

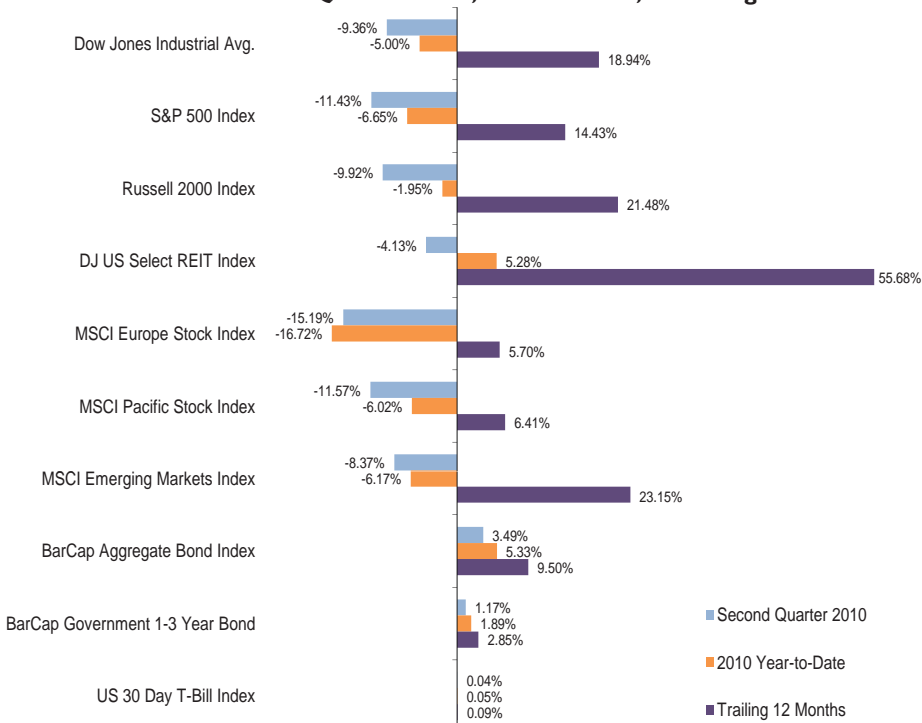
WORLD MARKET SURVEY

Markets Correct as Recovery Slows

Following a strong first quarter, US equity markets reversed course in the second, reflecting widespread uncertainty about the resilience of the global economy. The Dow Jones Industrials declined 9.4%, the S&P fell 11.4%, and the Russell 2000 Index of smaller US companies dropped 10.2%. The pressure on equity markets started in Europe, amid fears that Greece would default on its national debt, and that other relatively weak economies in Europe might do likewise. Then on May 6, an apparent technical glitch sent the Dow down nearly 1,000 points in just a few minutes. In just a few minutes more it recovered almost completely. While no adequate explanation of the “flash crash” has yet surfaced, it seems clear that it did not signal a change in investor sentiment about markets or the economy. Nevertheless it shook investor confidence. The so-called “fear index,” a measure of market volatility,

(continued on page 8)

Index Returns: Second Quarter 2010, Year-to-Date, & Trailing 12 Months



SMALL COMPANY STOCK INDEXES AND THE POOR SOULS WHO FOLLOW THEM

One important element of investment policy is the strategic asset allocation decision. Investors decide how much wealth to expose to the risks and rewards of different asset classes, such as foreign or domestic stocks or bonds. Small company US stocks – also known as small capitalization stocks, “small” being an indication of the relative market value of the capital invested in the underlying firm – are often included in portfolios for two reasons:

1. Over most long-term periods they have generated higher returns than other asset classes;
2. Their correlation with other asset classes is low enough that they are likely to generate a measureable diversification benefit.

A straightforward approach to obtaining portfolio exposure to an asset class is to purchase a low-cost index fund that tracks an index which represents the asset class. Theoretically, index funds can be managed so as to track any index, by owning all the stocks that comprise the index, or a cross-section thereof sufficient to mimic the behavior of the entire index. By contrast, the buyer of an actively managed fund does not want the fund manager to mimic the index’s performance. The active fund buyer expects returns better than those of the index, at a similar level of risk. The index fund buyer expects to achieve index-like performance unconditionally; the active fund buyer expects to achieve superior performance generated by the skill of the fund manager. Active managers charge substantially higher fees than those

of index funds, so investors should hire them only when reasonably certain that they can outperform the index on a regular basis.

Why Buy a Laggard Fund?

Can a fund that materially lags its index still be a good fund to own? For owners of active funds, the answer is probably “no.” If we pay a manager good money to beat the market, we’d better be getting what we paid for. Likewise, for owners of index funds, substantial deviation from index performance (“tracking error”) in either direction is troubling. All index funds should experience some tracking error, because an index is a “notional” portfolio, impeded by none of the transaction costs, fees, taxes and other frictions a real fund must suffer. A prudent index fund owner should nevertheless monitor the fund’s

SMALL COMPANY STOCK INDEXES

... the index is blithely unconcerned about the real world problems of the fund manager attempting to mimic it.

periodic and cumulative tracking error to ensure that deviations don't become material. It seems like a relatively straightforward procedure: if tracking error is more than negligible, dump the fund.

But not so fast. Consider the following pair of indexes. Index 1 existed long before any fund tried to mimic its behavior. The index does not "care" if its rules for including securities are convenient for a fund; it does not care if its dividend reinvestment protocol is difficult for a fund to replicate; it does not care if its rebalancing conventions are costly and problematic for a fund operating in real markets. You see the point – the index is blithely unconcerned about the real world problems of the fund manager attempting to mimic it. If the fund manager can pull it off, great; if not, too bad for the investor. Index 2, by contrast, has construction and operational conventions expressly designed to accommodate the needs of index fund managers. Index 2 tells managers: "I'll make it easy for you to mimic my returns. In fact, I'll do my very best to help you minimize your tracking error so that fund owners will be pleased as punch with your performance." Index manufacturers earn profits by selling licensing rights to their indexes. We therefore assert, without excessive cynicism, that it is easier to sell a licensing agreement to index funds if it is easy to track. This is not an entirely bad thing, provided that the fund-friendly index also includes investor-friendly provisions.

One Asset Class, Four Indexes

We move now from the hypothetical to the real world. Before buying a US Small Cap index fund, an investor should:

1. Examine small company US stock indexes to determine which one best reflects the investor's preferences.
2. Examine the performance and tracking error of the small cap funds that emulate the indexes.

It may come as a surprise, but there are quite a few small company US stock indexes – selling licensing rights is a lucrative business that attracts competitors into the index construction business. For clarity, we limit our review to four indexes that have published monthly return data since May 1992 or earlier:

CRSP 6-10 Index (published by the Center for Research in Securities Prices) This is a strictly "academic index," in that it is designed by academic economists for their own research purposes. CRSP

first sorts all stocks on the New York Stock Exchange (NYSE) by market capitalization (the share price multiplied by the number of shares on the market) and breaks that universe into ten groups, with each group including an equal number of securities. The groups are called "deciles." Decile 1 includes the largest capitalization stocks on the NYSE, decile 10 the smallest. While there are about 3,800 stocks listed on the NYSE, there are about 3,200 stocks traded on other exchanges. The largest capitalization stocks generally trade on the NYSE, but some firms, particularly technology companies, prefer to be listed on NASDAQ. CRSP adds such stocks to the universe, sorting them into the appropriate deciles. The CRSP 6-10 Index represents the population of publicly traded stocks with market capitalization that falls below the median. The index is rebalanced quarterly, and any stock that no longer lies within the prescribed decile range is eliminated from the index.

MSCI US Small Cap 1750 Index (published by Morgan Stanley Capital International) represents the universe of small capitalization companies in the US equity market (NYSE, AMEX, and NASDAQ). MSCI defines "the investible market" in the US as the 2,500 largest companies by market cap. These 2,500 companies represent about 98% of the cap-weighted US investment universe. The MSCI Small Cap Index is the bottom 1,750 stocks of this market segment.

S&P Small Cap 600 Index (published by Standard & Poor's) consists of 600 small-cap stocks. S&P generally defines small-cap stocks as those with a market capitalization between \$300 million and \$2 billion. A committee at Standard & Poor's selects the stocks, taking into account each firm's size, financial viability, liquidity, and other factors. S&P advertises that the Index "arguably contains a mixture of more stable and profitable firms." This index construction method shares some similarities with active manager stock-picking. The difference lies in the fact that the Index's selection process seeks to find a large assemblage of stable firms that represent an overall market, rather than to identify the few that are expected to outperform the market.

Russell 2000 Index (published by the Frank Russell Company) consists of the smallest 2,000 stocks in the Russell 3000 Index. At each annual reconstitution period (May 31), Russell ranks all US common stocks from largest market capitalization to smallest. The top 3,000 stocks become the Russell 3000 Index, the largest 1,000 stocks become the Russell 1000 Index and the next largest 2,000 stocks become the

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SMALL COMPANY STOCK INDEXES

Russell 2000 Index. Stocks are shuffled between the indexes effective each July 1, so the indexes can have relatively high turnover. Russell’s website indicates that its indexes are intended to serve as performance standards for active managers, as proxies for asset allocation purposes, and as replicable models for passive investment strategies, in that order.

The following table briefly summarizes the primary characteristics of the four small cap indexes.

Index	Median Market Cap	Coverage of US Equities
CRSP 6-10	N/A	5%
MSCI US Small Cap 1750	\$1.4 billion	12%
S&P Small Cap 600	\$590 million	3%
Russell 2000	\$440 million	8%

Which Index is Best?

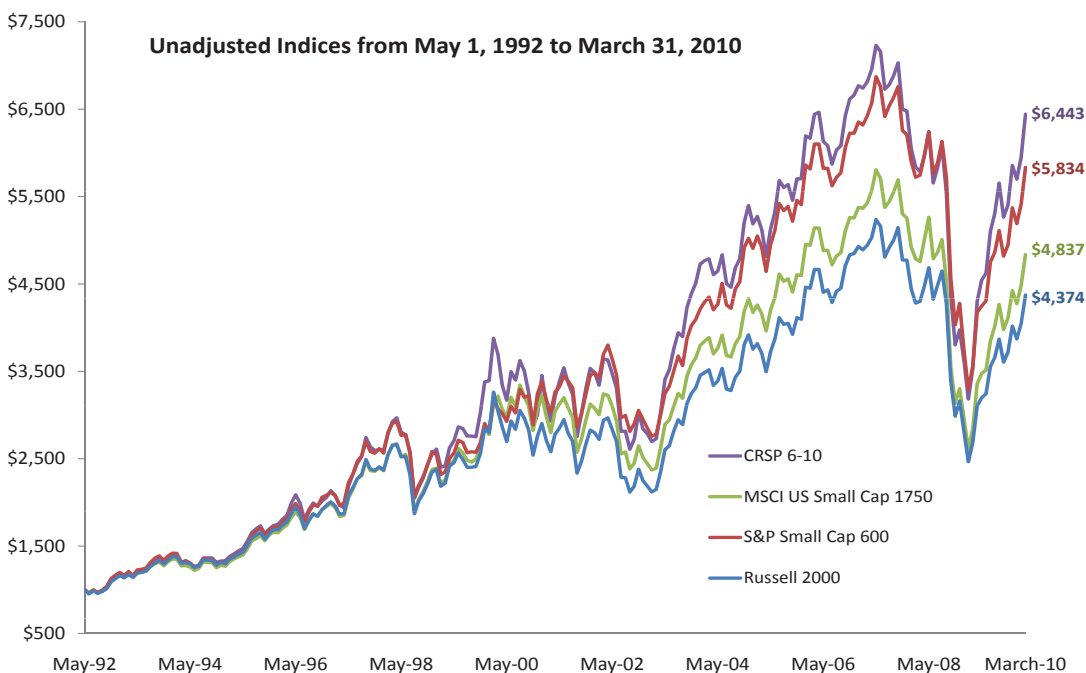
So which of these four indexes is best? The chart below illustrates the performance of an initial investment of \$1,000 in each index over a common date range, according to Ibbotson Associates data. The winner is the CRSP 6-10, while the last place finisher is the Russell 2000. The perceptive investor, however, realizes that this is a classic “mountain chart.” That is, it is a chart of compound growth of \$1,000 over time. Mountain charts can be deceptive, and savvy investors should be aware of their potential flaw. Here’s the issue: a tiny advantage for one index early

on can compound significantly through time. By the end of the period, it may have generated significantly more wealth. But in economic terms, the real difference between the indexes may be trivial. In fact, in some cases, insignificant early over-performance can mask substantial under-performance in later years.

Using Logs to Handicap the Race

How then may investors evaluate multi-period performance on a level playing field? At the limit, compound growth is exponential growth. It is what you get when you put a male and female rabbit in an environment with unlimited food. A small initial streak of “romantic” behavior can, after a period of time, have you knee-deep in bunnies (mathematically this is a Fibonacci sequence, but the darn rabbits really don’t care). The exponential growth function is “undone” by the logarithmic function: $\ln(e^x) = x$. So to get rid of the potential distortions introduced by compounding, the chart should be presented on a logarithmic scale, rather than linear. The chart on page 4 makes this adjustment.

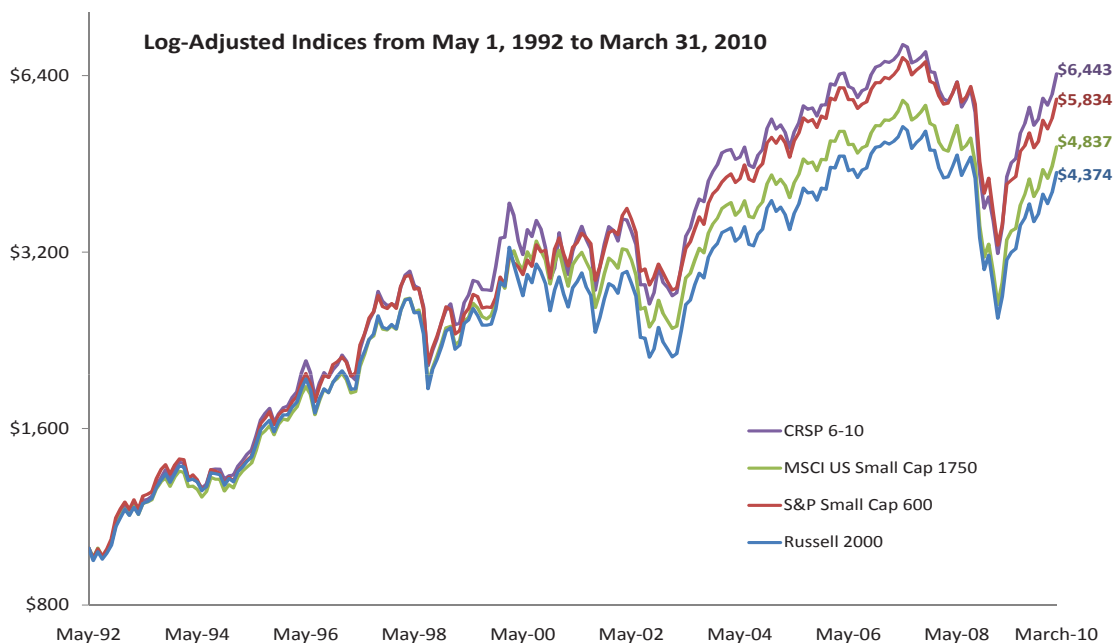
By visual inspection, the logarithmic chart fails to reveal any significant early out-performance that could materially distort the investor’s preferences (although the difference in values during the 2004 through 2006 period confirms that the higher slope on the linear chart reflects the compounding of out-performance at a high rate of return). So it looks as



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SMALL COMPANY STOCK INDEXES



Over the common time interval, the order of the performance of the indexes does not change. But there are surprises when we look at the relationships between the funds and their index benchmarks.

if we can be fairly confident about the preliminary findings in the first step of our pre-purchase review.

Indexes and Index Funds

For each of these indexes, there is a corresponding index fund. Specifically:

Index	Fund
CRSP 6-10	DFA Small Cap Portfolio ¹
S&P Small Cap 600	iShares S&P Small Cap 600 Index ETF
Russell 2000	iShares Russell 2000 Index ETF
Vanguard Small Cap Spliced	Vanguard Small Cap Index Fund ²

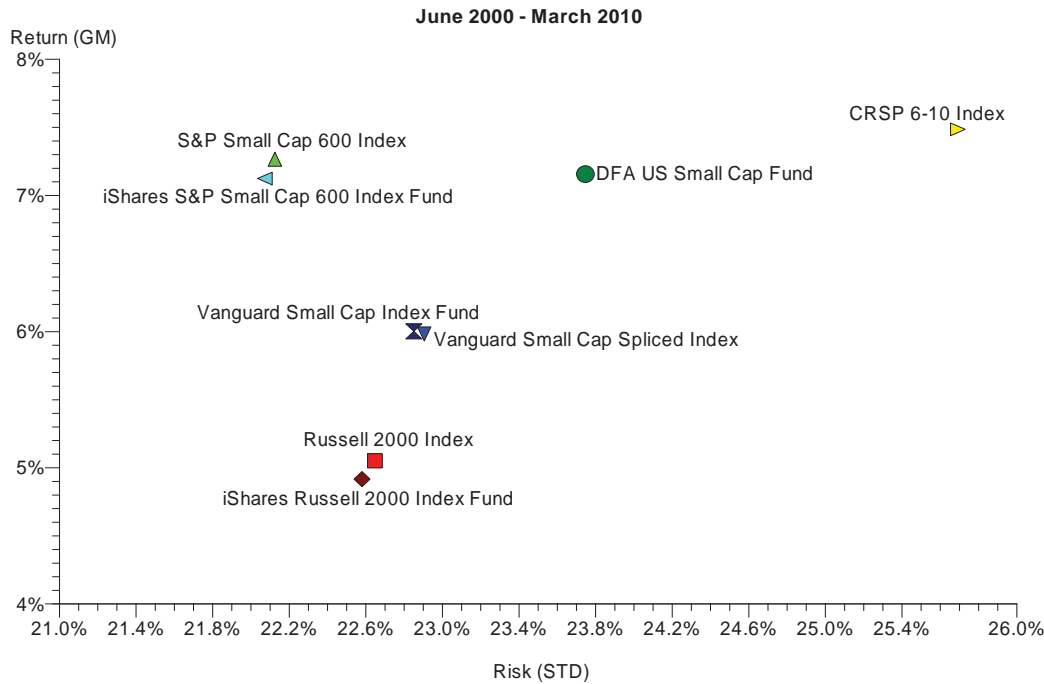
The chart at the top of page 5, for the period June 2000 through March 2010, shows how closely each fund has tracked the risk and return of its respective benchmark index. Over the common time interval, the order of the performance of the indexes does not change. But there are surprises when we look at the relationships between the funds and their index benchmarks. Although the iShares Russell 2000 Index ETF and the iShares S&P Small Cap Index ETF

track their respective indexes very closely, exhibiting slightly less risk and slightly lower returns, and the Vanguard Small Cap Index Fund slightly improves on its spliced index, the DFA Portfolio varies significantly from its index, earning modestly lower returns, while exhibiting quite a bit less risk. The table at the bottom of page 5 provides precise data.

To select a small cap index fund, then, we must look to the investor's preferences. If an investor seeks to minimize tracking error, then the winning fund is the Vanguard Small Cap Index Fund. It beats its index by one basis point (1/100th of one percent) per year, and the standard deviation of the fund and its index are almost identical. If the highest historical return is the criterion, then the winning fund is the DFA US Small Cap Portfolio, which earned 7.15% annually over the period. The least risky fund is the iShares S&P Small Cap 600 Index ETF, with the lowest standard deviation for the period. Finally, the funds with the lowest expense ratios are the iShares Russell 2000 Index ETF and the iShares S&P Small Cap 600 Index ETF. The rank order of the funds changes depending on investor preferences.

1. Technically, the DFA Small Cap Portfolio is a Structured Asset Class fund but, to keep things simple, we will deem it to be an Index fund — see the Sidebar at page 6.
2. Currently, Vanguard Small Cap Index Fund tracks the MSCI US Small Cap 1750 Index, but prior to May 16, 2003, the fund tracked the Russell 2000 Index. For the purposes of this evaluation, we splice the performance of the Russell 2000 and the MSCI US Small Cap 1750 indexes into a custom Vanguard Small Cap Spliced Index.

SMALL COMPANY STOCK INDEXES



Are there other investor preferences that could cause one index fund to be selected over another? Sure!

Are there other investor preferences that could cause one index fund to be selected over another? Sure! Criteria might include such things as:

- A tout in Money magazine.
- High Morningstar ratings. Currently, each of the four funds has a three-star (average) rating.
- Risk-adjusted performance metrics, such as Sharpe ratio. For the period June 2000 through March 2010, the iShares S&P Small Cap 600 Index ETF has the highest Sharpe ratio.
- Fundamental accounting or style based metrics.

For example, an investor who wanted to tilt the portfolio towards the risks and returns of small

company stock ownership would select the fund with the lowest average market cap. The current market-capitalization rank order according to Morningstar is shown on page 6.

Lower market capitalizations, if persistent, would represent an important systematic difference between the funds, and could be an important factor in determining their future returns. The size rank order of the funds tends to follow the size rank order of the respective indexes. The DFA fund, which generally follows the CRSP 6-10 Index, invests in a large number of quite small companies. The iShares Russell 2000 Index ETF and iShares S&P Small Cap 600 Index ETF generally invest in companies of similar size, but the Russell 2000 Index obviously includes about three times as many companies as the S&P Small Cap 600 Index. The Vanguard Small

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Index / Fund	Compound Yearly Return	Standard Deviation	Expense Ratio
CRSP 6-10 Index	7.48%	25.69	
DFA US Small Cap Portfolio	7.15%	23.75	0.40%
S&P SmallCap 600 Index	7.26%	22.12	
iShares S&P SmallCap 600 Index ETF	7.12%	22.07	0.20%
Vanguard Smallcap Spliced Index	5.99%	22.90	
Vanguard Small Cap Index Fund	6.00%	22.85	0.28%
Russell 2000 Index	5.04%	22.65	
iShares Russell 2000 Index ETF	4.91%	22.58	0.20%

SMALL COMPANY STOCK INDEXES

... a structured asset class fund looks like an index fund that has been “swept” to eliminate securities with certain undesirable investment or trading characteristics.

Future investment outcomes are necessarily unknown. Therefore, the best current fund selection/retention decision is the one that considers all relevant information.

Fund	Average Market Capitalization (\$millions)
DFA US Small Cap Portfolio	\$711
iShares Russell 2000 Index ETF	\$925
iShares S&P SmallCap 600 Index ETF	\$952
Vanguard Small Cap Index Fund	\$1,148

Cap Index Fund invests in relatively large small cap stocks, because its MSCI Small Cap 1750 benchmark index includes a “hold” range, which keeps rapidly appreciating formerly small cap stocks in the index through a transition period.

Even something as seemingly cut-and-dried as track record can be difficult to evaluate. For example, in some cases a fund’s long-term track record is calculated over a concatenation of two periods, in each of which the fund was tracking different indexes. In such cases, investors should evaluate historical performance cautiously. As we noted above, the Vanguard Small Cap Index Fund switched to the MSCI US Small Cap 1750 Index on May 16, 2003. Prior to that date, the fund had tracked the performance of the Russell 2000 Index.

Which index fund is best to own? It depends what one wants. “Best” is clearly a function of investor preferences rather than clear dominance in every category by a single fund. Investors wishing to tilt aggressively towards small company risks and rewards might select the DFA Portfolio. Investors wishing to moderate exposure to small company risks might select the Vanguard fund. Investors preferring a committee-based index selection process might select the iShares S&P Small Cap 600 ETF. Investors preferring a more rules-based fund might select the iShares Russell 2000 Index ETF.

For larger portfolios, diversification benefits may be available by combining investment products from within the small company asset class. Future investment outcomes are necessarily unknown. Therefore, the best current fund selection/retention decision is the one that considers all relevant information.

STRUCTURED ASSET CLASS FUNDS

Structured asset class funds are passively managed funds that incorporate strategies sometimes used in actively managed funds. They are “structured” because they apply certain passive filters or screens to eliminate securities with undesirable characteristics (e.g., recent IPOs, companies that are bankrupt or have insufficient market liquidity, etc.). From the hundreds or thousands of securities in a given asset class, an actively managed fund excludes all but a relatively small subset, while a structured asset class fund excludes only the relatively few securities that fail to pass the fund’s filters. Generally, all securities remaining after applying the filters are bought on a capitalization-weighted basis. Thus, a structured asset class fund looks like an index fund that has been “swept” to eliminate securities with certain undesirable investment or trading characteristics. Filter rules can also include trading protocols that specify “hold” ranges to reduce turnover – so as not to buy securities the instant they pass a filter, then sell them again the next minute when, thanks to routine market fluctuations, they fail to do so.

The DFA US Small Cap Portfolio is a structured asset class fund that emulates an index with many volatile and thinly-traded securities. Without the filter rules, this fund could not operate cost effectively; but the operation of the rules generates substantial tracking errors. This explains why SCLC evaluates structured asset class funds differently than more “traditional” index funds.

Over the past decade, index manufacturers have introduced several “pre-swept” indexes. The index itself applies filter rules, so that funds tracking the index need not do so. This makes the index easier to replicate. Some fund groups, such as Vanguard, then announce that they intend to follow these new, investor-improved indexes. Given this development, investors may well want to ask about the differences between investment management at, e.g., DFA and Vanguard. One very interesting question concerns the prospects for continued DFA outperformance in equity markets when firms like Vanguard seem to be shifting operational responsibilities to the index manufacturer. Due to this emerging trend in index manufacturing, SCLC intends to reassess how it evaluates structured asset class funds and index funds. As structured asset class and index funds become more alike, it may make sense to compare them on the same “playing field.” Stay tuned.

SURVEY OF INDICES & FUND AVERAGES
PERIOD AND ANNUALIZED COMPOUND RETURNS IN PERCENT

	Second Quarter 2010	Trailing 12 Month 6/30/2010	3 Years Ending 6/30/2010	5 Years Ending 6/30/2010	10 Years Ending 6/30/2010
Inflation Index & Risk Free Rate					
Consumer Price Index	-0.23%	1.24%	1.59%	2.32%	2.35%
U.S. 3-Month Treasury Bills	0.04	0.12	1.40	2.63	2.56
U.S. Stock Market (Large Companies)					
Standard & Poor's (S&P) 500 Index	-11.43	14.43	-9.81	-0.79	-1.59
S&P/Citigroup Large Cap Growth Index	-11.28	12.59	-6.90	-0.22	-4.61
S&P/Citigroup Large Cap Value Index	-11.57	16.40	-12.82	-1.51	1.10
Average Large Cap Blend Fund ‡	-11.57	13.43	-9.93	-0.85	-0.78
U.S. Stock Market (Small Companies)					
Russell 2000 Index	-9.92	21.49	-8.60	0.37	3.00
Dimensional U.S. Micro Cap Fund	-7.88	23.47	-9.94	-0.44	5.31
Russell 2000 Growth Index	-9.22	17.96	-7.54	1.14	-1.72
Russell 2000 Value Index	-10.60	25.07	-9.85	-0.51	7.48
Average Small Cap Blend Fund ‡	-9.62	21.97	-9.04	0.16	5.08
Real Estate					
DJ Wilshire REIT Index	-4.13	55.68	-10.33	-0.36	9.74
Fixed Income (Bond) Markets					
BarCap Government Bond Index	4.24	6.46	7.58	5.37	6.21
Avg. Intermediate Gov't Bond Fund ‡	3.40	8.16	6.91	4.92	5.45
BarCap Municipal Bond Index	2.04	9.61	5.50	4.40	5.63
Average California Intermed/Short Muni Bond ‡	1.53	7.83	3.89	3.22	4.18
Credit Suisse High Yield Bond Index	0.21	26.92	5.68	6.80	7.66
Average High Yield Bond ‡	-0.58	23.95	3.32	5.00	5.27
Citigroup World Gov't Bond Index	0.29	3.03	7.83	5.14	6.52
Average World Bond Fund ‡	-0.39	8.81	6.68	4.78	6.43
International Stocks					
MSCI EAFE Foreign Stock Index	-13.97	5.92	-13.38	0.88	0.16
Average Foreign Large Blend Stock Fund ‡	-13.38	7.05	-13.04	1.13	-0.39
MSCI Europe Stock Index	-15.19	5.70	-15.03	0.27	0.44
MSCI Pacific Stock Index	-11.57	6.42	-9.92	2.08	-0.55
MSCI Emerging Mkt Index (excl. dividends)	-9.14	20.58	-4.67	10.19	7.50
Average Emerging Markets Fund ‡	-8.87	21.84	-5.33	10.64	9.24

‡ Source: Morningstar Principia 6/30/2010

WORLD MARKET SURVEY

(continued from page 1)

soared from its relatively benign levels of early 2010. Yet even at its highest point in early May, the fear index registered just half its value in October 2008. The quarter finished with weaker than expected economic news from the US, and worry about a double dip recession.

Foreign Stocks Hit US Investors Twice

Nearly all of the world's markets suffered losses during the quarter. Investors worried that China's economy might be weakened by a bout of worker wage increases and efforts by the government to contain a threatening real estate bubble. The Shanghai stock market, where many Chinese companies trade, is down nearly 27% so far this year. The sovereign debt problems in Greece sparked concerns about a wider European debt crisis, prompting a flight to safety in dollar and yen denominated instruments. The euro and other currencies declined precipitously against the dollar, further depressing foreign market returns for US investors. For the quarter ending June 30, German stocks were off 5.6% in euros, but 14.6% in dollars. France lost 12.2% locally, but a whopping 20.5% against the dollar. The pound sterling held up relatively well, but still UK stocks fell 12.8% in pounds and 14% in dollars. Currency fluctuations had the reverse effect on returns to US investors from the Japanese market, which fell almost 14% in yen, but only 9% in dollars.

Demand for Treasury Bonds Soars

With global investors seeking safety in the dollar, demand for US Treasury Bonds jumped, depressing yields. The benchmark 10-year Treasury yield narrowed to 2.96% by quarter end, down from 3.84% at the start. Demand for Treasuries outstripped supply, despite a Treasury auction of \$300 billion in new debt, in what will likely accumulate to \$1.3 trillion in borrowing by year end. The yield on 10-Year Treasury Inflation Protected Securities dropped to 1.15%, implying inflation of 1.82%. Corporate bond yields moved in the other direction, as sovereign debt fears raised the cost of borrowing for even the most creditworthy corporations. According to financial data provider Markit, the cost of protecting against the default of an investment-grade borrower in the credit default swaps market surged 39% in the quarter, to its highest level since last summer.

Oil and Gold Part Company

A weakening global economy pushed down most commodities during the quarter. Over two weeks in May, crude oil dropped 21% and industrial metals such as copper and palladium plunged more than 20%. Gold remained the doomsday investment of choice. After setting a record of \$1,257 an ounce on June 18, gold ended the quarter at \$1,245, an 11% gain. In the end, a diversified basket of commodities, as tracked by the Dow-Jones UBS Commodities Index, was off just 4.8% for the quarter.

Individual Country Returns Second Quarter 2010

	U.S. Dollar	Local Currency
North America		
United States	-11.5%	-11.5%
Canada	-10.6	-6.3
Latin America		
Brazil	-14.8	-13.9
Chile	2.5	7.0
Mexico	-9.9	-5.9
Africa		
South Africa	-9.5	-5.5
Europe		
Austria	-21.6	-13.4
Belgium	-13.1	-4.0
Finland	-25.1	-17.3
Denmark	-8.2	1.4
France	-20.5	-12.2
Germany	-14.6	-5.6
Great Britain	-14.0	-12.8
Greece	-39.3	-33.0
Ireland	-20.4	-12.1
Italy	-23.3	-15.3
Netherlands	-15.3	-6.4
Norway	-22.4	-14.9
Portugal	-20.6	-12.3
Russia	-15.1	-9.8
Spain	-22.3	-14.2
Sweden	-10.3	-3.0
Switzerland	-12.7	-10.6
Asia		
Australia	-19.1	-12.1
China	-6.2	-6.0
Hong Kong	-8.1	-7.8
India	-1.0	2.4
Indonesia	3.4	3.0
Israel	-18.6	-14.5
Japan	-9.1	-13.9
Malaysia	-0.5	-1.3
New Zealand	-11.7	-8.8
Philippines	5.8	8.5
Singapore	-1.1	-1.2
South Korea	-7.6	-0.2
Taiwan	-9.0	-7.9
Thailand	0.3	0.5
Turkey	-7.5	-3.8

Source: Dow Jones Global Indexes

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