax analysts, who warn that 2006 could be one of the worst years for capital gains distributions on record. Investors got a bit of a respite from the tax man from 2002 to 2005, as fund companies harvested the losses incurred in the wake of the Internet bubble. But with the bull market stretching on into its third year,

those tax credits are used up and now Uncle Sam wants his due. According to *Investment News*, mutual fund investors could cough up more than \$20 billion in taxes this year, as fund companies pay out over \$200 billion in gains. That is nearly four times the level of gains paid out in 2004 (\$55 billion).

All International, All The Time

AMG data showed that \$110 billion of the \$124 billion invested in U.S. equity mutual funds (including ETFs) in the first nine months of the year went into international funds. Can you say "performance chasing" in Mandarin? And Russian? And Portuguese?

The Dow Jones Wilshire Everything

Dow Jones Wilshire officially launched its global index family, with the simultaneous rollout of a complete set of size, industry, regional and country indexes stretching across 56 countries around the globe. Style indexes are planned for 2007.

The move is part of a broader expansion of the indexing industry overseas, driven in part by an increase in investor interest in international diversification and in part by the increased availability of solid data on international equities.

The *piece de resistance* of the new index family is the Dow Jones Wilshire Global Total Market Index, a float-adjusted index of more than 12,000 stocks from 56 countries. The Total index is joined by a full swath of regional indexes: Americas, Africa and the Middle East, Asia-Pacific and Europe; Americas exUS, Asia-Pacific exJapan, Middle East, Africa, Developed Europe, Emerging Europe, Latin America, Developed Europe

exUK, Euro Area and Nordic Europe.

GSCI Runs Out Of Gas

Did changes in the Goldman Sachs Commodity Index (GSCI) contribute to a sharp drop in gasoline prices in August? That was the rumor reported in outlets like *The New York Times*.

The problems started when the gas industry, responding to changes in federal law, made plans to phase out the environmentally damaging gasoline additive MTBE. Responding to this change, the New York Mercantile Exchange (NYMEX) announced plans to phase out its major gasoline contract, the New York Harbor unleaded gasoline contract (HU), which represents a gasoline blend that includes MTBE. In its place, the NYMEX launched a new, MTBE-free contract called the Reformulated Gasoline Blendstock for Oxygen Blending, or "RBOB."

The challenge to the index industry was to figure out how to smoothly transition exposure from HU to the untested RBOB contract.

Different indexes took different approaches. The Dow Jones AIG Commodity Index, for instance, successfully transitioned to RBOB in April.

The market, however, was waiting on Goldman Sachs. The GSCI is one of the most popular commodities indexes, with more than \$100 billion in assets tied to it. It also has a huge weighting in energy, with a historical allocation to gasoline that runs between 7 percent and 10 percent. Multiply that by \$100 billion and ... well, you are talking about a lot of money.

So how did Goldman handle this critical challenge? To be blunt: It made a mess of it.

On June 7, Goldman announced a plan to roll the index from HU to RBOB in three steps: one-third of the contracts would roll in August, one-third in September and one-third in November. That was a smart strategy aimed at diluting the trading impact

of the change.

On June 29, however, Goldman Sachs rescinded its advice. The company said it would go ahead with the first roll in August but was reconsidering future rolls, and would announce future plans on July 12.

On July 12, Goldman said it would proceed with the one-third roll in August, but rather than roll an additional third in September, it would instead distribute that weight away from gasoline to other petroleum products. As a result, gasoline's weight in the index would fall.

Then, on August 9, the company said that it would do the same thing for the October roll.

As a result, the GSCI's net gasoline weight dropped from close to 8.72 percent to just 2.3 percent, while the weight of other petroleum products (crude oil, heating oil and "gasoil") rose.

The Times suggested that this reduced weighting contributed to a fall in the price of gasoline, noting that prices dropped 8 percent on August 10, the day after Goldman Sachs made its final pronouncement on the RBOB question.

It's hard to argue with that supposition: With huge chunks of the GSCI moving out of gasoline, there was bound to be a short-term price impact.

The Times erred, however, when it suggested "the August announcement ... caught some traders by surprise."

Goldman clearly tipped its hat on July 12, when they first announced plans to distribute a portion of the GSCI away from gasoline. Anyone who was truly surprised in August wasn't paying close attention—and commodities traders were paying very close attention.

The bigger impact of the August 9 announcement was that Goldman made the change in the gasoline weighting seem permanent. The volume in the RBOB contract had picked up in the weeks prior to Goldman's August announcement,

and some people expected the company to lay out a long-term plan to bring the index's gas position back in line with fundamental weights.

Conspiracy theories raged around the GSCI debacle. One outlandish theory said that the government engineered the move away from MTBE in a bid to deliberately drive down the price of gasoline during an election year. A more credible (although totally unproven) theory suggested that Goldman Sachs traders had inside information on the on-again/off-again decision to embrace the RBOB contract, and that they were able to trade profitably on that information.

INDEXING DEVELOPMENTS

MSCI Preps Major Expansion

MSCI has unveiled plans for a major expansion of its popular All-Country World Index (ACWI). When complete, the new ACWI will include all investable large- and mid-cap stocks worldwide; previously, the index only sampled a majority of stocks. The new index will cover approximately 98 percent of the market cap of large- and mid-cap companies worldwide. As part of the expansion, MSCI also will introduce large- and mid-cap ACWI subindexes.

The indexing giant says it also will significantly expand its global small-cap index to include emerging markets; previously, it only focused on the developed world. The indexer also will develop growth and value versions of the small-cap index.

To round things out, MSCI will combine the ACWI with the improved small-cap index to create a new, comprehensive global benchmark.

The final methodology and details of the index transition process will be announced by March 31, 2007.

SSgA Goes Fundamental

State Street Global Advisors (SSgA) has teamed up with Global Wealth Allocation (GWA) to launch a new, fundamentally weighted index strategy for clients in Australia. The new SSgA Wealth Weighted Global Equities Index Strategy is the first broad-based, fundamentally weighted index strategy embraced by SSgA. The specific strategy covers the developed international markets, and weights stocks based on earnings, cash flow and book value.

Firing On All Cylinders

The S&P 500 Index posted its eighteenth consecutive quarter of double-digit earnings growth in the third quarter. Total index earnings soared 19.9 percent over year-ago levels, thanks to a broad swath of positive earnings surprises.

S&P expects the streak of double-digit growth to come to an end in the fourth quarter, with earnings growth slowing to 8.9 percent, thanks mainly to falling profits in the energy patch.

The index is similarly downbeat about 2007, with expected earnings growth of just 9.97 percent. S&P expects results to be led in 2007 by Information Technology (up 20.92 percent) and Telecommunication Services (up 21.26 percent).

Record Highs

The Dow Jones Industrial Average finally broke above its January 2000 peak of 11,722.98 in October. The move marked a recovery from the index's nadir of 7,528, set on October 4, 2002.

SPVIA Global

The S&P/Citigroup PMI World Index beat 74 percent of active global funds over the first three quarters of 2006, while S&P's emerging markets S&P/IFCI Composite beat 77.9 percent of actively managed emerging markets funds. That performance puts the lie to claims that active managers outperform in "inefficient"

foreign markets.

Passive Hedge Funds

There are now more than 7,000 hedge funds managing over \$1 trillion in assets, and analysts predict continued growth as far as the eye can see. According to a new report from Merrill Lynch, some of this growth will come from the introduction of "passively managed hedge funds."

"The argument for passive management is based on the idea that as the level of competition among active fund managers grows, it becomes more difficult for the average active manager to outperform their benchmark after fees," the group said in a report. "Hence investors who have little skill in selecting outperforming active managers are much better off with a strategy that mechanically replicates the benchmark at a much lower cost."

Indeed.

The Merrill Lynch paper argues that hedge fund returns can be replicated in three ways: through fund of funds, through balancing risk factors between different instruments (currencies, commodities, stocks, etc.) or through "mechanical replication," i.e., using a systematic, rules-based methodology to achieve results.

Social Dividends

Socially responsible investing (SRI) leader KLD Research & Analytics teamed up with Mergent to launch a new dividend-focused index called the KLD Dividend Achievers Social Index, or "DASI." The methodology is simple: KLD lays Mergent's Dividend Achievers screen (which selects companies that have paid increasing dividends for the past ten years) on top of the SRI screens it uses for its two U.S. large-cap indexes, the Large Cap Social and Domini 400 Social indexes. The companies that pass both screens are equally weighted in the index. As of September 30, the index paid a yield

of 2.37 percent, significantly lower than most competing (non-SRI) dividend indexes.

NYSE IPO Indexes

The New York Stock Exchange (NYSE) debuted two new indexes (the IPOX Composite (IPO.ID) and IPOX US (IPY.ID)) that track the performance of NYSE-listed initial public offerings (IPO). The modified-cap-weighted indexes use a methodology designed by IPOX Schuster LLC.

AROUND THE WORLD OF ETFS

SPDRs Spread Their Web

SSgA has filed for the right to launch sixteen new international ETFs, in one of the most important ETF filings in recent history. The new funds will give SSgA a complete lineup of global and regional ETFs, and will position the company to capitalize on the growing interest in international investing. The filings will put significant pressure on BGI, which has had, until this year, a near monopoly on international ETFs.

The funds are shown in the shaded box below.

SPDR S&P Asia Pacific
SPDR S&P Asia Pacific Emerging
SPDR S&P China
SPDR S&P EPAC
SPDR S&P Europe
SPDR S&P European Emerging
SPDR S&P Latin America
SPDR S&P Middle East & Africa
SPDR S&P World (ex-US)
SPDR S&P World (ex-US) Small Cap
streetTRACKS DJ Wilshire Global (ex-US) Real Estate
streetTRACKS Macquarie Global Infrastructure 100
streetTRACKS MSCI ACWI (ex-US)
streetTRACKS Russell/Nomura Prime Japan
streetTRACKS Russell/Nomura Small Cap Japan

Some of the funds—like the

Europe, World, Japan and Asia Pacific funds—simply fill obvious holes in SSgA's ETF line-up. Others, like the Middle East & Africa ETF, capture sections of the market that investors did not previously have a way to access. The global real estate and infrastructure products are perfectly pitched to capture recent trends in the marketplace, and are likely to meet with a strong reception from investors.

It is interesting—and commendable—that SSgA went with a regional approach, rather than a country-specific strategy. BGI owns the single-country ETF space, and SSgA clearly thinks it can move into the regional space.

Previously, SSgA offered just three international ETFs, including two Europe funds and one Global Titans ETF.

Japan Rising, And SSgA With It

The first of the new SSgA international funds debuted in November, as SSgA launched the streetTRACKS Russell/Nomura PRIME Japan ETF (AMEX: JPP) and streetTRACKS Russell/Nomura Small Cap Japan ETF (AMEX: JSC) on the American Stock Exchange (AMEX).

The underlying indexes are jointly managed by Russell and Nomura, and use the same general methodology and rules as Russell's U.S. indexes.

The "PRIME" index tracks the 1,000 largest companies in the Japanese market, covering the vast majority of that market. At the last rebalancing, the index included stocks with market caps as low as \$183 million dollars.

The Small Cap index overlaps with the PRIME index, tracking the smallest 15 percent of companies in Japan. At the last rebalance, that worked out to a market-cap cutoff of approximately \$1 billion. Both indexes are adjusted for float, and

both ETFs charge 56 basis points in expenses.

The ETFs will go head-to-head with competing Japan funds from BGI and WisdomTree.

PowerCubes

PowerShares entered into an agreement with the Nasdaq to assume sponsorship of the hugely popular Nasdaq-100 Index Tracking Stock (NDAQ: QQQQ), as well as the Nasdaq-100 European Tracker (NDAQ: EQQQ) and Nasdaq's 4 BLDRS funds (tickers: ADRE, ADRD, ADRU, ADRA).

The deal brings the six funds and a combined \$19.5 billion in assets under the PowerShares banner, more than tripling the company's total assets under management, from approximately \$7.5 billion to nearly \$27 billion.

Shareholders in the funds should notice no differences beyond the rebranding; the expense ratios, tickers and indexes will all remain the same. The Nasdaq will continue to

administer and own the underlying indexes, and The Bank of New York will remain as trustee.

As part of the deal, PowerShares will gain control of more than \$20 million in annual advertising dollars. In fact, one question raised following the deal was whether PowerShares planned to alter the fund structure to gain more discretionary control over the marketing budget. The QQQs and BLDRs are both unit investment trusts (UITs), and under the UIT structure, the "marketing dollars" must be spent directly on advertising. However, if the funds were converted to an open-ended structure, PowerShares could gain more flexibility in how that money is used.

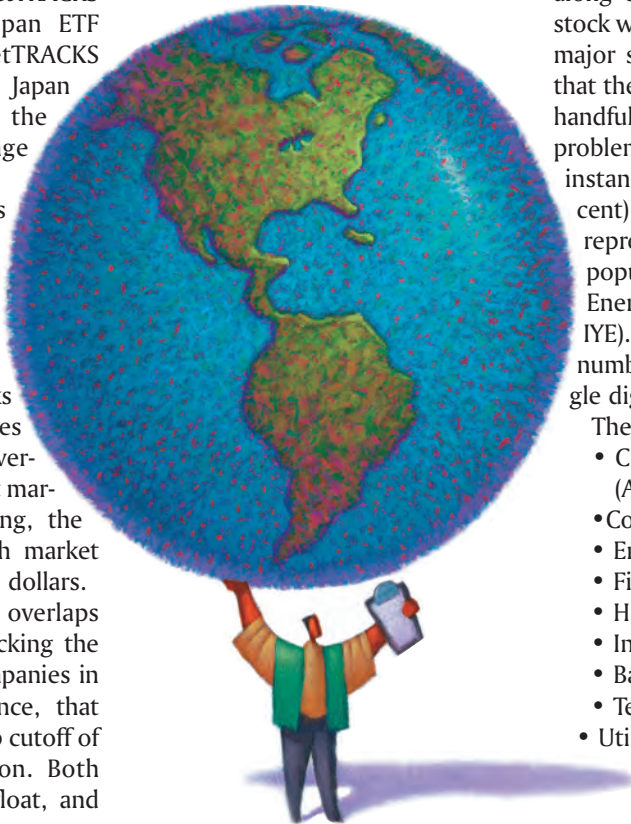
Rydex Rolling

Rydex Investments launched nine equal-weight sector ETFs onto the AMEX, as the company looked to build on the success of its stunningly popular S&P 500 Equal-Weight ETF (AMEX: RSP).

The new funds divide the S&P 500 along sector lines, weighting each stock within each sector equally. One major selling point for the funds is that they will not be dominated by a handful of mega-cap stocks, a major problem for certain sector ETFs. For instance, Exxon-Mobil (23.7 percent) and Chevron (17.1 percent) represent nearly 41 percent of the popular iShares Dow Jones U.S. Energy Sector Index Fund (NYSE: IYE). In the new Rydex fund, those numbers are reduced into the single digits.

The funds and tickers are:

- Consumer Discretionary (AMEX: RCD)
- Consumer Staples (AMEX: RHS)
- Energy (AMEX: RYE)
- Financial Services (AMEX: RYF)
- Healthcare (AMEX: RGI)
- Industrial (AMEX: RGI)
- Basic Materials (AMEX: RYT)
- Technology (AMEX: RTM)
- Utilities (AMEX: RYU)



Steel Yourself

Van Eck Global expanded its fledgling ETF empire by launching two highly specialized ETFs onto the AMEX. The new Market Vectors—Environmental Services ETF (AMEX: EVX) and Market Vectors—Steel ETF (AMEX: SLX) joined Van Eck's flagship Market Vectors—Gold Miners ETF (AMEX: GDJ).

The new funds may not have the immediate luster of the gold product, which attracted a healthy \$250 million-plus since its debut in May. But steel is a critical industrial metal, and the “environmental services industry” (read: trash removal and recycling) has delivered strong performance over the years.

The Environmental Services fund uses an unusual weighting methodology designed to boost the influence of small-cap stocks, a potentially important feature in an industry where consolidation is an important and ongoing process. The Steel fund uses a traditional market-cap-weighting methodology.

Both funds charge 55 basis points in expenses.

PowerShares Takes On ... PowerShares?

PowerShares rolled out eight sector ETFs based on the alpha-seeking “Intellidex” indexes developed by the AMEX. The underlying indexes use a combination of “growth-at-a-reasonable-price” and momentum-based strategies in an attempt to beat the market. The new funds are:

- PowerShares Dynamic Basic Materials Sector (AMEX: PYZ)
- PowerShares Dynamic Consumer Discretionary Sector (AMEX: PEZ)
- PowerShares Dynamic Consumer Staples Sector (AMEX: PSL)
- PowerShares Dynamic Energy Sector (AMEX: PXI)
- PowerShares Dynamic Financial Sector (AMEX: PFI)
- PowerShares Dynamic Industrials Sector (AMEX: PRN)
- PowerShares Dynamic Healthcare Sector (AMEX: PTH)

- PowerShares Dynamic Technology Sector (AMEX: PTF)

The funds will compete head-to-head with an existing slate of alpha-seeking sector ETFs from PowerShares. Those funds, launched in September, are tied to the FTSE RAFI fundamentally weighted indexes. It will be interesting to see how the company markets both sets of funds to investors. Generally speaking, the FTSE RAFI funds tilt towards a value approach, while the Intellidex funds tilt towards growth and small caps.

In addition to the new sector funds, PowerShares launched Banking (AMEX: PJB) and Healthcare Services (AMEX: PTJ) industry funds, as well as a MagniQuant market-timing fund (AMEX: PIQ), which uses macroeconomic data to make allocations across different sectors.

All of the funds are listed on the AMEX and charge 60 basis points in expenses.

PowerShares Three

PowerShares launched three new one-off ETFs onto the AMEX during the third quarter. The new funds include two environmental ETFs, the PowerShares Cleantech Portfolio (AMEX: PZD) and PowerShares Progressive Energy Portfolio (AMEX: PUW), and a third fund called the PowerShares Listed Private Equity Portfolio (AMEX: PSP).

The new Progressive Energy fund invests in technologies that improve the environmental performance of old energy sources like coal, oil and nuclear power, while the Cleantech fund broadens out its environmental focus to include companies working on ways to improve industrial efficiency and cut pollution.

The controversial Private Equity fund, meanwhile, represents the first attempt to open up the private equity space to retail investors. In theory, the fund tracks a modified equal-dollar-weighted index of 34 companies involved in the private equity business. In practice, many of the com-

ponents have only tangential relations to traditional private equity firms. The index developers almost admit as much, but argue that you should not sacrifice the good on the altar of perfection; at least the fund comes close.

All three funds charge 70 basis points.

Better Than Ever

Index investors spurned by Amy Domini's decision to transition the \$1.2 billion-plus Domini 400 Index Fund to an actively managed strategy are having the last laugh. Not only has Green Century Investments lowered the fee on its Domini 400 Index Fund to match the old fund's 95-basis-point expense ratio, but now BGI has launched a new ETF that charges just 50 basis points. The new fund trades on the AMEX under the ticker symbol “DSI.”

The decision to list on the AMEX is curious, as it comes less than a year after BGI decided to transition all of its ETFs away from the AMEX to the NYSE.

Wisdom Forest

WisdomTree Investments petitioned the SEC for the right to launch 31 new ETFs. Twenty-five of the funds rely on some variant of WisdomTree's classic dividend-weighted methodology, including five domestic sector funds and 20 international ETFs (including the first-ever ETF focused on stocks listed in India.)

In a somewhat shocking twist, the filing also includes six funds that weight stocks based on earnings. WisdomTree previously trumpeted dividends as the most transparent, least corruptible “fundamental” investing metric, and has long argued that high yields are correlated with above-market returns. It is not clear yet how the earnings-focused ETFs fit into that picture.

The earnings funds are all domestic (U.S.) funds. They include broad-market, large-cap, mid-cap and

small-cap funds that are weighted by earnings, as well as two funds that focus on stocks with low price-to-earnings ratios.

Rydex Takes On ProShares

Rydex Investments has filed for 96—count 'em, 96—leveraged, inverse and inverse-leveraged ETFs. The filing includes full slates of S&P and Russell style indexes, a full complement of S&P Sector SPDR funds and funds linked to the popular Nasdaq-100 Index.

The filing is a direct challenge to ProShares, which currently offers the only leveraged and inverse ETFs on the market, including ETFs tied to some of the same indexes covered by the Rydex filing.

Like ProShares, Rydex plans to offer three ETFs for each index it tracks:

- Dynamic: 200 percent long exposure.
- Inverse: 100 percent short exposure.
- Dynamic Inverse: 200 percent short exposure.

There is no word yet on expense ratios for the funds. ProShares currently charges 95 basis points for its leveraged and inverse ETFs.

The Claymore Four

Claymore Advisors took a step towards expanding its unusual collection of ETFs by filing with the SEC for four more interesting funds.

The Claymore/Clear Spin-Off ETF will hold the stocks of companies that have been spun-off from larger corporations. The idea is that these stocks will be able to better focus on their core markets, and in turn outperform the broader market. To boost performance further, Claymore will layer a black-box quantitative screen on top of the universe of spin-offs, with a goal of selecting the 40 spin-offs with the greatest risk/reward profile.

The new Claymore LGA Green ETF, meanwhile, will combine SRI with enhanced indexing. The fund is

designed to track something called the “Light Green Eco*Index,” which screens companies for strong public environmental performance records, and then uses a quantitative performance strategy to select companies with the best risk/reward profile.

Taking another tack, the new Claymore/Ocean Tomo Patent ETF will track an index of 300 companies with high levels of intellectual property. The developers of the underlying index believe that these firms are well positioned to outperform in the modern era, where information and intellectual property play an increasingly central role in economic performance.

Finally, the Claymore/Sabrient Defender ETF will track a deep value index designed to hold steady if the broader equity markets take a tumble.

The funds will charge between 50-60 basis points in annual expenses.

Commodity Sectors Catch On

PowerShares filed with the SEC for the right to launch seven new “sector” commodity ETFs. The new ETFs are based on “optimum yield” indexes from Deutsche Bank (DB), which include the spot return, “roll yield” and collateral interest income on each commodity investment, and use a flexible roll strategy in an attempt to maximize returns.

The funds will list on the AMEX and cover the Agriculture (AMEX: DBA), Base Metals (AMEX: DBB), Energy (AMEX: DBE), Gold (AMEX: DGL), Oil (AMEX: DBO), Precious Metals (AMEX: DBP) and Silver (AMEX: DBS) markets.

Similar sector funds from ETF Securities are already trading in Europe.

The Oil, Gold and Silver funds will charge 0.50 percent in expenses per year, while the remaining four funds will charge 0.75 percent each. The funds will also incur brokerage fees ranging from three to 16 basis points per year.

No-Fee Trading

Bank of America (BoA) announced plans to eliminate brokerage trading fees for customers who hold \$25,000 or more in BoA deposit accounts. Accounts will be allowed 30 free trades a month. The move could have significant implications for the ETF industry if it catches on at other brokerages, as it removes one of the largest impediments to using ETFs—commission costs.

The catch ... and there's always a catch ... is that investors must store \$25,000 in one of BoA's banking, checking or deposit accounts, which offer subpar interest rates compared to best-of-breed alternatives. Those lower interest rates can easily offset the commissions savings.

BoA isn't the first company to offer free trades: Wells Fargo offers 50 free trades per year to accounts with \$250,000 or more in assets, and start-ups like Zecco offer free trades with no strings attached.

ETCs List In Germany

ETF Securities listed its family of 31 exchange-traded commodities (ETC) on the Deutsche Börse's Xetra platform. The funds, which include 21 individual commodity ETCs and ten sector/broad-based funds, are the first ETCs to be priced in euros.

Interestingly, the first trades on the Deutsche Börse were not in popular commodities like gold and oil, but rather in oft-forgotten agricultural markets. Corn, for instance, saw the highest euro trading volume on day one, with nearly 20,000 euros worth of contracts trading hands.

Gold In Turkey

Turkey became the sixth country to host a gold bullion ETF, as Finans Portfoy launched its new Istanbul Gold ETF (GOLDIST) on the Istanbul Stock Exchange. In a move designed to attract foreign investors, the fund tracks the international spot price of gold in U.S. dollars. It charges 47 basis points in expenses.

Russia ETF In Germany

The Deutsche Börse launched the world's first (and so far only) ETF tied directly to the Russian market. The Lyxor ETF tracks the Dow Jones RusIndex Titans 10, which holds the ten most liquid stocks on the Moscow Stock Exchange. Its two largest sectors are energy (51.6 percent) and basic industries (19 percent).

FROM THE EXCHANGES

Big Electronic Board

The NYSE finally entered the electronic era recently, as the Big Board rolled out an electronic trading pilot program on two securities: American Express and Equity Office Properties. Assuming all goes well with the test, the exchange plans to roll out electronic trading on all 2,000-plus NYSE-listed securities by the end of the year. In February, the SEC's "Regulation NMS" will require all exchanges to maintain "fast" electronic trading systems.

The Big Board says it will continue to operate a "hybrid" exchange, with floor-based brokers supplying liquidity during times of extreme volatility or limited trading. But according to *The Wall Street Journal*, traders are likely to favor the electronic route. In the first day of the pilot, more than 95 percent of all trades in the two stocks were routed electronically. One NYSE exec said that the average execution time for electronic trades was 0.3 seconds, compared to nine seconds for the traditional approach.

Layoffs At The Big Board

The flipside of the electronic efficiencies is that they are allowing the NYSE to cut staff, which it did, to the tune of 500-plus employees (or 18 percent of its workforce) during the third quarter. The exchange also announced plans to shutter one of its five trading rooms. With the broad-based rollout of electronic trading and the NYSE's planned merger with Euronext, more layoffs are on the horizon.

NYSE/Euronext Looks Good

Another major hurdle standing in the way of the planned Euronext merger fell by the wayside in October, as the Deutsche Börse withdrew its competing bid for the exchange. Assuming it goes through, the Euronext merger will give the NYSE a real foothold in Continental trading, not only for equities but for ETFs as well. Euronext's "NextTrack" program had a 23.9 percent share of the European ETF market in September, according to Morgan Stanley Research, with trading volume up a healthy 64 percent from year-ago levels.

AMEX Launches AEMI

The AMEX also joined the electronic trading revolution recently, with the debut of its new hybrid trading platform, the Auction and Electronic Market Integration Platform, or AEMI. Like the new platform at the NYSE, AEMI combines widespread electronic trading with a floor-based routing option. The idea is that floor trading will help during periods of limited liquidity and market crises. These hybrid systems could play a role in attracting new ETF listings, as they will allow the exchanges to promise liquidity in the early days of a fund's debut.

Won't Take No

The Nasdaq launched a second bid for the London Stock Exchange (LSE), after having its first bid rejected in March. But despite upping its offer by 40 percent, the LSE summarily rejected the Nasdaq offer for a second time.

BOT Out

The Chicago Mercantile Exchange (CME) ponied up nearly \$8 billion to buy its cross-town rival, the Chicago Board of Trade (BOT). The deal is the biggest yet in the global consolidation wave gripping the financial exchange industry. The combined company would be the world's largest publicly traded exchange by

market capitalization, at approximately \$26 billion.

If approved by regulators, the new CME Group will process 9 million contracts per day, with a notional value of \$4.2 trillion dollars (yes, trillion). The group will dominate the market for interest rate and indexed futures, and will be in a strong position to push further into the commodities markets.

NYMEX Soars

The stock of the New York Mercantile Exchange (NYMEX) jumped 132 percent during its first day of trading. The jump gave the NYMEX a market cap of more than \$12 billion, making it the third largest exchange in the U.S., after the CME and the NYSE.

Exchange Index Record

The CBOE Exchange Index (EXQ), which tracks the performance of six publicly traded stock exchanges in the U.S., continued to set records in the third and fourth quarters, as surging profits and continued consolidation in the exchange patch pushed stocks higher and higher.

INTO THE FUTURES

Buy-Write Futures

The CBOE launched a new futures contract tied to the popular CBOE S&P 500 BuyWrite Index, or BXM. BXM tracks the performance a simple "buy-write" (or "covered call") options strategy applied against the S&P 500 Index. The strategy has attracted a huge amount of attention, along with more than \$20 billion in assets, over the past few years.

The strategy sells a call option on the S&P 500 against a long position in the underlying equity index. The trade captures the income premium from selling the calls while protecting the investor against a pullback in the underlying equity position.

It's too soon to say how the futures contract will fare. Futures traders are not used to income-driv-

en strategies, so the uptake could be slow. Then again, investors could be interested in leveraging exposure to a relatively “safe” investment strategy. The CBOE believes there will also be interest from investors looking to hedge long buy-write exposures.

CalPERS For Commodities

As it prepares for a major asset allocation overhaul in November 2007, the \$220 billion California Public Employee’s Retirement System (CalPERS) made its first-ever allocation to the commodities sector, piling \$500 million into the asset class. The fund split its new investment between futures and commodity-linked equities.

“Our goal is to further diversify our assets and take advantage of long-term market opportunities for positive returns in the resources sector,” says CalPERS Board President Rob Feckner.

The group says it will try to meet or exceed the returns of an unnamed commodities futures index, most likely using some sort of enhanced index strategy.

ON THE MOVE

Fleites Out At ProShares

Despite overseeing one of the most successful ETF launches in history, Gus Fleites has left his post as chief investment officer of ProFunds and head of the ProShares ETF unit.

Dr. William E. Seale, principal and chief economist at ProShares, assumed Fleites’ responsibilities, which he held prior to Fleites’ appointment in August 2005.

Fleites managed the launch of ProShares’ family of leveraged, inverse and inverse-leveraged ETFs, which gathered over \$1.5 billion in assets in its first three months on the market.

Archard Joins Barclays

BGI poached one of Vanguard’s top ETF executives to be the new head of product development for iShares. Noel Archard, who previously led the institutional ETF sales effort at Vanguard, will now lead a team of managers at BGI charged with overseeing the continued expansion of the iShares line-up.

A ten-year Vanguard veteran, Archard was head of product development for Vanguard ETFs and worked on everything from product design to sales and marketing.

NYSE Execs Jump Ship

In the first major fallout from the pending Euronext merger, two senior executives at the NYSE resigned their positions in the fourth quarter. Mike Cormack, executive vice president for electronic trading and new products, stepped down “to spend more quality time” with his family. Meanwhile, Marianne Brown, CEO of the NYSE’s technology subsidiary, the Securities Industry Automation Corp (SIAC), left for a senior executive position at an undisclosed corporation.

Brodsky Stays On

The CBOE extended the contract of its popular chairman and chief executive officer, William Brodsky, through (at least) 2007. Brodsky has been the head of the CBOE since 1997, and was earlier the head of the CME.

(TUNING IN continued from page 14)

relating, diversifying asset classes have grown. Thanks to the rapid expansion of the ETF marketplace, individual investors are now able to easily and cost-effectively invest in real estate, commodities and emerging markets. By adding these non-traditional asset classes to an existing asset mix, all investors can improve their portfolio’s risk/reward tradeoff.

Note: Any strategies discussed in this publication are strictly for illustrative and education purposes and are not to be construed as endorsement, recommendation or solicitation to buy or sell securities. This information is not intended to provide investment advice. Barclays Global Investors does not guarantee the suitability or potential value of any particular investment. Past performance is no guarantee of future results.

Endnotes

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- ¹⁵ The IMF and Goldman Sachs, 2006.
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- ¹⁸ Economist.com and the IMF, 2006.

Global Index Data

Selected Major Indexes *Sorted by Year to Date Return*

January/February 2007

Index Name	Total Return %								Annualized Return %					Sharpe	Std Dev
	YTD	2005	2004	2003	2002	2001	2000	1999	3-Yr	5-Yr	10-Yr	15-Yr			
MSCI Spain	40.36	4.41	28.93	58.46	-15.29	-11.33	-15.8	4.77	30.77	21.99	16.11	13.39	1.83	13.69	
DJ Wilshire REIT	32.78	-	-	-	-	-	-	-	29.39	25.31	16.83	15.67	1.48	16.55	
Dow Jones Telecommunication	31.41	-4	18.7	7.33	-34.55	-12.77	-40.27	18.41	17.12	1.73	4.24	-	1.21	11.26	
MSCI Ireland	27.97	-4.74	39.16	39.43	-28.07	-4.01	-14.21	-14.11	23.8	13.38	6.54	8.6	1.43	13.59	
MSCI World Metals & Mining	26.89	33.66	13.88	64.33	-4.28	1.1	-23.56	50.04	29.89	27.72	-	-	1.14	22.8	
MSCI EASEA	24.66	9.87	21.64	39.22	-17.39	-19.11	-8.96	17.81	23.16	15.48	9.79	10.94	1.78	10.4	
MSCI EM Latin America	23.89	44.92	34.77	67.06	-24.79	-4.24	-18.38	55.48	40.26	28.95	11.76	11.8	1.48	22.84	
Morningstar Dividend Leaders	20.81	-	-	-	-	-	-	-	15.85	12.23	-	-	1.64	7.37	
Russell 2000 Value	19.02	4.71	22.25	46.03	-11.43	14.02	22.83	-1.49	17.91	17.52	13.81	15.08	1.14	12.62	
MSCI EAFE	18.94	13.54	20.25	38.59	-15.94	-21.42	-14.19	27.03	21.41	14.56	7.34	7.44	1.69	10.08	
MSCI World ex US	18.67	14.47	20.38	39.42	-15.8	-21.39	-13.36	27.98	21.66	14.96	7.63	7.64	1.7	10.19	
Morningstar US Value	18.31	7.82	16.85	29.75	-13.68	-0.68	10.06	-1.27	17.48	12.48	-	-	1.76	7.67	
Citigroup ESBI-Cap Brady	18.23	5.76	11.3	24.32	8.79	7.6	12.82	16.81	12.79	13.98	12.14	-	1.25	7.55	
Russell 1000 Value	16.89	7.05	16.49	30.03	-15.52	-5.59	7.01	7.35	16.19	11.64	11.14	12.9	1.69	7.32	
S&P SmallCap 600/Citigroup Value	16.3	-	-	-	-	-	-	-	17.9	16.08	13.23	-	1.07	13.52	
S&P 500/Citigroup Value	15.88	-	-	-	-	-	-	-	16.06	11.05	9.61	-	1.6	7.68	
MSCI EAFE Growth	15.63	-	-	-	-	-	-	-	18.49	12.26	-	-	1.42	10.26	
MSCI Emerging Markets	15.28	30.31	22.45	51.59	-7.97	-4.68	-31.9	64.09	25.8	25	5.72	7.83	1.24	17.54	
Russell 2000	14.95	4.55	18.33	47.25	-20.48	2.49	-3.02	21.26	14.53	13.76	9.84	11.47	0.83	13.99	
Dow Jones Industrial	14.81	1.72	5.31	28.28	-15.01	-5.44	-4.85	27.21	9.62	8.25	9.29	11.99	0.81	8.1	
Dow Jones Financial	14.42	6.46	13.39	32.23	-12.35	-6.38	26.94	1.52	13.15	11.91	12.67	-	1.16	8.49	
Standard & Poor's 100	14.38	1.17	6.43	26.24	-22.58	-13.8	-12.55	32.78	9.39	5.31	8.28	10.83	0.88	7.18	
Dow Jones Composite	14.23	9.49	15.58	29.4	-15.94	-11.78	5.95	13.99	15.29	11.72	10.19	11.65	1.44	8.07	
Dow Jones Utility	13.59	25.14	30.24	29.39	-23.38	-26.27	-50.76	-6.02	25.38	13.07	11.26	9.94	1.93	10.52	
Dow Jones Transportation	13.51	11.65	27.73	31.84	-11.48	-9.3	0.4	-4.52	18.78	17.9	9.71	10.55	1	15.52	
MSCI AC World	13.28	8.83	13.3	31.62	-20.51	-17.23	-14.96	24.91	14.57	9.34	6.1	6.9	1.26	8.76	
NYSE Composite	13.17	6.95	12.16	29.28	-19.83	-10.21	1.01	9.15	13.77	8.72	8.28	9.37	1.26	8.18	
Morningstar US Core	12.54	5.19	15.62	28.63	-21.18	-9.31	7.1	14.67	13.12	8.5	-	-	1.24	7.8	
DJ Wilshire 5000	12.08	-	-	-	-	-	-	-	12.42	8.89	8.87	10.94	1.13	8.02	
Standard & Poor's 500	12.06	4.91	10.87	28.67	-22.09	-11.88	-9.1	21.04	11.44	7.26	8.64	10.9	1.11	7.34	
Standard & Poor's Smallcap 600	12.03	7.68	22.64	38.77	-14.63	6.54	11.79	12.4	16.05	14.97	11.97	-	0.99	12.9	
Russell 3000	11.91	6.12	11.95	31.06	-21.54	-11.46	-7.46	20.9	12.12	8.35	8.89	11.04	1.12	7.88	
Morningstar US Market	11.87	6.52	12.35	30.73	-22.17	-11.88	-7.02	19.79	12.43	8.29	8.7	-	1.16	7.85	
AMEX Composite	11.73	22.64	22.22	42.36	-2.74	-5.59	2.37	27.28	22.72	18.88	13.2	11.44	1.58	11.51	
Russell 1000	11.62	6.27	11.4	29.89	-21.65	-12.45	-7.79	20.91	11.9	7.92	8.87	11.07	1.15	7.46	
Goldman Sachs Natural Resources	11.45	36.48	24.57	34.01	-13.26	-15.59	15.81	27.22	29.7	17.43	9.7	-	1.28	19.5	
DJ Wilshire 4500	11.3	-	-	-	-	-	-	-	15.39	14.31	9.83	11.37	1.08	11.14	
Russell Midcap	11.27	12.65	20.22	40.06	-16.19	-5.62	8.25	18.23	16.85	14.8	12.29	13.56	1.35	9.72	
S&P MidCap 400/Citigroup Value	11.06	-	-	-	-	-	-	-	15.58	14.27	11.83	-	1.17	10.3	
Russell 2000 Growth	10.96	4.15	14.31	48.54	-30.26	-9.23	-22.43	43.09	11.07	9.51	5.15	7.22	0.56	15.81	
MSCI EAFE 5m-Cap	10.72	-	-	-	-	-	-	-	24.51	22.45	-	-	1.6	12.36	
Merrill Lynch Conv Bd All Qual	9.64	-0.19	8.31	22.97	-3.12	-2.91	-7.52	35.99	7.14	8.17	8.49	9.94	0.65	6.31	
Credit Suisse High Yield	8.64	-	-	-	-	-	-	-	8.86	11.13	7.14	8.8	1.49	3.68	
S&P 500/Citigroup Growth	8.41	-	-	-	-	-	-	-	7.04	3.37	6.93	-	0.55	7.47	
S&P SmallCap 600/Citigroup Grwth	7.62	-	-	-	-	-	-	-	14.2	13.77	10.47	-	0.89	12.47	
Standard & Poor's Midcap 400	7.4	12.56	16.47	35.59	-14.53	-0.6	17.49	14.72	14.01	13.02	13.8	14.01	1.03	10.32	
NASDAQ Composite	7.32	1.37	8.59	50.01	-31.53	-21.05	-39.29	85.59	7	6.97	6.84	10.31	0.35	13.18	
Russell 1000 Growth	6.59	5.26	6.3	29.75	-27.88	-20.42	-22.42	33.16	7.63	4.07	5.76	8.62	0.56	8.56	
Dow Jones Healthcare	5.94	8.32	4.55	19.43	-20.81	-12.61	37.47	-4.03	8.86	3.01	10.01	-	0.67	8.83	
LB Global Aggregate	5.5	-	-	-	-	-	-	-	4.83	6.92	5.5	6.7	0.37	4.93	
Citigroup World Govt Bond	5.23	-6.88	10.35	14.91	19.49	-0.99	1.59	-4.27	4.57	7.36	5.2	6.75	0.27	6.08	
Lehman Brothers Municipal Bond	4.35	3.51	4.48	5.31	9.6	5.13	11.68	-2.06	4.76	5.05	5.85	6.4	0.56	3.06	
Morningstar US Growth	4.32	6.41	4.37	34.12	-33.2	-26.32	-28.45	44.51	6.45	3.18	-	-	0.37	10.17	
3 Month CD	4.25	-	-	-	-	-	-	-	3.16	2.5	3.95	4.14	7.83	0.44	
Lehman Brothers Aggregate Bond	3.74	2.43	4.34	4.1	10.25	8.44	11.63	-0.82	3.93	4.51	6.26	6.74	0.29	3.2	
Lehman Brothers Credit	3.7	1.96	5.24	7.7	10.52	10.4	9.39	-1.96	4.17	5.45	6.58	7.34	0.29	4.02	
Lehman Brothers 1-3 Yr Govt	3.54	1.73	1.07	2.01	6.01	8.53	8.17	2.97	2.3	2.81	4.81	5.19	-0.57	1.28	
MSCI Japan	2.94	25.52	15.86	35.91	-10.28	-29.39	-28.17	61.53	15.77	11.47	1.3	1.06	0.83	15.54	
Consumer Price Index	2.53	3.42	3.26	1.88	2.38	1.55	3.39	2.68	3.11	2.68	2.51	2.64	0.07	1.18	
NYSE Arca Tech 100	2.5	-	-	-	-	-	-	-	8.83	7.44	14.64	16.73	0.46	13.94	

Source: Morningstar. Data as of 10/31/2006. All returns are in dollars. YTD is year-to-date, 3-year, 5-year, 10-year and 15-year returns are annualized. Standard Deviation is 3-year.

Global Index Data

Largest U.S. Index Mutual Funds Sorted by Total Net Assets in \$US Millions

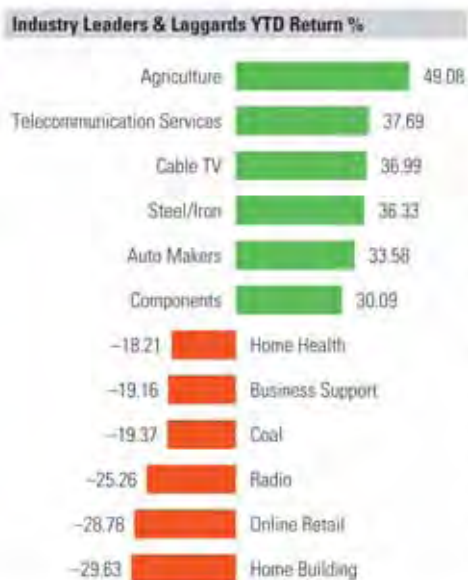
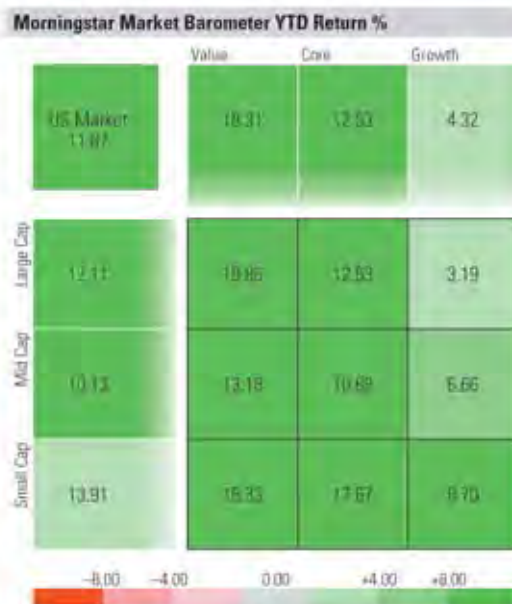
January/February 2007

Fund Name	Ticker	\$US Millions		Total Return %				Annualized Return %				Mkt Cap	P/E	Std Dev	Yield
		Assets	Exp Ratio	YTD	2005	2004	3-Yr	5-Yr	10-Yr	15-Yr					
Vanguard 500 Index	VFINX	71,419.5	0.18	11.94	4.77	10.74	11.29	7.13	8.56	10.79	47,168	16.5	7.34	1.65	
Vanguard 500 Idx Adm	VFIAX	44,184.0	0.09	12.03	4.87	10.82	11.39	7.21	8.61	10.82	47,168	16.5	7.34	1.73	
Vanguard Inst Idx	VINIX	43,560.9	0.05	12.06	4.91	10.86	11.43	7.27	8.69	10.93	47,153	16.5	7.34	1.72	
Vanguard Tot Stk	VTSMX	37,479.5	0.19	11.72	5.98	12.52	12.16	8.67	8.79	-	24,834	17.0	7.94	1.55	
Vanguard Tot Stk Adm	VTSAX	25,337.6	0.09	11.84	6.09	12.61	12.28	8.75	8.84	-	24,834	17.0	7.95	1.64	
Vanguard Total Bd Idx	VBMFX	22,923.4	0.20	3.62	2.40	4.24	3.81	4.08	5.99	6.52	-	-	3.26	4.78	
Fidelity Spar US EqLx	FUSEX	21,780.7	0.10	12.00	4.85	10.73	11.34	7.13	8.48	10.70	49,412	16.4	7.33	1.72	
Vanguard Inst Idx Inst	VIIIX	19,167.0	0.03	12.08	4.93	10.90	11.46	7.29	8.72	10.95	47,153	16.5	7.34	1.75	
Vanguard Total Intl Stk	VGTSX	18,200.1	0.00	18.43	15.57	20.84	22.12	15.65	7.35	-	25,433	14.7	10.83	1.74	
Vanguard Eur Stk Idx	VEURX	16,849.9	0.27	25.16	9.26	20.86	23.08	14.84	10.63	11.45	37,084	14.0	10.36	2.02	
Vanguard Tot Stk Inst	VITSX	11,568.1	0.06	11.86	6.12	12.60	12.31	8.80	8.90	-	24,834	17.0	7.95	1.67	
Vanguard Total Bd Idx In	VBTIX	8,012.7	0.07	3.73	2.53	4.36	3.94	4.21	6.11	6.61	-	-	3.26	4.91	
Vanguard Pac Stk Idx	VPACX	7,813.6	0.32	6.97	22.59	18.83	17.59	13.69	2.24	2.57	17,077	17.4	13.61	1.32	
Fidelity Spar 500 Adv	FSMAX	7,725.6	0.07	12.03	4.86	-	11.35	7.15	8.48	10.67	48,535	16.5	7.34	1.45	
Fidelity Spar 500 Idx	FSMXX	7,549.3	0.10	12.00	4.86	10.73	11.34	7.15	8.48	10.67	48,535	16.5	7.34	1.43	
Vanguard Mid Cap Idx	VIMSX	7,393.9	0.22	9.70	13.93	20.35	16.68	14.24	-	-	6,280	17.9	10.53	0.99	
T.Rowe Price Eq 500	PREIX	7,281.1	0.35	11.75	4.63	10.51	11.10	6.96	8.33	10.54	50,443	16.7	7.34	1.62	
Vanguard Em Mkt Idx	VEIEX	7,201.6	0.45	15.63	32.05	26.12	28.02	27.05	8.52	-	10,441	13.2	17.74	1.43	
Vanguard Tot Bond Adm	VBTIX	7,073.0	0.11	3.70	2.49	4.33	3.91	4.16	6.03	6.54	-	-	3.26	4.87	
Vanguard SmCp Idx	NAESX	6,737.4	0.23	12.17	7.36	19.90	15.34	13.96	10.42	12.03	1,473	18.8	12.67	0.93	
Vanguard Gr Idx	VIGRX	6,663.2	0.22	6.53	5.09	7.20	7.63	4.69	7.43	-	33,942	20.8	8.56	0.81	
Fidelity U.S. Bond Index	FBIDX	6,371.6	0.32	3.81	2.26	4.36	3.96	4.64	6.27	6.80	-	-	3.16	4.57	
DFA Intl Small Value	DISVX	6,356.9	0.75	18.05	23.23	34.80	27.92	27.89	11.75	-	726	14.1	11.49	1.74	
DFA US Large Value	DFLVX	6,144.0	0.30	15.64	10.24	18.25	18.07	14.06	12.16	-	12,776	14.6	9.19	1.61	
Vanguard Ext Mkt Idx	VEXMX	6,071.1	0.25	10.27	10.29	18.71	15.11	14.03	9.88	11.52	2,146	19.2	11.38	0.95	
Vanguard REIT Index	VGSIX	5,924.4	0.21	31.40	11.89	30.76	27.39	24.01	15.60	-	4,809	37.7	16.04	3.72	
Dimensional US Micro	DFSCX	4,723.1	0.55	11.80	5.69	18.39	14.46	17.30	13.60	15.35	289	18.9	14.73	2.14	
Vanguard Inst Tot Bd	VITBX	4,474.7	0.05	3.72	2.47	4.36	3.94	-	-	-	-	-	3.25	4.97	
Fidelity Spar US Eq Adv	FUSVX	4,424.8	0.07	12.05	4.85	-	11.36	7.14	8.48	10.70	49,412	16.4	7.33	1.75	
Dimensional Intl Small	DFISX	4,322.9	0.64	15.28	21.96	30.92	25.05	23.97	9.44	-	627	16.1	11.26	1.84	
Vanguard Tot Stk Inst	VITPX	4,283.5	0.03	11.93	6.17	12.69	12.38	8.92	-	-	24,760	17.0	7.97	1.48	
Vanguard Mid Cap Ins	VMCIX	4,270.3	0.08	9.85	14.09	20.45	16.86	14.42	-	-	6,280	17.9	10.53	1.09	
Vanguard Val Idx	VIVAX	4,177.3	0.21	16.90	7.09	15.29	16.05	10.25	9.61	-	45,739	14.2	7.34	2.24	
Dimensional Intl Val	DFIVX	4,136.3	0.48	25.03	15.27	28.80	26.76	21.51	11.12	-	19,444	13.4	10.46	3.11	
Vanguard SmCp VI Idx	VISVX	4,072.6	0.23	15.18	6.07	23.55	17.88	15.56	-	-	1,454	16.4	11.58	1.60	
Vanguard Bal Idx	VBINX	3,999.7	0.20	8.55	4.65	9.33	8.91	7.10	8.06	-	24,728	17.0	5.01	2.75	
Schwab S&P 500 In Sel	SWPPX	3,906.5	0.19	12.00	4.79	10.70	11.31	7.12	8.43	-	49,043	16.5	7.34	1.58	
Vanguard Mid Cap Adm	VIMAX	3,892.1	0.13	9.80	14.04	20.42	16.80	14.33	-	-	6,280	17.9	10.54	1.03	
Schwab 1000 In Inv	SNXFX	3,830.9	0.50	11.51	6.05	10.82	11.51	7.70	8.64	10.73	36,344	16.9	7.40	1.13	
Dimensional EM Val	DFEVX	3,821.2	0.70	24.18	30.81	39.53	36.94	36.30	-	-	784	8.5	18.40	2.21	
Dreyfus S&P 500 Index	PEOPX	3,660.4	0.50	11.61	4.42	10.38	10.92	6.74	8.09	10.35	49,411	16.4	7.34	1.19	
Schwab S&P 500 In Inv	SWPIX	3,613.2	0.37	11.82	4.66	10.53	11.12	6.94	8.26	-	49,043	16.5	7.32	1.41	
Vanguard Inst Dev Mkts	VIDMX	3,606.9	0.00	19.07	13.58	20.30	21.54	14.60	-	-	28,796	14.9	10.16	1.90	
Gateway	GATEX	3,200.2	0.95	8.61	-	-	7.31	6.05	6.80	7.23	42,695	16.2	2.72	2.57	
Dimensional US Sm Cp	DFSTX	3,197.0	0.40	12.95	6.09	17.87	14.42	14.74	11.98	-	628	17.7	14.25	1.65	
DFA Tax Mg US Sm Val	DTMVX	3,130.1	0.55	14.51	8.17	21.74	17.81	17.74	-	-	774	16.8	13.92	0.66	
Vanguard Eur Stk Idx Ins	VESIX	3,113.5	0.12	25.33	9.44	21.05	23.26	15.01	10.73	11.51	37,084	14.0	10.37	2.12	
Vanguard Intm Bd Adm	VBILX	3,049.9	0.11	3.42	1.82	5.30	3.99	4.88	6.54	-	-	-	4.44	4.89	
Vanguard Intm Bd	VBIXX	2,986.9	0.18	3.36	1.75	5.22	3.92	4.81	6.50	-	-	-	4.44	4.82	
Vanguard SmCp Ins	VSCIX	2,976.5	0.08	12.28	7.56	20.06	15.52	14.13	10.57	12.14	1,473	18.8	12.68	1.04	
Vanguard SmCp Adm	VSMAX	2,963.6	0.13	12.23	7.49	20.02	15.45	14.06	10.48	12.07	1,473	18.8	12.70	1.01	
Vanguard Ext Mkt Adm	VEXAX	2,962.7	0.10	10.38	10.47	18.82	15.25	14.14	9.93	11.56	2,146	19.2	11.39	1.05	
Schwab 1000 In Sel	SNXSX	2,821.3	0.35	11.62	6.21	11.01	11.67	7.85	8.78	10.82	36,344	16.9	7.40	1.27	
Vanguard Tx Mgd Ap Adm	VTCLX	2,813.5	0.10	10.81	7.56	-	12.09	8.16	8.93	-	30,739	17.1	7.88	1.13	
Vanguard REIT Adm	VGSLX	2,807.0	0.14	31.49	12.01	30.81	27.47	24.09	15.64	-	4,809	37.7	16.03	3.78	
Dimensional US Large	DFLCX	2,782.3	0.15	12.01	4.85	10.71	11.33	7.13	8.49	10.70	46,678	17.5	7.32	1.65	
Vanguard Sh-Tm Bd	VBISX	2,746.6	0.18	3.51	1.31	1.70	2.42	2.99	5.08	-	-	-	1.94	4.18	
DFA Real Est Secs	DFREX	2,689.3	0.37	31.93	13.15	32.07	28.48	24.60	16.56	-	4,689	36.0	16.16	2.76	
Gartmore S&P 500 Instl	GRMIX	2,681.3	0.23	11.87	4.73	10.68	11.25	6.99	-	-	50,560	16.7	7.38	1.57	
Vanguard ExtMktIdx Instl	VIEIX	2,576.2	0.07	10.41	10.50	18.92	15.30	14.22	10.03	11.63	2,146	19.2	11.39	1.11	

Data as of 10/31/2006. YTD is year-to-date. 3-year, 5-year, 10-year and 15-year returns are annualized. Average market cap in \$ millions. P/E is price/earnings ratio. Standard Deviation is 3-year. Yield is 1-year.

Morningstar U.S. Style Overview: January 1st - October 31st, 2006

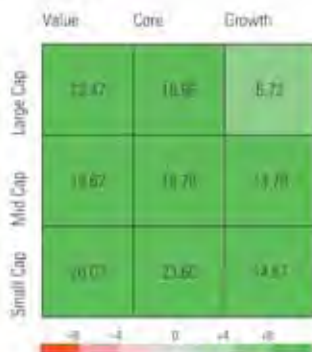
Trailing Returns %						
Morningstar Indexes	3-Month	YTD	1-Yr	3-Yr	5-Yr	10-Yr
US Market	8.32	11.67	16.48	12.42	8.28	8.70
Large Cap	8.24	12.11	15.96	10.99	6.20	7.81
Mid Cap	8.17	10.13	17.05	16.36	13.65	10.59
Small Cap	9.68	13.91	19.40	15.45	14.67	10.65
US Value	6.19	18.31	22.38	17.47	12.47	NA
US Core	9.95	12.53	17.78	13.11	8.50	NA
US Growth	8.91	4.32	8.78	6.44	3.18	NA
Large Value	5.80	19.86	23.47	16.86	10.89	NA
Large Core	9.95	12.53	16.96	11.97	6.16	NA
Large Growth	9.17	3.19	6.72	3.69	0.83	NA
Mid Value	6.79	13.18	18.62	19.19	16.14	NA
Mid Core	10.04	10.68	18.78	15.59	14.98	NA
Mid Growth	7.65	6.68	13.78	14.09	9.00	NA
Small Value	9.39	15.33	20.03	17.63	18.48	NA
Small Core	9.67	17.67	23.60	18.16	16.85	NA
Small Growth	9.97	8.70	14.57	10.54	8.49	NA



Biggest Influence on Style Index Performance

	YTD Return %	Constituent Weight %
Best Performing Index		
Large Value	19.86	
Exxon Mobil Corp.	28.86	10.53
AT&T Inc.	43.93	2.83
Bank of America Corp.	20.11	5.49
BellSouth Corp.	70.70	1.46
Merck & Co. Inc.	46.37	2.06
Worst Performing Index		
Large Growth	3.19	
Cisco Systems Inc.	40.95	3.70
Oracle Corp.	51.27	1.58
Comcast Corp. Cl A	56.91	1.07
Schlumberger Ltd.	30.63	1.88
Walt Disney Co.	31.25	1.58

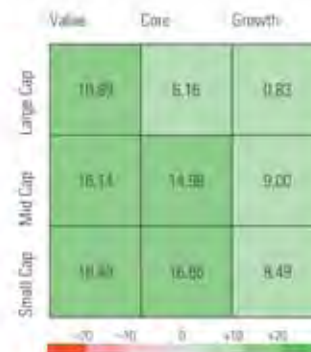
1-Year



3-Year



5-Year



Notes and Disclaimer: ©2006 Morningstar, Inc. All Rights Reserved. Unless otherwise noted, all data is as of month end and Multi-year returns are annualized. NA: Not Available. Biggest influence on Index Performance list are calculated by multiplying each return for the period by their respective weight in the index as of the start of the period. Sector and industry returns are based on Morningstar's proprietary sector classifications. The information contained herein is not warranted to be accurate, complete or timely. Neither Morningstar nor its content providers are responsible for any damages or losses arising from any use of this information.



Source: Morningstar. Data as of 10/31/2006.

Dow Jones U.S. Economic Sector Overview

HISTORICAL PERFORMANCE RETURNS

Industry	Total Return (%)				Annualized Total Return (%)				
	1-Month	3-Month	YTD	2005	1-Year	3-Year	5-Year	10-Year	Since Inception
Basic Materials	-1.06	-3.82	5.40	4.96	13.53	15.46	11.93	5.85	7.79
Consumer Goods	0.82	6.73	8.18	2.04	7.53	12.39	9.59	7.75	9.34
Consumer Services	5.10	3.27	5.56	-1.93	8.19	7.94	5.89	9.46	9.50
Financials	3.84	7.43	11.65	6.45	19.94	14.71	10.96	13.12	15.08
Health Care	1.25	8.82	5.09	8.32	6.78	9.01	2.97	9.90	10.07
Industrials	3.12	-0.86	6.61	4.82	12.14	14.65	8.92	6.55	9.39
Oil & Gas	-3.22	-2.79	10.42	34.09	2.96	31.20	18.19	14.14	13.76
Technology	3.92	8.40	3.64	3.31	6.11	7.26	6.72	6.90	12.52
Telecommunications	4.25	10.35	26.05	-4.00	26.20	17.71	-1.84	3.88	6.11
Utilities	-1.95	5.67	11.00	15.35	4.33	19.86	8.81	9.20	8.43

DOW JONES U.S. INDUSTRY REPRESENTATION

Industry	Market Cap (USD Billions)	Weight in U.S. Total Market Index
Basic Materials	417.23	2.91%
Consumer Goods	1,236.95	8.64%
Consumer Services	1,741.07	12.16%
Financials	3,168.25	22.12%
Health Care	1,731.80	12.09%
Industrials	1,797.81	12.55%
Oil & Gas	1,274.42	8.90%
Technology	1,979.22	13.82%
Telecommunications	452.92	3.16%
Utilities	523.76	3.66%

DOW JONES U.S. INDUSTRY REPRESENTATION BY SIZE (IN BILLIONS USD)

Industry	DJ U.S. Large-Cap Market Cap	DJ U.S. Large-Cap Weight	DJ U.S. Mid-Cap Market Cap	DJ U.S. Mid-Cap Weight	DJ U.S. Small-Cap Market Cap	DJ U.S. Small-Cap Weight	DJ U.S. Total Market Index Market Cap
Basic Materials	275.28	2.52%	91.19	3.72%	50.75	5.31%	417.23
Consumer Goods	940.07	8.61%	229.82	9.36%	67.06	7.01%	1,236.95
Consumer Services	1,283.75	11.76%	320.94	13.08%	136.39	14.26%	1,741.07
Financials	2,409.48	22.08%	571.22	23.28%	187.56	19.61%	3,168.25
Health Care	1,414.58	12.96%	232.79	9.49%	84.43	8.83%	1,731.80
Industrials	1,205.84	11.05%	409.17	16.67%	183.01	19.14%	1,797.81
Oil & Gas	1,085.59	9.95%	134.18	5.47%	54.65	5.71%	1,274.42
Technology	1,574.88	14.43%	267.76	10.91%	136.58	14.28%	1,979.22
Telecommunications	396.39	3.63%	47.37	1.93%	9.17	0.96%	452.92
Utilities	327.38	3.00%	149.66	6.10%	46.72	4.89%	523.76
Total	10,913.04	76.19%	2,454.09	17.13%	956.32	6.68%	14,323.45

HISTORICAL DOW JONES U.S. INDUSTRY REPRESENTATIONS (%)

Industry	2006 Q3	2005	2004	2003	2002	2001	2000	1999	1998	1997	1996	1995	1994
Basic Materials	2.91	2.95	2.74	2.67	2.28	1.98	2.47	2.34	3.53	4.31	5.02	6.28	5.82
Consumer Goods	8.64	9.17	9.40	10.22	8.44	8.14	8.34	11.63	13.79	14.72	15.09	15.62	16.28
Consumer Services	12.16	13.99	13.43	12.97	12.84	10.45	14.49	12.57	10.51	9.59	10.09	11.45	11.87
Financials	22.12	21.25	21.01	21.08	19.04	16.02	14.11	16.92	19.31	16.89	15.11	13.51	13.63
Health Care	12.09	12.17	13.33	14.56	14.28	14.23	9.21	12.44	11.35	11.08	11.11	9.90	9.36
Industrials	12.55	12.64	11.87	11.68	12.07	12.54	11.98	11.89	13.47	14.35	14.39	14.50	14.73
Oil & Gas	8.90	7.10	6.05	6.32	5.88	6.00	4.51	5.46	7.17	7.88	7.45	7.91	7.96
Technology	13.82	14.50	16.10	13.53	17.12	19.89	25.59	16.43	11.78	12.25	9.99	8.76	6.81
Telecommunications	3.16	3.00	3.09	3.81	5.03	5.19	6.96	7.20	5.67	5.36	7.29	7.24	7.57
Utilities	3.66	3.24	2.98	3.15	3.02	3.56	2.34	3.12	3.43	3.57	4.45	4.82	5.99

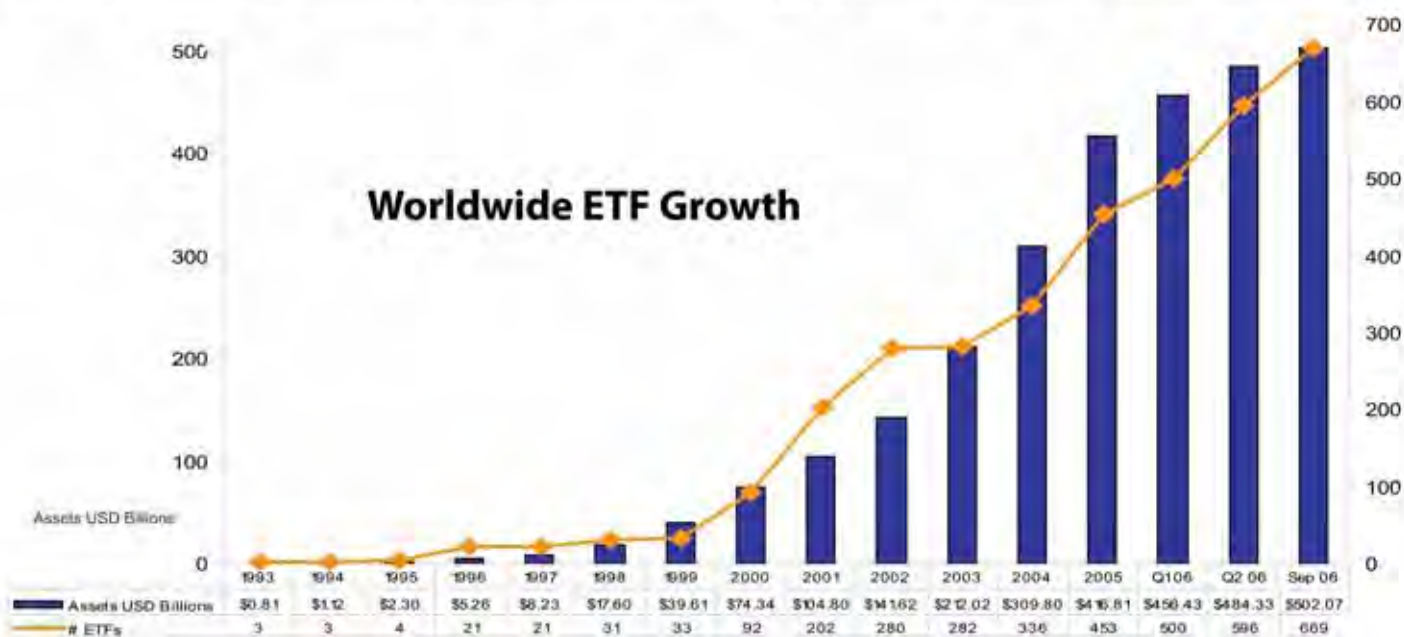
Source Dow Jones Indexes. Data is based on total return index values as of 9/30/2006.

Exchange-Traded Funds Corner

Overview of ETFs around the World

January/February 2007

Region/Country	# Primary Listings	New ETFs in Q3'06	New ETFs in 2006	Total Listings	AUM (USD BLN)	# Managers	# Exchanges	Planned ETFs	Planned Cross
US	303	29	100	303	\$362.91	14	4	133	0
Europe	255	39	90	504	\$76.71	26	15	39	10
Japan	13	-	-	13	\$32.08	4	2	0	0
Canada	20	3	4	21	\$11.41	2	1	3	0
Hong Kong	8	-	-	10	\$7.96	4	1	0	0
Israel	20	-	-	20	\$4.83	2	1	3	0
Taiwan	3	2	2	3	\$1.20	2	1	0	0
South Africa	9	-	2	9	\$1.64	4	1	0	0
Australia	4	-	-	4	\$0.63	2	1	0	0
China	4	1	3	4	\$1.45	3	2	2	0
South Korea	12	-	8	12	\$1.18	3	2	0	0
New Zealand	6	-	-	6	\$0.51	3	1	0	0
Singapore	4	1	2	9	\$0.75	4	1	1	0
India	6	-	-	6	\$0.14	3	2	10	0
Malaysia	1	-	-	1	\$0.15	1	1	1	0
Brazil	1	-	-	1	\$0.96	1	1	0	0
Dubai	0	-	-	-	-	-	-	1	-
ETF Total	669	75	211	926	\$504.5	68	37	193	10



Largest U.S.-listed ETFs Sorted by Total Net Assets in \$US Millions

Fund Name	Ticker	\$US Millions		Total Return %			Annualized Return%		Mkt Cap	P/E	Sharpe	Std Dev	Yield	
		Assets	Exp Ratio	YTD	2005	2004	2003	3-Yr						5-Yr
SPDRs S&P 500	SPY	65,203.7	0.10	11.98	4.79	10.75	28.39	11.31	7.13	50,520	16.7	7.32	1.10	1.69
iShares MSCI EAFE	EFA	32,517.7	0.36	18.74	13.39	19.75	38.45	21.12	14.35	28,039	15.6	10.04	1.67	1.58
Nasdaq 100 Trust	QQQQ	18,411.0	0.20	5.24	1.64	10.51	49.18	6.99	5.24	26,200	27.0	14.25	0.34	0.24
iShares S&P 500	IVV	17,863.7	0.10	11.98	4.83	10.77	28.53	11.34	7.16	50,571	16.7	7.33	1.10	1.58
iShares Japan Index	EWJ	13,711.0	0.57	2.37	24.65	14.78	35.54	14.92	10.65	18,264	18.3	15.48	0.78	0.42
iShares MSCI Emerg Mkts	EEM	13,211.5	0.77	16.10	33.78	25.53	-	28.88	-	13,071	14.0	18.23	1.33	0.96
iShares R2000 Index	IWM	10,925.3	0.20	14.78	4.46	18.15	47.56	14.38	13.59	941	18.2	13.98	0.82	1.00
MidCap SPDR Trust	MDY	8,906.4	0.25	7.20	12.17	15.84	35.20	13.58	12.75	3,356	17.9	10.29	1.00	1.02
iShares R1000 Value	IWD	8,184.9	0.20	16.69	6.92	16.28	29.70	15.99	11.43	43,858	14.0	7.29	1.67	2.06
streetTRACKS Gold Shares	GLD	7,542.7	0.40	17.31	16.65	-	-	-	-	-	-	-	-	0.00
iShares DJ Sel Dividend	DVY	7,218.4	0.40	15.10	2.98	17.90	-	-	-	14,445	15.0	-	-	3.15
iShares R1000 Growth	IWF	6,715.2	0.20	6.41	5.08	6.10	29.46	7.43	3.87	32,485	20.7	8.54	0.53	0.97
Vanguard TSM	VTI	6,465.7	0.07	11.85	6.10	12.56	31.43	12.27	8.75	24,834	17.0	7.96	1.12	1.66
DIAMONDS Trust	DIA	6,438.9	0.18	14.62	2.40	5.12	28.00	9.73	8.24	104,073	17.0	7.98	0.84	1.99
iShares Lehman 1-3 T	SHY	5,348.6	0.15	3.34	1.48	0.80	1.78	2.04	-	-	-	1.28	-0.78	3.97

Source: Morgan Stanley Investment Strategies. Listings and ETF growth data as of 9/30/2006. Returns data as of 10/31/2006. Standard Deviation is 3 year. PE is price to earnings ratio.

25 Years Of Mediocrity

By Jim Wiandt



A prescription for 401(k) reform.

I recently came across a rather glib press release trumpeting the 25th anniversary of the 401(k) plan. It noted that 47 million Americans now actively participate in 401(k) plans, compared to 21 million who participate in traditional defined benefit plans. Essentially, we are well on our way to a wholesale shift of risk from large entities to the individual ... the magical *ownership society* ... where *presto poof* we kill (or maim) three birds with one stone: 1) nettlesome pension deficits disappear; 2) 1,000 points of ownership light blink on; and, 3) financial middlemen enjoy an unprecedented boon.

Call me a skeptic, but I've met a lot of individual investors and financial advisors, and the level of knowledge, even among those who are paying any attention, is ... well ... appalling. In the 401(k) business, you end up with a potent cocktail of investor cluelessness and (generally) a horror-show lineup of investment options. It adds up to an old joke I remember from when I was growing up in rural Ohio: "He may be small, but he sure is slow."

The 401(k) plan, or something like it, *could* actually work. But what we have right now is a bloated and inefficient system that forces investors to pay more than they should for investment options that aren't what they ought to be. The way that mutual fund companies cling to 401(k) plans as massive distribution machines locks investors into a limited choice of generally high-expense-ratio, high-fee plans, putting many investors in a situation where they might do better in a taxable account.

The biggest cheerleader for the 401(k) is the Investment Company Institute (ICI). The ICI is delighted with how the 401(k) market has developed, as its benefactor, the mutual fund industry, has never lived better. Today, 54 million U.S. households are invested in mutual funds, at a median level of \$48,000 and an average annual expense ratio of over 1 percent for equities funds.

I'm sure you've all seen the ICI pronouncements about how expense ratios have gone down over the years. And they

have: the average equity fund charged an ungodly 2.19 percent in 1985, and "just" 1.13 percent in 2005.

But as John Bogle has noted, that drop in fees should be measured against the explosion in mutual fund assets—an explosion driven largely by the 401(k) boom. Mutual fund assets are up more than 1,500 percent since 1985, from \$602 billion to \$9.5 trillion. So while expense ratios have fallen, total fees have skyrocketed. In 1985, when the industry was gouging us with 2+ percent fees, mutual fund companies took home \$12 billion in expense payments; today, with the new "low! low!" fees of 1+ percent, the register rings (and rings and rings) to the tune of \$95 billion per year. So yes, Virginia, fees have fallen. They BETTER have ... that's what we call *scale*.

Unfortunately, the reduction in scale is about four-times what it ought to be by one very rough measure. If you run the inflation calculator on the \$12 billion in fees collected in 1985, it is the equivalent of \$21 billion in 2005 dollars. Sure, the growth in equitization and assets is worth *something* in maintenance costs. But is it worth an industry that is nearly five times bigger in real terms?

The 401(k) program is significantly at fault. A system in which *most*—not just many—investors don't even have options with expense ratios under 1 percent, and where investors generally pay chunky, built-in maintenance fees on top of that, is a broken system. The recent reforms are unfortunately too little, too late. We have worked ourselves into a morass where increasingly well-funded interests are essentially writing the laws governing retirement savings.

We would favor regulations that would force every plan to have low-fee options. Above all, we would favor legislation opening up all 401(k) platforms to competition. And if we ever take the Social Security system private, the plans need to default to 1) plan participation and 2) investment in a low-cost, broadly diversified fund. One of the few things the government has actually done well—the federal Thrift savings plan—could be used as a model.

Right now, all we're doing is building on 25 years of mediocrity.