



**The Growing Attraction of  
Sector ETFs**

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## **The Growing Attraction of Sector ETFs**

### **Executive Summary**

Exchange-traded funds (ETFs) offer professional investors unique opportunities to instantly establish, increase, or decrease exposure to U.S. and international equity markets and sectors—as well as to bonds—by tracking a benchmark through a single-execution equity trade. ETFs offer diversification, low expense ratios, and high tax efficiency. They also allow investors (and traders) the flexibility of the full range of stock order types throughout the day—as well as offering some additional attractions discussed below.

In recent years these unique attributes have helped ETFs explode in popularity and emerge as one of the most flexible multi-purpose investment vehicles available. Today, approximately 195 ETFs are listed, mainly on the AMEX, and assets exceed \$260 billion. The NYSE has expressed a keen interest in and confirmed the importance of ETFs by competing aggressively for new listings.

In parallel with the growth of listings, more investors—both professional and individual—are becoming increasingly aware of the potential trading strategies associated with sector ETFs. These baskets of securities can minimize the hazards associated with owning individual equities. While investors have used actively managed sector mutual funds (and closed-end funds [CEFs]) for many years to target market segments—from technology to healthcare, energy, real estate, and utilities—expenses of such specialty funds have tended to be high. The low cost of indexing, and of ETFs in particular, is part of what makes these newer-format choices so appealing to institutional and individual investors alike. Since ETFs trade all day, no redemption charges or trading bans can be imposed as they can with mutual funds.

Sector ETFs, a large subset of the overall ETFs population, provide an efficient way for investors to access various parts of the economy rather than using very broad indices alone. As diversified baskets of securities traded like single stocks on major exchanges, they allow investors to select the sectors or industry groups that meet their investment goals and to use either the long or short side as their strategies may dictate.

Conventional as well as hedge-fund portfolio managers and registered investment advisors (RIAs) handling individual accounts find sector ETFs quite attractive compared to mutual funds or CEFs on a number of criteria.

## **Overview: Attractions of ETFs for Professional Investors**

### ***Attributes of ETFs***

*Low Expense Ratios.* Asset-weighted average expense ratios are:

- Sector ETFs: 0.39%
- Sector CEFs: 1.09%
- Open-end sector funds: 1.25%

*Strong Liquidity.*

- Most ETFs, especially first-of-kind offerings, have tight spreads.
- The level of awareness of and participation in ETFs has grown significantly.
- ETFs have liquidity all day, not merely on close as with mutual funds.

*Excellent Tracking.*

- CEFs can trade at wide discounts or premiums.
- ETFs' construction, allowing arbitraging, typically disciplines prices.
- Variation versus underlying asset value is usually under 0.5%.

*Transparency.*

- The composition file for each ETF creation unit is published daily.
- ETFs' transparency facilitates intelligent transactions.

*Holding-Period Freedom.*

- ETFs are traded in the market all day.
- There are no embargoes for frequent transactions and no minimum holding periods.

*Tax Efficiency.*

- Capital-gains distributions are unlikely for investors trading on the exchange.
- The tax-efficiency benefit is available to institutional investors of all but the very largest scale.

*Trading-Scandal Immunity.*

- There is no stale pricing, so there is no opportunity here to "game" the system.
- Brands' reputations remain clean.

### ***Uses and Strategies of ETFs***

*Instant Securitizing/Monetizing of Assets.*

- ETFs allow rapid adjustment of holdings in response to cash-position changes.
- ETFs save time versus buying/selling individual securities.

*Immediate Positioning.*

- ETFs allow investors to take long or short sector positions when news or market shifts indicate.

## **Leading Fund Intelligence**

- ETFs allow investors to research and select individual stocks later without losing part of a move.

*Overweighting Chosen Sectors.* Beyond using broad indices, ETFs allow over/underweighting specific sectors. Investors can shade positions in their exact desired proportions. (Only the HOLDRS-brand family must be bought/sold in round lots.)

*Sectors Instead of Broad Index Baskets.* ETFs allow investors to avoid the pitfalls of using broad indices. Investors can create a selective, faster-growing version of the economy. For example, they can buy only healthcare, financial, technology, or consumer-related sectors.

*Hedge Strategies.*

- ETFs can be sold short, even on a downtick.
- ETFs capitalize on the negative volatility of specific sectors or industries.
- In a declining equity market short-side profits can offset long-side losses.
- ETFs allow sector hedging versus a single-stock long position.
- ETFs allow tax postponement of realized gains to a new year.

*Completion Strategies.*

- ETFs allow quickly establishing or raising exposure to an industry or sector.
- ETFs "fill holes" in an overall investment strategy.

*Relative Value, Long/Short Strategies.* ETFs combine long and short strategies aimed at increasing returns.

*Transitions.* ETFs avoid asset dormancy between managers upon hiring/firing.

*Shorting in Down Markets.*

- For **most** ETFs there is a regulatory exemption to uptick rules for shorting.
- ETFs have strong tactical advantages versus trying to short-fall individual stocks.

*Hedges Versus Single-Stock Positions.* ETFs use either the long or the short side to partially hedge single-stock positions.

*Options on ETFs.*

- There are listed options available on 80% of sector ETFs.
- ETFs provide added flexibility and potential for leveraging assets.

## **Coverage/Scope**

In this report we focus on three leading brands of sector ETFs: iShares, Select Sector SPDRs, and Vanguard. The PowerShares and StreetTracks brands are excluded because they are much newer and smaller in asset size and they provide less of a historical database at present. The HOLDRS brand (actually not a 40-Act instrument and providing no shareholder reports) is excluded because these ETFs are based on short and shrinking lists of underlying stocks, which can become quite unbalanced.

## **Leading Fund Intelligence**



## Assets and Expenses

The following table lists the 40 currently existing sector ETFs of the major brands traded in the U.S. market. These consist of 20 of the iShares brand, 9 Select Sector SPDRs, and 11 Vanguard ETFs. Computation of annual total expense ratios depends on annual report data, and some of the Vanguard products were too recently issued to have annual report data. In addition to the specific sizes and total expense ratios of each listed ETF, the table also provides some interesting brand-based comparisons. The average net assets (ANA) sizes by brand, as available, are as follows for the latest reported fiscal year:

Select Sector SPDRs	\$725.6 million
iShares	246.8 million
Vanguard	13.0 million

Sizes can change suddenly and substantially as institutions create or destroy blocks of ETF shares; any published number should be considered potentially stale almost immediately after being tallied.

Excluding those individual sector ETFs too new to have produced actual (as opposed to estimated) total expense ratio data, the three major brands with reported ratios compare as follows on a mean basis for their respective latest fiscal year:

Select Sector SPDRs	0.270%
Vanguard	0.276%
iShares	0.558%

Name of Fund	Lipper Objective	Ticker	Fiscal Year Ended	FYE Avg Net Assets (\$ Mils)	Total Exp Ratio* %	Options Depth	Name of Fund	Lipper Objective	Ticker	Fiscal Year Ended	FYE Avg Net Assets (\$ Mils)	Total Exp Ratio* %	Options Depth
SEL SECTOR:UTIL SPDR R	UT	XLU	9/30/2004	1,222.5	0.267	robust	ISHARES:NASDAQ BIOTECH R	H	IBB	3/31/2004	711.1	0.500	robust
SEL SECTOR:TECH SPDR R	TK	XLK	9/30/2004	1,029.9	0.264	robust	ISHARES:C&S RLTY MAJ R	RE	ICF	4/30/2004	535.9	0.350	robust
SEL SECTOR:ENERGY SPDR R	NR	XLE	9/30/2004	910.1	0.265	robust	ISHARES:DOW US HLTHCR R	H	IYH	4/30/2004	477.1	0.600	thin
SEL SECTOR:FINL S SPDR R	FS	XLF	9/30/2004	820.7	0.265	robust	ISHARES:DOW US UTIL R	UT	IDU	4/30/2004	445.9	0.600	very thin
SEL SECTOR:MATRLS SPDR R	NR	XLB	9/30/2004	652.9	0.275	robust	ISHARES:DOW US RLEST R	RE	IYR	4/30/2004	346.7	0.600	thin
SEL SECTOR:H CARE SPDR R	H	XLV	9/30/2004	606.7	0.271	robust	ISHARES:DOW US TECH R	TK	IYV	4/30/2004	338.0	0.600	extremely thin
SEL SECTOR:INDUST SPDR R	S	XLI	9/30/2004	569.9	0.276	robust	ISHARES:DOW US BSC MAT R	NR	IYM	4/30/2004	238.5	0.600	very thin
SEL SECTOR:C STP SPDR R	S	XLP	9/30/2004	438.8	0.269	robust	ISHARES:DOW US FINL SCT R	FS	IYF	4/30/2004	208.2	0.600	very thin
SEL SECTOR:CNSMR SPDR R	S	XLY	9/30/2004	278.7	0.277	thin	ISHARES:DOW US ENERGY R	NR	IYE	4/30/2004	193.0	0.600	very thin
							ISHARES:GS SEMICNDCTR R	TK	IGW	7/31/2004	178.1	0.500	very thin
VANGUARD UTIL INDX;VPR	UT	VPU	8/31/2004	21.3	0.284	no open int	ISHARES:DOW US TELECOM R	TL	IYZ	4/30/2004	159.0	0.600	very thin
VANGUARD HLTH INDX;VPR	H	VHT	8/31/2004	13.2	0.273	extremely thin	ISHARES:DOW US CNS SVC R	S	IYC	4/30/2004	156.0	0.600	none
VANGUARD CNSMR STP;VPR	S	VDC	8/31/2004	12.6	0.278	no open int	ISHARES:DOW US CNS GDS R	S	IYK	4/30/2004	147.9	0.600	none
VANGUARD CNSMR DIS;VPR	S	VCR	8/31/2004	11.7	0.274	no open int	ISHARES:GS NTRL R S IDX R	NR	IGE	7/31/2004	147.7	0.500	none
VANGUARD FINL INDX;VPR	FS	HVF	8/31/2004	11.0	0.274	none	ISHARES:GS TECH INDEX R	TK	IGM	7/31/2004	146.4	0.500	thin
VANGUARD INFOTC IX;VPR	TK	VGT	8/31/2004	10.8	0.274	no open int	ISHARES:DOW US INDUST R	S	IYJ	4/30/2004	136.1	0.600	none
VANGUARD MTRLS IDX;VPR	NR	VAV	8/31/2004	10.7	0.272	no open int	ISHARES:GS SFTWR IDX R	TK	IGV	7/31/2004	129.8	0.500	very thin
VANGUARD INDUST IX;VPR	S	VIS	00/00/00	0.0	N/A	no open int	ISHARES:GS NETWRK IDX R	TL	IGN	7/31/2004	123.9	0.500	very thin
VANGUARD REIT IX;VPR	RE	VNQ	00/00/00	0.0	N/A	no open int	ISHARES:DOW US FINL SVC R	FS	IYG	4/30/2004	104.8	0.600	none
VANGUARD TELE INDX;VPR	TL	VOX	00/00/00	0.0	N/A	no open int	ISHARES:DOW TRANSPORT	S	IYT	4/30/2004	11.6	0.600	none
VANGUARD ENERGY IX;VPR	NR	VDE	00/00/00	0.0	N/A	extremely thin							

(\* ) - Total expenses less taxes, investment related expenses, and fees paid indirectly divided by average net assets.

## Leading Fund Intelligence

## Options-Trading on Underlying ETFs

Of the 40 domestic sector ETFs covered in this study, some 33 (almost 83%) had listed options available for trading as of early September 2005. As is the case regarding using ETFs themselves, liquidity is a significant factor in making decisions about options-trading. Indeed, the ability to trade options may swing the decision about which underlying ETF covering a given asset class is to be used by portfolio managers. As the size of the typical portfolio position becomes larger, liquidity (depth of the market) is increasingly important.

The accompanying table provides qualitative evaluations of the options markets for those 33 sector ETFs that had options-trading as of this writing. Any such characterizations are subject to updating over time. We describe the options markets for sector ETFs' options, on the basis of the open interest as of early September 2005, as follows (numbers of ETFs so classified are in parentheses):

- (10) Robust: multiple strikes/expiration dates each have several hundred or more options' open interest.
- (4) Thin: some but not very many strikes/expiration dates have at least 100 options' open interest.
- (8) Very thin: only relatively few strikes/expiration dates have significant open interest in a useful size.
- (3) Extremely thin: very few strikes/expiration dates have any open interest, and in no case is it near 100 options.
- (8) No open interest: the exchanges have provided for options trading; some bid/asks show, but there is literally no open interest at the time of this writing in any contract.

Trading volume in ETFs (and likewise creation of additional units' shares by institutions) tends to focus primarily on the first-to-market ETF of a given asset type. As an example, the well-known SPY Spiders for the S&P 500 Index typically have five to seven times more assets and trade daily perhaps 15 to 20 times as actively as their later-issued competitor. This is a self-sustaining phenomenon, since traders and investors want good execution and therefore discover easily which ETFs of a type trade most actively—and then use those. The same general pattern follows regarding options on ETFs: larger-TNA ETFs tend to have deeper options markets, and investors/traders interested in utilizing options strategies surrounding their ETF choices tend to gravitate to the more-liquid choices. Sensitivity to this issue is of course most acute for larger participants—and even more so for those intending to trade most frequently.

The following table summarizes, where any options are indeed listed, our characterizations of options market depth by brand name, again as of early September 2005 and subject to revision over time:

Brand	<i>Numbers of sector ETFs where options markets are:</i>				
	Robust	Thin	Very Thin	Extremely Thin	No Open Interest
Select Sector SPDRs	8	1	0	0	0
iShares	2	3	8	1	0
Vanguard	0	0	0	2	8

One quickly notes in the above tally that the older sector ETFs brands (iShares and Select Sector SPDRs) have the most favorable mixes, while the newer entrant—Vanguard—has the least favorable. The Vanguard situation, despite its very prominent name, may seem remarkable. We believe first-to-market status is a highly important driver; although the Vanguard sector ETFs are still quite young and mostly small, it is possible they will gain options followings over time. Our initial tendency is to doubt that until evidence proves otherwise.

### ETF Liquidity

One of the important issues for both institutional and individual investors in using and choosing among ETFs is market liquidity. How much money can be moved in or out? To examine this, we calculated average trading volume in shares per sector ETF and multiplied that by recent trading price per share to derive a dollar figure. (In an early-2003 published report on ETFs, we observed a strong positive correlation in favor of first-to-market-in-type ETFs, and that pattern generally continues to hold.) Liquidity is most critical to potentially large market participants, but it is important to all since any index-type investor wants to be reasonably assured of good tracking to the underlying asset benchmark. Good execution relies on good liquidity.

Brand	<b>Number of ETFs in Each Quintile, by Liquidity</b>					Avg Quintile Rank
	Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5	
Select Sector SPDRs	6	3				1.33
iShares	2	5	7	6		2.85
Vanguard			1	2	8	4.64

Ranking based on average points, where first quintile=1 point, second quintile=2, etc.

For this table we calculated average monthly dollar liquidities of the sector ETFs with some reasonable minimum life and then ranked them from greatest to least. We assigned each individual ETF a quintile number based on its ranking, with the values of 1 being most liquid and 5 being least liquid. We then examined the quintile scores of the individual ETFs after grouping them by brand name. We computed the unweighted average of the quintile scores by brand and ranked the table in order of average score (lowest, or closest to first quintile, being most liquid). The table also displays the

numbers of products in each brand that fall into the various quintiles in terms of total dollar liquidity.

As is the case in general with asset size, liquidity seems strongly correlated with product maturity (age). The Select Sector SPDRs have recently had the greatest liquidity, with an average quintile rank of 1.33, whereas the more recently introduced Vanguard ETFs displayed an average of 4.64 on a 5.00 scale. Over time such ranks might be subject to change, so readers in the future should recheck databases for more recent information.

### Correlation Between ETFs

The correlation matrices presented below summarize the 52-week correlation of sector ETF performance by Lipper classification. Some of the ETFs in this correlation analysis represent individual industries and, therefore, as expected have a lower overall correlation with other ETFs in the same classification. The analysis shows that most of the sector ETFs have extremely high correlations with similar ETFs. Therefore, the implication is that since most same-sector ETFs have a high correlation, investors can look past this factor and select ETF instruments based on other factors such as expenses, performance, and liquidity.

<b>Utilities ETFs</b>	<i>Weeks</i>	<i>Sel</i>		
	<i>Available for</i>	<i>iShares:</i>	<i>Sector:</i>	<i>Vanguard</i>
	<i>Correlation</i>	<i>Dow US</i>	<i>Util</i>	<i>Util</i>
	<i>Matrix (max=52)</i>	<i>Util</i>	<i>SPDR</i>	<i>Idx;VPR</i>
iShares:Dow US Util	52	1.00		
Sel Sector:Util SPDR	52	0.99	1.00	
Vanguard Util Idx;VPR	52	1.00	0.99	1.00

  

<b>REIT ETFs</b>	<i>Weeks</i>	<i>iShares:</i>	<i>iShares:</i>	<i>Vanguard</i>
	<i>Available for</i>	<i>C&amp;S Rlty</i>	<i>Dow US</i>	<i>REIT</i>
	<i>Correlation</i>	<i>Maj</i>	<i>RI Est</i>	<i>Idx;VPR</i>
	<i>Matrix (max=52)</i>			
iShares:C&S Rlty Maj	52	1.00		
iShares:Dow US RI Est	52	0.99	1.00	
Vanguard REIT Idx;VPR	48	1.00	1.00	1.00

  

<b>Telecommunications ETFs</b>	<i>Weeks</i>	<i>iShares:</i>			
	<i>Available for</i>	<i>Dow US</i>	<i>GS</i>	<i>iShares:</i>	<i>Vanguard</i>
	<i>Correlation</i>	<i>Telecom</i>	<i>Network</i>	<i>S&amp;P Glbl</i>	<i>Tele</i>
	<i>Matrix (max=52)</i>		<i>Idx</i>	<i>Telcm</i>	<i>Idx;VPR</i>
iShares:Dow US Telecom	52	1.00			
iShares:GS Network Idx	52	0.60	1.00		
iShares:S&P Glbl Telcm	52	0.74	0.63	1.00	
Vanguard Tele Idx;VPR	48	0.95	0.67	0.70	1.00

<b>Financial Services ETFs</b>	<i>Weeks</i>					<i>Sel</i>				
	<i>Available for</i>	<i>iShares:</i>	<i>iShares:</i>	<i>iShares:</i>	<i>Sel</i>	<i>Vanguard</i>				
	<i>Correlation</i>	<i>Dow US</i>	<i>Dow US</i>	<i>S&amp;P Gbl</i>	<i>Finl S</i>	<i>Finl</i>				
	<i>Matrix (max=52)</i>	<i>Finl Sct</i>	<i>Finl Svc</i>	<i>Finl</i>	<i>SPDR</i>	<i>Indx;VPR</i>				
iShares:Dow US Finl Sct	52	1.00								
iShares:Dow US Finl Svc	52	0.96	1.00							
iShares:S&P Gbl Finl	52	0.85	0.84	1.00						
Sel Sector:Finl S SPDR	52	0.99	0.95	0.84	1.00					
Vanguard Finl Indx;VPR	52	1.00	0.96	0.85	0.99	1.00				

  

<b>Biotechnology ETFs</b>	<i>Weeks</i>					<i>Sel</i>				
	<i>Available for</i>	<i>iShares:</i>	<i>iShares:</i>	<i>iShares:</i>	<i>Sel</i>	<i>Vanguard</i>				
	<i>Correlation</i>	<i>Dow US</i>	<i>Nasdaq</i>	<i>S&amp;P Gbl</i>	<i>H Care</i>	<i>Hlth</i>				
	<i>Matrix (max=52)</i>	<i>Hlthcr</i>	<i>Biotech</i>	<i>Hlth</i>	<i>SPDR</i>	<i>Indx;VPR</i>				
iShares:Dow US Hlthcr	52	1.00								
iShares:Nasdaq Biotech	52	0.67	1.00							
iShares:S&P Gbl Hlth	52	0.91	0.55	1.00						
Sel Sector:H Care SPDR	52	0.99	0.61	0.92	1.00					
Vanguard Hlth Indx;VPR	52	1.00	0.69	0.91	0.99	1.00				

  

<b>Technology ETFs</b>	<i>Weeks</i>					<i>Sel</i>				
	<i>Available for</i>	<i>iShares:</i>	<i>iShares:</i>	<i>iShares:</i>	<i>iShares:</i>	<i>iShares:</i>	<i>Sel</i>	<i>Vanguard</i>		
	<i>Correlation</i>	<i>Dow US</i>	<i>GS Semi-</i>	<i>GS Sftwr</i>	<i>GS Tech</i>	<i>S&amp;P Gbl</i>	<i>Tech</i>	<i>InfoTech</i>		
	<i>Matrix (max=52)</i>	<i>Tech</i>	<i>condctr</i>	<i>Idx</i>	<i>Index</i>	<i>Tech</i>	<i>SPDR</i>	<i>ix;VPR</i>		
iShares:Dow US Tech	52	1.00								
iShares:GS Semicndctr	52	0.90	1.00							
iShares:GS Sftwr Idx	52	0.93	0.81	1.00						
iShares:GS Tech Index	52	1.00	0.90	0.93	1.00					
iShares:S&P Gbl Tech	52	0.98	0.89	0.91	0.98	1.00				
Sel Sector:Tech SPDR	52	0.99	0.87	0.93	0.99	0.98	1.00			
Vanguard InfoTech Ix;VPR	52	1.00	0.90	0.94	1.00	0.98	0.99	1.00		

  

<b>Natural Resources ETFs</b>	<i>Weeks</i>					<i>Sel</i>				
	<i>Available for</i>	<i>iShares:</i>	<i>iShares:</i>	<i>iShares:</i>	<i>iShares:</i>	<i>Sel</i>	<i>Sel</i>	<i>Vanguard</i>	<i>Vanguard</i>	
	<i>Correlation</i>	<i>Dow US</i>	<i>Dow US</i>	<i>GS Ntrl</i>	<i>S&amp;P Gbl</i>	<i>Energy</i>	<i>Matrls</i>	<i>Energy</i>	<i>Mtrls</i>	
	<i>Matrix (max=52)</i>	<i>Bsc Mat</i>	<i>Energy</i>	<i>Rs Idx</i>	<i>Enrgy</i>	<i>SPDR</i>	<i>SPDR</i>	<i>ix;VPR</i>	<i>ix;VPR</i>	
iShares:Dow US Bsc Mat	52	1.00								
iShares:Dow US Energy	52	0.59	1.00							
iShares:GS Ntrl Rs Idx	52	0.67	0.97	1.00						
iShares:S&P Gbl Enrgy	52	0.65	0.94	0.96	1.00					
Sel Sector:Energy SPDR	52	0.58	1.00	0.98	0.93	1.00				
Sel Sector:Matrls SPDR	52	0.99	0.52	0.60	0.58	0.50	1.00			
Vanguard Energy Ix;VPR	48	0.62	1.00	0.98	0.94	1.00	0.55	1.00		
Vanguard Mtrls Ix;VPR	52	1.00	0.59	0.67	0.65	0.58	0.99	0.62	1.00	

  

<b>Consumer ETFs</b>	<i>Weeks</i>					<i>Sel</i>		<i>Sel</i>		<i>Sel</i>					
	<i>Available for</i>	<i>iShares:</i>	<i>iShares:</i>	<i>iShares:</i>	<i>iShares:</i>	<i>Sel</i>	<i>Sel</i>	<i>Sel</i>	<i>Vanguard</i>	<i>Vanguard</i>	<i>Vanguard</i>				
	<i>Correlation</i>	<i>Dow</i>	<i>Dow US</i>	<i>Dow US</i>	<i>Dow US</i>	<i>C Stp</i>	<i>Cnsmr</i>	<i>Indust</i>	<i>Cnsmr</i>	<i>Indust</i>	<i>Indust</i>				
	<i>Matrix (max=52)</i>	<i>Transport</i>	<i>Cns Gds</i>	<i>Cns Svc</i>	<i>Indust</i>	<i>SPDR</i>	<i>SPDR</i>	<i>SPDR</i>	<i>Dis;VPR</i>	<i>Stp;VPR</i>	<i>Stp;VPR</i>	<i>ix;VPR</i>			
iShares:Dow Transport	52	1.00													
iShares:Dow US Cns Gds	52	0.63	1.00												
iShares:Dow US Cns Svc	52	0.73	0.81	1.00											
iShares:Dow US Indust	52	0.83	0.78	0.88	1.00										
Sel Sector:C Stp SPDR	52	0.54	0.94	0.77	0.69	1.00									
Sel Sector:Cnsmr SPDR	52	0.74	0.80	0.98	0.88	0.72	1.00								
Sel Sector:Indust SPDR	52	0.83	0.80	0.87	0.99	0.72	0.87	1.00							
Vanguard Cnsmr Dis;VPR	52	0.74	0.81	0.99	0.89	0.72	0.99	0.87	1.00						
Vanguard Cnsmr Stp;VPR	52	0.58	0.96	0.80	0.74	0.99	0.75	0.75	0.76	1.00					
Vanguard Indust Ix;VPR	48	0.84	0.87	0.88	0.99	0.79	0.88	0.99	0.89	0.82	1.00				



## **Performance**

In the accompanying table we show returns of the 40 sector ETFs that were in existence for at least three months at the time of this writing. These vehicles are grouped by major economic sectors according to Lipper's fund classifications system. In each case we show as footings the simple mean performance percentages for the ETFs in existence for the full periods shown. Average returns shown are cumulative for the periods shown except in the three-year and five-year columns, where they are average compound results per year. Comparisons across time have little meaning in and of themselves since the populations have changed (grown) and the market conditions and rotation of sector leadership have been major and shifting driving factors. Among the overall list are ten ETFs that are either unique or are in tiny clusters (e.g., transportation, leisure, retail stores, etc.); these ten have been gathered under the single heading "Specialty/Miscellaneous Funds." The average performance figures for these are also shown, but are strictly statistical artifacts with no actual meaning, given the admixture of components.

Not surprisingly, real estate and natural resources ETFs' returns stand out as the recent best performers. This of course reflects sector leadership in what has been an only slightly upward-tilting market in the past 18 months. Natural resources ETFs' returns have been most spectacular in the past year or two, while real estate ETFs compiled the bulk of their gains during 2003-2004. A reader might be surprised to note the fairly strong three-year compound growth rates of telecom and science/technology ETFs. But remember that these are inherently volatile sectors and the three-year measurement period began slightly after the broad stock market made its bear-market low in late July 2002. Strong majorities of individual sector ETFs show positive returns for each period: only four minus signs appear in the three-month period and none in the one- and three-year periods. For the most recent three-month period, natural resources ETFs as a group unsurprisingly have the top overall performance average; the four top individual sector-ETF performances are in that area, with oil services (a leveraged, capital expenditure-type industry) ranking first.

*(Please see Performance Table on page 10.)*



**Performance Table**

Fund Name	Lipper Cls	FPO Date	1 MONTH		3 MONTHS		YTD		1 YEAR		3 YEARS		5 YEARS	
			08/31/2005 09/30/2005 Cumulative Total Return	Rank	06/30/2005 09/30/2005 Cumulative Total Return	Rank	12/31/2004 09/30/2005 Cumulative Total Return	Rank	09/30/2004 09/30/2005 Cumulative Total Return	Rank	09/30/2002 09/30/2005 Annualized Total Return	Rank	09/30/2000 09/30/2005 Annualized Total Return	Rank
<b>Financial Services Funds</b>														
Sel Sector:Finl S SPDR	FS	12/16/1998	0.90	1	0.67	2	-1.79	3	5.90	3	14.81	3	1.89	3
iShares:Dow US Fnl Sct	FS	5/22/2000	0.69	2	0.59	3	-1.35	2	7.31	2	15.92	1	4.09	1
iShares:Dow US Fnl Svc	FS	6/12/2000	-0.14	4	-1.00	4	-4.62	4	4.42	4	15.31	2	3.59	2
Vanguard Finl Indx:VPR	FS	1/26/2004	0.68	3	0.73	1	-0.91	1	7.96	1				
Average/Total			0.53		0.25		-2.17		6.40		15.35		3.19	
<b>Health/Biotechnology Funds</b>														
Sel Sector:H Care SPDR	H	12/16/1998	-0.58	2	1.50	4	4.95	3	10.33	3	8.41	3	2.17	1
iShares:Dow US Hlthcr	H	6/12/2000	-0.74	4	1.84	3	6.12	2	12.20	2	10.94	2	-0.68	2
iShares:Nasdaq Biotech	H	2/5/2001	1.25	1	13.60	1	2.12	4	9.98	4	18.34	1		
Vanguard Hlth Indx:VPR	H	1/26/2004	-0.59	3	2.22	2	6.55	1	13.26	1				
Average/Total			-0.17		4.79		4.93		11.44		12.56		0.75	
<b>Natural Resources Funds</b>														
Sel Sector:Energy SPDR	NR	12/16/1998	6.35	2	20.96	2	49.20	1	55.25	1	38.49	1	11.77	2
Sel Sector:Matrls SPDR	NR	12/16/1998	0.56	7	1.73	7	-6.32	7	1.73	7	17.59	4	10.38	4
iShares:Dow US Bsc Mat	NR	6/12/2000	1.48	5	4.48	5	-2.99	5	4.04	6	17.42	5	11.11	3
iShares:Dow US Energy	NR	6/12/2000	5.74	4	18.79	4	42.97	3	47.79	3	36.10	2	12.81	1
iShares:GS Ntrl Rs Idx	NR	10/22/2001	6.18	3	20.51	3	40.18	4	46.74	4	35.65	3		
Vanguard Mtrls Idx:VPR	NR	1/26/2004	0.70	6	3.13	6	-4.63	6	4.28	5				
Vanguard Energy Ix:VPR	NR	9/23/2004	6.56	1	21.57	1	47.91	2	54.32	2				
Average/Total			3.94		13.02		23.76		30.59		29.05		11.52	
<b>Real Estate Funds</b>														
iShares:Dow US RI Est	RE	6/12/2000	-0.20	3	1.93	3	7.50	3	23.68	3	24.13	2	17.42	1
iShares:C&S Rlty Maj	RE	1/29/2001	0.24	2	4.28	1	11.08	1	29.05	1	27.01	1		
Vanguard REIT Idx:VPR	RE	9/23/2004	0.58	1	3.59	2	10.09	2	26.60	2				
Average/Total			0.20		3.26		9.56		26.44		25.57		17.42	
<b>Science &amp; Technology Funds</b>														
Sel Sector:Tech SPDR	TK	12/16/1998	0.05	6	4.86	6	-1.08	4	11.55	6	22.05	5	-14.26	1
iShares:Dow US Tech	TK	5/15/2000	0.70	5	6.33	5	0.49	2	15.06	3	23.26	4	-15.47	2
iShares:GS Tech Index	TK	3/13/2001	0.98	2	6.85	2	-1.20	5	13.27	5	23.75	3		
iShares:GS Semicndctr	TK	7/10/2001	0.88	3	12.64	1	10.34	1	23.89	1	26.19	1		
iShares:GS Stwr Idx	TK	7/10/2001	3.27	1	6.78	3	-3.56	6	19.42	2	26.17	2		
Vanguard InfoTc Ix:VPR	TK	1/26/2004	0.75	4	6.34	4	0.15	3	14.25	4				
Average/Total			1.10		7.30		0.86		16.24		24.29		-14.87	
<b>Specialty/Miscellaneous Funds</b>														
Sel Sector:C Stp SPDR	S	12/16/1998	1.30	4	2.84	6	2.21	3	9.44	5	7.19	6	-0.23	5
Sel Sector:Cnsmr SPDR	S	12/16/1998	-2.87	10	-0.82	8	-7.60	10	4.80	10	13.27	3	5.98	2
Sel Sector:Indust SPDR	S	12/16/1998	1.41	3	2.92	5	-2.10	7	7.82	8	17.17	2	0.90	3
iShares:Dow US Cns Gds	S	6/12/2000	0.56	7	3.30	4	2.22	2	13.83	2	11.76	5	7.44	1
iShares:Dow US Cns Svc	S	6/12/2000	-1.97	8	-1.37	9	-4.54	8	7.74	9	12.55	4	0.28	4
iShares:Dow US Indust	S	6/12/2000	1.09	5	3.99	3	-0.79	5	9.21	6	17.95	1	-0.82	6
iShares:Dow Transport	S	10/6/2003	1.60	1	7.07	1	-1.54	6	15.34	1				
Vanguard Cnsmr Dis:VPR	S	1/26/2004	-2.72	9	-1.57	10	-5.32	9	8.34	7				
Vanguard Cnsmr Stp:VPR	S	1/26/2004	1.09	5	2.66	7	3.96	1	13.49	3				
Vanguard Indust Ix:VPR	S	9/23/2004	1.45	2	4.26	2	0.31	4	11.74	4				
Average/Total			0.09		2.33		-1.32		10.17		13.31		2.26	
<b>Telecommunication Funds</b>														
iShares:Dow US Telecom	TL	5/22/2000	-0.37	3	1.50	3	-0.94	3	6.99	3	21.15	2	-12.47	1
iShares:GS Network Idx	TL	7/10/2001	3.20	1	14.95	1	3.16	1	16.79	1	48.13	1		
Vanguard Tele Indx:VPR	TL	9/23/2004	-0.36	2	2.57	2	0.40	2	12.36	2				
Average/Total			0.82		6.34		0.87		12.05		34.64		-12.47	
<b>Utility Funds</b>														
Sel Sector:Util SPDR	UT	12/16/1998	3.95	1	7.17	1	23.32	1	38.23	1	25.90	1	3.46	1
iShares:Dow US Util	UT	6/12/2000	3.76	2	6.88	2	22.15	2	36.63	2	24.96	2	1.94	2
Vanguard Util Indx:VPR	UT	1/26/2004	3.71	3	6.88	2	22.10	3	36.51	3				
Average/Total			3.81		6.98		22.52		37.12		25.43		2.70	



## **Conclusion**

Exchange-traded sector funds present professional investors exceptional opportunities to immediately boost or reduce their exposure to various sectors of a benchmark through a single-execution equity trade and offer diversification, low expense ratios, and high tax efficiency. As well, they allow investors and traders the flexibility of the full range of stock order types throughout the day. Furthermore, certain sector ETFs have the added benefit of highly liquid options-trading.

For further information on sector ETFs, please visit these Web sites:

Select Sector SPDRs: [www.spdrindex.com](http://www.spdrindex.com)

Vanguard VIPERs: [http://flagship2.vanguard.com/VGApp/hnw/FundsVIPER?gh\\_sec=n](http://flagship2.vanguard.com/VGApp/hnw/FundsVIPER?gh_sec=n)

iShares: [www.ishares.com](http://www.ishares.com)

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